BOBCATSSS 2015
BRNO

DESIGN
INNOVATION ▶
PARTICIPATION

PROCEEDINGS & ABSTRACTS

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BRNO 2015

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DESIGN

INNOVATION ▶

PARTICIPATION

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Title:
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BOBCATSSS 2015 Proceedings & Abstracts

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01 PREFACE

01.1

For 23rd BOBCATSSS conference we made Desing, Innovation and Participation main themes, as we believed that this triad represents important aspects of everyday lifes for both individuals and institutions. Designing virtual spaces, games and even societies, innovating libraries, their collections and services, exploring the wishes and needs of their users and participating in scientific community, those are some of the broader topics present in the contributions.

Thanks to the authors, both students and professionals, we recieved 97 abstracts, from which with the great help of our reviewers we selected 37 papers, 14 posters, 5 workshops and 5 pecha kuchas to be presented at the conference. Those are the total 61 contributions which full texts and abstracts – together with three amazing keynote speeches – you can find in this (e-)book.

Every year, BOBCATSSS is organized by students of library and information science from at least two universitites, this year by teams from Masaryk University in Brno and the University of Tampere. Conference attracts many students and professionals, it was pleasure to welcome all the participants from 23 countries in Brno and now we hope the proceedings will spread the word further on.

– BOBCATSSS 2015 Organizing Team

02
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04 TABLE
OF CONTENTS

04.1

05 DESIGN

KEYNOTE

SYSTEM THINKING: DESIGN TOOLS TO DRIVE INNOVATION PROCESSES

Roberta Tassi

In her graduation thesis titled Communication Design and Service Design. Implementing services through communication artifacts, Ms. Tassi focused on the relation between communication design and service design. The content of the website ServiceDesignTools.org is based on the thesis research.

Ms. Tassi is currently working at frog design company. According to her LinkedIn page, she leads the global in-field design research and participatory design activities for healthcare and financial services clients in countries such as Germany, UK, USA, China, Malaysia, Singapore, Uganda or Senegal.

Annotation

The increasing complexity of the world around us raises new challenges for designers, who are called to build cohesive experiences across broad ecosystems of products and services.

Dealing with innovation and highly complex services, involving a large number of actors and many different channels, requires the adoption of new skills and techniques, that enable a more effective collaboration with all the stakeholders involved and support the dialogue around articulated systems and large amount of information.

Looking at the theory, ServiceDesignTools.org is a first comprehensive repository of methods and examples that could orientate a designer – or any other professional – approaching the challenges of designing services, to help identifying the right method according to the step of the process, the type of participants and the kind of information that need to be discussed.

Jumping to the practice, the power of adopting a systemic approach and shaping tools and frameworks that can re-order and re-distribute knowledge within multifaceted teams has changed the way in which highly complex services are conceived and developed across segments – from healthcare to financial -. The ambition now is to see this evolving more and more into the way societal problems with large scale impact are addressed – bringing the benefit of system thinking into social innovation processes and organisation changes.

05.2

OPEN SOCIETY

05.2.1

AN INFORMATION SYSTEM IN A MICRO-SCALE DEMOCRATIC EXPERIMENT FROM THE PERSPECTIVES OF ITS PARTICIPANTS

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Keywords: information system, institutional design, community, democracy, complexity, decision making

Abstract

Representative democracy is defined and justified by its relation to the governed – the public. It is therefore vital to understand and confront issues that threaten to undermine that relation. Two problems that are frequently discussed are the over-simplification of complex issues in the public discourse, and overshadowing of the political under the thick veil of professional politics.

This paper presents a case study of the use of an information system (IS) as a component of a procedure (of a democratic experiment) designed to enhance the complexity of a public discourse and the transparency of a newly established political institution – a grants commission subsidizing students' side-projects in an university setting.

The aim of this case study is not to assess the general feasibility of using an information system to enhance any democratic process. Its goal is to present how the various participants (the public, jurors, superior institution's representatives and institutional designers) perceive and construct the roles of themselves and the IS in a deliberative procedure, and what reasons they give for accepting or rejecting the process and/or the IS. The process of establishing a democratic institution is a complex matter. Focusing on a micro-scale experiment helps to uncover subtle inner workings, participants' motivations, and potential problems.

Main findings of the study are: 1) The IS is being construed as an actor: "the machine that makes the decision", as one of the jurors says. 2) The presence of an IS accents the presence of predefined rules of evaluation, as the IS's publicly defined intrinsic algorithms are immutable, unless they're officially changed due to an openly articulated reason. 3) This highlights the tension between subjectivity of jurors and the supposed objectivity of their decision (especially via the potential difference between the procedure driven outcome and their potential agreement not bound by the procedure). 4) IS's development and maintenance is a foggy territory for the institutionally superior stakeholders – thus establishing and maintaining its function might prove problematic.

The case study is based on an ethnographic insider research (the author was one of the members of the team that implemented the institutional processes and the IS): a combination of an insider observation, retrospective analysis of documents (e-mails, written online discussions in a project management tool) and several interviews (Atkinson, Hammersley 1994).

Assumptions about the properties of good public discourse are based on the theory of deliberative democracy presented in and inspired by seminal works of Jürgen Habermas (1994), his successors (e. g. Cohen 1997), and a broad range of subsequent literature addressing the democratic/deliberative experiments and political institutional design (e. g. Elster 1998, Goodin 1998).

Introduction

Representative democracy is defined and justified by its relation to the governed – *the public*. It is therefore vital to understand and confront issues that threaten to undermine that relation. Two problems that are frequently discussed are the over-simplification of complex issues in the public discourse and overshadowing of *the political* under the thick veil of professional politics.

Supporting the institutional practice by the use of an information system (IS) is regarded as a potential solution to these problems. IS may enhance the complexity of the public discourse by providing access to information, while at the same time structuring and mediating the discussion. As a result, the political institution becomes more transparent, focusing on the

policy problems discussed and the arguments present-
ed. The public is then drawn closer to the decision mak-
ing, increasing the legitimacy of the representatives'
decisions.

On the other hand, using the information technolo-
gy may prove difficult because of its rapid development,
varied adoption and acceptance by its users, and per-
ceived or deliberate obscurity of software algorithms.

Problem

This paper presents a case study of the use of an in-
formation system (IS) as a component of a democratic
experiment – a grants commission subsidizing students'
side-projects in a university setting.[1]

The aim of this case study is not to assess the gener-
al feasibility of using an information system to enhance
any democratic process. Its goal is to present how the
various participants (the public, jurors, superior insti-
tution's representatives and institutional designers)
perceive and construct the roles of themselves and the
IS in a deliberative procedure, and what reasons they
give for accepting or rejecting the process and/or the
IS. The process of establishing of a democratic insti-
tution is a complex matter. Focusing on a micro-scale
experiment helps to uncover subtle inner workings,
participants' motivations and potential problems.
The research findings may be useful when exploring
large-scale institutions (e.g. various committees, local
authorities or parliaments) that integrate an informa-
tion system in their functioning.

This paper is exploratory in its close focus and also
in its interdisciplinary expanse: it requires theoretical
instruments for examination of the democratic pro-
cesses, actors, institutions, and the technology.

Theory

Human-Computer Interaction (HCI), Information Systems and Informatics [2]

Procter & Williams wrote already in 1992 (p. 9) that "HCI
has begun to move beyond the arena of task and inter-
face design, into the broader terrain of the organiza-
tional use of technologies". Suchman (1999) in a study
from the field of *Information systems* similarly observes
and emphasizes, "that systems development is not the
creation of discrete, intrinsically meaningful objects, but
the cultural production of new forms of practice." (p. 404)
Both fields of inquiry are moving to a "design oriented
study of information technology use, an artificial science
with the intertwined complex of people and informa-
tion technology as its subject matter," as Ekelin (2003, p.
26) quotes Bo Dahlbom, professor in Informatics (p. 26).
Thorough examination of the field is available in Norén's
(2008) *Designing for democracy: end-user participation
in the construction of political ICTs* (pp. 31–88).

The connection between organizational goals, tech-
nology, users and their "needs, requirements and chal-
lenges" (Axelsson, Melin & Lindgren, 2010) is frequently
examined in academic and corporate environments.
However, the notion of *users* usually assumes the ex-
clusion of various groups of people affected by the or-
ganization's practices and technologies, who do not in-
teract *directly* with the technology or each other. This is
especially evident problem in democratic, public facing
institutions, as it's not possible for them to force usage
of a technology "in the same way as a private organi-
zation can order employees to use a certain IT system"
(ibid., p. 313).

Deliberative democracy

The assumptions about the properties of a good public
discourse are based on the theory of deliberative democ-
racy presented in and inspired by seminal works of Jür-
gen Habermas (1994) and his successors (e. g. Cohen, 1997).

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1   This case study is based on a previously conducted
    research, focused on the institutional practice of the
    grants commission as a whole (Martinek, 2013), and uses
    its parts that deal with the use of the information system.

2   The actual experience of interaction with the information
    system's interface is also a substantial component of
    actors' perception of its role. The methods from the
    fields of User Experience Design (heuristic and usability
    testing, shadowing) and Interaction Design (stemming
    mostly from psychology) would enrich the outcomes of
    this study – as descriptors of subtle interactions that
    form the understanding. Their exclusion from this study
    was motivated by the focus on the broader organizational
    context and because of the time limitations.

The shared point in these theories is that "democracy revolves around the transformation rather than simply the aggregation of preferences" (Elster, 1998, p. 1), e.g. via elections and voting. At the core of a model of deliberative democracy, according to Habermas, lie the "procedures that secure fair bargaining processes" (1994, p. 4) that allow one to "discuss value orientations and interpretations of needs and wants, and then to change these in an *insightful way*" (ibid., italics in the original).

Institutional design

Goodin (2008) describes institutional design as a continuous social process of re-establishing forms of social action (p. 28), and a field of study focused on such processes. Rooted in new institutionalism view, Goodin defines institutions as „socially constructed norms and roles, and socially prescribed behaviors expected of occupants of those roles, which are created and re-created over time" (ibid., p. 19).

Institutional mechanisms are designed to encourage valuable outcomes in a specific context: every component of a well-designed mechanism corresponds with the broad goal of the institution, and the institution fits into broader pre-existing (institutional) environment.

One of the central problems discussed is the concept of *intentionality* – institutional dynamics cannot be explained solely as a consequence of intentional intervention (ibid., p. 28). It is an especially important observation

Figure 1 – Institutional environment of the Grants Commission.

in the context of this paper, because the addition of an information system creates space in which the institutional mechanism is discussed, described and even enforced, usually by a subset of the actors.

Methodology

The case study is based on an ethnographic insider research. The author of this paper was one of the members of the team that worked on the institutional processes and the information system (including the development of the application).

Aside from the continuous insider observation[3] (16 months long, first six months as a direct participant), six semi-structured interviews were conducted with the jurors and the Faculty members, and qualitative data analysis was carried out on available documents: a complete set of e-mail exchanges with the faculty staff, complete set of discussions extracted from the online project management tool of Student Chamber (Facebook Group), official documents, and various meeting minutes.

Context

Institutional environment

The Grants Commission has been established in a fairly complex institutional setting of Faculty of Social Studies[4] (fig. 1): The public is presented by the student body and represented by the Student Chamber of Faculty's senate (a board elected respectively by students and academics). Student Chamber establishes Commission and its outcomes are submitted for Dean's approval (and discussed at the meeting of the Dean's Board). Vice-Dean for Student Affairs is the administrator of the funds and entrusts the creation of the commission to Student Chamber.

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3   Details of the reflective practice of insider observation are discussed in-depth in my former work (Martinek, 2013, pp. 37–43). The practice is based on Atkinson & Hammersley's (1994, p. 248) criticism of dichotomy of insider and outsider and further sources (such as Chavez, C. (2008). Conceptualizing from the inside: Advantages, complications, and demands on insider positionality. The Qualitative Report, 13(3), 474–494; Breen, L. J. (2007). The researcher 'in the middle': negotiating the insider/outsider dichotomy. Special Edition Papers, 19(1)).

4   At Masaryk University, Brno.

In this environment, Student Chamber decided to be a simple intermediary between the Grants Commission and Faculty's Board, presenting the unaltered outcome of its voting.[5]

Basic outline of the decision-making process

The applications are given scores by the jurors in two phases – the first rating focuses on the application forms, the second follows after a joint discussion of Commission's members and all applicants.

First rating emphasizes the merits of the careful preparation and ensures that the ensuing discussion is informed and to the point (rating results are immediately public, hence the applicants may refer to the outcomes too). *Second rating* reflects the outcomes of the discussion and possible adjustments in the projects.
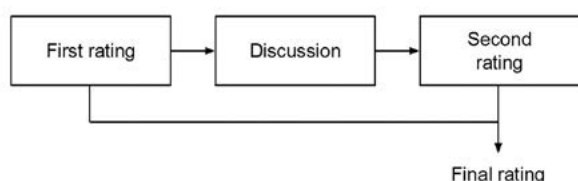
Figure 2 – Outline of the decision-making process

Rating is based on the criteria defined and announced by Commission when opening a new grant round – these may change over time to reflect the changing values and needs of the community (possibly posed by any of the actors during the discussions).

Information system and its purpose

The information system – a custom built open-source web application[6] – serves several roles, supporting both the inner working of the institution and its public communication.[7] Roles of the system might be a posteriori assessed as follows:

5   This stance arose from the practice of the Commission in its first weeks, in part due to the perceived arbitrariness of the former decision process (personal evaluation by the Vice-Dean).

6   The application is accessible at <http://stipendia.fss.muni.cz>. The source code may be found at <http://github.com/jan-martinek/deliberative-rating> (it is developed by the author of this paper).

7   Inner and public-facing processes frequently overlap in the deliberative practice.

- **Medium**
  It serves as a *communication channel* among the members and with the public: grant rounds, meetings and results are published via the IS. The results of former rounds are kept online to promote the stability of the institution.
- **Guide**
  It *provides guidance* to the jurors and the public – it guides the administrator through the phases of the decision making process, provides relevant rules for the current phase and controls how data are presented at each of those phases, and contains templates and examples for applicants.
- **Data storage**
  It is a *data collection tool* (stores ratings, dates of meetings and deadlines, keeps track of various changes) and therefore makes *longitudinal evaluation of the decision-making process* possible.
- **Computer**
  It *calculates the results and project rankings* that would otherwise require a substantial amount of manual computation.
- **Public interface**
  It *opens the process and the institution to a wider audience* beyond the group of central stakeholders (establishers, jurors and applicants), providing access to the rules of the process, project applications, detailed ratings and project rankings.

Results

Information system is construed as an actor

The IS is being construed as an actor: in the extreme case as "*the machine that makes the decision*", as one of the jurors says. When discussing the outcome of the process, "mechanization of the ranking" was mentioned frequently by some of the jurors. Being accountable for decisions made with "electronic clicking" (and defending the results in front of the applicants) was deemed impossible by two of the jurors.

When discussing the method of rating in the interviews, several presentational and interactional aspects of the IS were mentioned – the use of stars in the rating interface[8], interaction with keyboard and mouse ("mindless clicking"), "spitting out the results" when the ratings are published etc.

8   When rating, juror assign one to five stars to every project in every defined category.

05 DESIGN // Open Society

It's harder to change and break the rules

The presence of an IS accents the presence of predefined rules of evaluation, as the IS's publicly defined intrinsic algorithms are immutable, unless they're officially changed due to an openly articulated reason.[9]

When acting upon a set of written rules, it's possible to make compromises without changing wording of the rules – the act remains a standalone artifact (in the form of a justification given out, usually in a written form). When these rules are implemented into algorithms (these include not only computation of the results, but also their automatic publication, the definition of the permissions – *who can do what* in the IS, etc.), any compromise requires an introduction of a precisely defined exception or an adjustment of the algorithm.

This makes it harder to introduce any change in the mechanisms as it is needed to announce them, but also creates a well-defined space where those changes accumulate and are rendered visible.

One such event occurred when a flaw in the algorithm was found: when jurors abstained from rating, their vote was interpreted as zero star ratings – hence significantly lowering scores of the affected applications. This had to be announced together with the clarification of the effect of adjustment on the preceding rounds of evaluation (where this had no effect as the jurors did not abstain from rating before).

Are subjected to the machine?

These factors highlight the tension between the *subjectivity of jurors* and the *supposed objectivity of their decision* – especially via the imagined difference between the procedure driven outcome on one hand and their potential agreement not bound by the procedure on the other.

It is fairly usual that representative organs use voting or various rating methods – though in this case, the aggregative rating was considered by several jurors to be "making no use of the juror's experience" and, as was mentioned above, these jurors considered themselves impossible to be held accountable for the results and to defend them in front of the public. This is particularly striking in the context of an institutional design based on assumptions drawn from the theory of deliberative democracy.[10]

IS operation as a threat

IS's development and maintenance is a foggy territory for the institutionally superior stakeholders – thus establishing and maintaining its function might prove problematic. Integration of the information system into the practice of Commission is perceived as a threat to stability of its functioning – as it can unpredictably and incomprehensibly fail, prevent Commission from working reliably, and render those who run the IS responsible for the failure. Important detail is that Dean's Board considered itself the owner of this problem (even though running the Grants Commission was kept a responsibility of the Student Chamber of the Academic Senate).

A specific problem area is the incorporation of information systems that are still under development – the idea of continuous development is unfamiliar and the rules and requirements for integration with other information systems run by the university are unclear or undefined. The IS used in our case was hosted on a private server and transferred to the server run by the faculty a year later. No formal agreement about the maintenance, information handling or data security has been made.

Discussion

The above-described tension between subjective attitudes and "mechanized process" led to a discussion that resulted into a departure of two jurors. Nonetheless, at the same time it enabled other actors to achieve a better awareness of the tension itself and the relation between the institution and actors participating on its functioning.

The findings connect in the concepts of *institutional stability* and *personal accountability*. These concepts have been, partly in consequence of the use of IS, become more visible both to the researcher and to the actors participating in the institutional mechanisms. As an embodiment of procedure's rules, the IS is being construed as an actor promoting the institutional (pro-

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9   Use of an open-source software is presumed.

10   The rating practice supported by structured application forms, consensually defined evaluation metrics and thorough collective discussions. In the information system's interface, quantitative rating is accompanied by jurors' comments and justifications.

cedural) stability, changing the nature of jurors' individual accountability in the final decision – though, for most of them, it's not taking it away from them or hindering their own personal decision-making capacity.

The research continues with collection of interviews with new jurors, applicants and members of faculty.

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05.2.2

NATIONAL POLICY ON OPEN DATA: AN INFORMATION POLICY TO STRENGTHEN TRANSPARENCY IN MEXICO

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Abstract

The National Policy on Open Data aims to develop mechanisms for transparency and accountability of government to citizens. In an environment of electronic government administration, through the use of information technologies and communication.

The guidelines proposed by international organizations such as OECD (Organization for Economic Cooperation and Development) and AGA (Alliance for Open Government) create mechanisms to promote participation among governments and civil society, to promote citizen participation and strengthen transparency, in order to fight corruption. Pose the use of technology as an enabler to achieve the objective.

Therefore I consider it necessary to make an analysis model to assess the international guidelines, and analyze how they are applied to the models implemented by the governments of different countries. This analysis applied in Mexico. The objective is to analyze in which way the open data in e-government environment strengthen transparency.

Analyze the prospect of reusing open data to create new applications that generate different added values to information in order to increase social welfare, according to the parameters established by the OECD to create policies that increase human and social capital.

National Policy on Open Data: an information policy to strengthen transparency in Mexico

It's necessary to analyze information policies arising from international guidelines for government administration in a digital environment. Relevant policies in monitoring national development plans that pose solutions to the information needs of citizens and are aimed to bridge the digital divide for educational and economic and democratic development of the country, to strengthen the information society and knowledge.

From the guidelines established by the International Open Government Partnership (OGP, 2011), the axes of the National Digital Strategy in Mexico (EDN, 2013), of which the National Policy on Open Data derived raised, whose goal is: To strengthen the transparency and accountability of government. Improve or create utilities giving citizens greater choice and control. Increase citizen participation and social inclusion. Empowering citizens. Improve the effectiveness of institutions. And create social, technological and economic value. (CIDGE, 2014)

The National Policy on Open Data aims to develop mechanisms for transparency and accountability of government to citizens. In an environment of electronic government, through the use of information technologies and communication. Based on the model of electronic government (e-government).

The guidelines proposed by international organizations such as OECD (Organization for Economic Cooperation and Development) and AGA (Alliance for Open Government) create mechanisms promoting participation among governments and civil society to promote citizen participation and strengthen transparency in order to combat corruption. Pose the use of technology as an enabler to achieve the objective.

Therefore I consider it necessary to formulate an analytical model to evaluate international guidelines, and analyze how they are applied to the models implemented by the governments of different countries.

The aim is to analyze how open data affect transparency, in an electronic government. The analysis was conducted through a comparative model between international guidelines raised and action plans of the government of Mexico.

Public policies are formulated in response to social needs, and are intended as an essential resource development of countries. The information needs of citizens should be taken into account by governments, and these must ensure access to information for citizens. Plus it is the duty of government's accountability and transparency in the exercise of government, aspects that strengthen the country's democracy.

The issue of transparency in government is an important international aspect, so there are organizations

that promote strategies and proposed guidelines for strengthening access to government information.

UNESCO issued a document in 1987 posed Guidelines on National Information Policies, scope, formulation and its application (UNESCO, 1987). It is a guide for implementing effective policies reflected in activities, the document is primarily aimed at government planners and policymakers institutions seeking information. In 1972 the General Conference of Unesco at its 17th session, launched the UNISIST intergovernmental program to promote scientific and technological information considered an essential resource for socioeconomic development. As emphasis on the need to develop national information policies in each country, to plant solutions to meet the information needs of citizens, managing production of information collection and sharing of information is done, determine a legal framework and policy and allocation of resources for information management.

The paper raises policy procedures, indicates to analyze the situation of information, assess the impact, policy formulation, and establish responsibilities and functions in terms of information policy.

Governments seek to provide solutions to social needs, so they take into account the axes marked by international organizations subsequently performed studies to assess the viability of implementing the guidelines set, and finally the implementation of action plans for citizens. "Any policy begins with a social problem, going through a research process that proposes actions to mitigate problems and think and develop communicated to decision makers of policy." (Sánchez, 2004). That is all public policy is formulated from a social problem or need, from the analysis of these guidelines are formulated to reach the solution.

The OECD (Organization for Economic Cooperation and Development), founded in 1961, is an organization responsible for promoting policies that improve the economic and social well being of people around the world. With its 34 member countries, including Mexico, the OECD promotes actions for governments to implement policies for social development.

On May 18, 1994, Mexico joined the OECD, through the decree promulgating the declaration of the Government of Mexico on the acceptance of its obligations as a member of the Organization for Economic Cooperation and Development. (Official Journal of the Federation, 1994)

The inclusion of Mexico to the OECD allowed partaking of the experiences of other countries, in terms of pubic policies. Some of the benefits arising are: Public policies are contrasted with practice and experience at international level. And in Mexico Public administration has strengthened and allowed the analysis and use of relevant information by the various sectors.

According to these guidelines in Mexico on December 9, 2005 the Ministry of Public Administration signed the agreement to create the Interministerial Commission for the Development of Electronic Government (CIDGE). Under considerations from the use of information technology and communications, changes that have caused and the impact on various aspects of society, and the incorporation of technology in the transformation of public administration to "reduce corruption and transparent public service, making it more efficient and offer higher quality electronic services to citizens, which the state can be an active user and incorporate them competitively to our country in the digital economy". (National Development Plan 2001–2006).

The policies of the federal government from 2005 raised incorporate Information Technology and Communication to government administration and use to power a digital economy and transparent public administration. To fulfill this purpose a digital agenda whose implementation is still in force was developed.

Currently with the implementation of the National Digital Strategy, which specifies in its presentation and objectives, that from figures and ratios established by the Program for Middle and Modern Government, Mexico is in the last position among the countries of digitizing OECD, and fifth in Latin America, with a value of 37.05 points for 2011. (Official Gazette, 2013)

From these figures, was raised in Mexico the National Digital Strategy, in order to route to Mexico toward an increasingly transparent society. The strategy aims to achieve by 2018 the average for OECD countries, the rate of digitization established in the Program to a close and moderate government.

The National Digital Strategy sets out five main objectives: 1. Government Transformation, 2. Digital Economy, 3. Quality Education, 4. Universal and effective Health, 5. Citizen Safety. And 5 enablers that will be the tools to meet the objectives: 1) Connectivity, 2) Inclusion and Digital Skills, 3) Interoperability, 4) Legal Framework and **5) Open Data.**

From axes raised in the National Digital Strategy and under the International Open Government Partnership (AGA, 2011), the National Policy on Open Data, which aims was raised: Strengthen transparency and accountability government. Improve or create utilities giving citizens greater choice and control. Increase citizen participation and social inclusion. Empowering citizens.

Improve the effectiveness of institutions. And create social, technological and economic value. (CIDGE, 2014)

Based on the OECD, the benefits of implementing an open data strategy are: Increased confidence and credibility in government. To ensure best results at the lowest cost. Raising levels of compliance. Ensure equitable access to government information. And encourage innovation and new economic activities.

The open data policy seeks to promote the government as platform: Economic Growth, Public Innovation, government efficiency, social impact, creation and improvement of public services, principles of good governance: transparency, participation and collaboration. (Open Data Initiative, 2013).

The guidelines proposed by international bodies to create mechanisms to promote participation among governments and society, to promote citizen participation and strengthen transparency in order to combat corruption. Pose the use of technology as an enabler to achieve the goal set.

Therefore I consider it necessary to formulate an analytical model to evaluate international guidelines, and analyze how they are applied to national plans implemented by the governments of each country. The objective is to analyze in which way open data influence transparency in e-government. The analysis was conducted through a comparative model between international guidelines raised and action plans of the government of Mexico.

Open data policies are a guideline in developing strategies for public administration in the development of electronic government. Governments must act to legitimize its citizens, through the exercise of accountability. Through the use of Information and Communication Technologies, the government intends to streamline the administrative burden on citizens, for a timely fulfillment of their responsibilities. At the same time seeks free access to public information to citizens, and strengthening transparency.

The National Policy on Open Data in e-government, through the opening data, made available to all citizens for reuse, research and to promote economic development. The opening of the data as a law intended as a transparency mechanism, strengthen development and democracy in the country. So I pose the following questions:

- What are the guidelines posed by international organizations on open data to strengthen the transparency?
- Do countries have implemented the guidelines planned by international organizations?
- What are the policy and legislative frameworks regarding the data in an electronic open government?
- Why open data strengthen the transparency?

To open data contribute to the transparency of the ruled, should take into account such factors as information formats, platforms, open data catalogs. How citizens will access to open data.

One of the planned objectives is to develop an analytical model, derived from the guidelines proposed by international organizations regarding open data to strengthen transparency, which allows me to compare among OECD member countries how they implement these guidelines in their e-government models. And as a result of the analysis to know the similarities and differences between the action plans in each country, and determine which aspects are considered positive and negative which respect international guidelines.

Conclusions

Open Data Policy, intended as a mechanism of transparency and access to government information, to strengthen the development and democracy of countries. Through the development of a model for comparative analysis of the guidelines proposed by international organizations, and political models of the countries on open data, I analyze whether the open data strengthen government transparency.

The model of comparative analysis enable me to see the similarities and differences in relation to the implementation of international guidelines in member countries of the OECD, and identify strengths and weaknesses in political models of each country regarding open data.

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05.2.3

LABS, MAKERSPACES AND THEIR CHALLENGE TO DEVELOP LIBRARY SERVICES IN AN INNOVATIVE ENVIRONMENT

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Abstract

The purpose of this study is to expose examples of how low-cost hardware components and open-source software can benefits library systems on a basis of the drastic cost-reduction of this institutions' budgets and the way it can motivate their staff at developing proposals for rethinking, not only their workspace, but also the conception of services that they are giving to their patrons.

Since the last decade the open-source movement and the "Do It Yourself" (DIY) community (sometimes called "lo-fi revolution") have gather a dizzying momentum in the ambition and complexity for their proposals, competing on equal terms with many of the commercial solutions aimed to solve the same needs, and even establish itself as an alternative business model based on the constant improvement of the product by their community rather than mere economic profit.

Thanks to the reduction of electronic components prices and the spreading of tutorial-websites or dedicated forums, the "DIY" community, amateurish subjects with no hierarchy, deploy fully-functional prototypes and establish worldwide meeting points called makerspaces or hackathons that go further than a mere hobby.

The Maker Movement is reformulating the way innovation is applied to several disciplines, among them Information Studies. Projects not necessarily created in this community could give an effective response to the needs of libraries, showing that this context can be a great opportunity to improve their services and resources in a creative, participatory and cost-effective way.

Aim of the study

The purpose of this study is to expose how low-cost hardware components and open-source software can be used to create services for library systems focusing in the benefits of the drastic cost-reduction of that they can provide to their institutions' budgets.

Methodology

This study consists primarily of a review of related literature to the DIY movement *modus operandi* and its key concepts. Then proceeds to show a representative selection of cases of application of where these solutions are displayed in several areas of a library context. The reviewed resources for this selection have been specialized blogs, journals and websites. The next step is to analyze them, describing the purpose and objectives of its creation, processes and technologies that are applied on them, and the results obtained. Following, it discusses and compares advantages and disadvantages of these cases. Finally, some conclusions are extracted from the analysis and discussion.

Context

Since the last decade the open-source movement and the "Do It Yourself" (DIY) community (sometimes called "lo-fi revolution") have gather a dizzying momentum in the ambition and complexity of their proposals, competing on equal terms with many of the commercial solutions aimed to solve the same needs. And even establish itself as an alternative business model based on the constant improvement of the product by their community rather than mere economic profit.

This community can be defined as an association of amateurish subjects with no established hierarchy dedicated to deploy and share fully-functional prototypes supporting the idea that people can create rather than buy the things they want (Kuznetsov & Paulos, 2010) in a culture inherited from the digital design that recognizes the individual merits and skills by their commoners (Raymond, 2001).

Such phenomenon is not a novelty issue. Individual experimentation on varied interests and persistent contact has been the common denominator of many innovation stages of human history. Setting a not so far precedent, the rise of technical and "open-minded" amateur handbooks among radio hobbyists of 1920's could fit perfectly into the definition from above. Same premises

appear at countercultural 60's and 70's pirate radios and hand-made fanzines in order to express aesthetics and anticonsumerism ideals of the hippie and punk movements. Low-cost MIDI electronic music and the spread of personal computers enabled people without formal training to record electronic music during the 80's decade and later towards multimedia art expressions from the rave culture of the 90's (Kuznetsov & Paulos, 2010).

This intellectual curiosity is now railed through the confluence of a drastic cost reduction and availability of basic electronic components prices and the appearance of a wide range of open-source software solutions, but it's been the worldwide and instant spreading of this knowledge via the proliferation of 2.0 based tutorial-websites and forums that overcomes the impact of any of the examples cited above. Tinkering a prototype is so easy nowadays that even the experts foresee a new industrial revolution based on the Maker Movement (Anderson, 2013).

The basis of the movement is sustained on fairs and community workshops where its members meet each other and share physically it's improvements. Due to it's informal organization, there's a lack of consensus over the glossary involving them and to delimit it's concepts can be a difficult task (Sangüesa, 2011), but there's always a major plot line in all the cited approaches: Spaces outside a formal education system leaded on informal learning driven by the needs and the curiosity of their members (Clark, 2014).

Due to its privileged position as a community service, libraries are expected to develop a major role in the near future on this context. As Coffman or Burke forecast, Public/Academic/School library partnership with these collectives can provide a whole catalog of new services to add in a time when patrons behaviour tent to step aside the consume of its materials for reference purposes (Coffman, 2013; Burke, 2014) and take advantage

on this premise to fulfill its own needs, as reflect the following cases.

DIY projects on a library environment

Raspberry Pi Digital Sign
Presentation

Somerset County Library System (Nee, 2013) developed a more dynamic and cost-effective way to promote programs and resources of their services in high-traffic areas of the library adapting an existing project that allows the display of information in real time at large screen monitors.

Process

Multiples Raspberry Pi boards connected to a large screen monitors via its output HDMI cable are deployed within the library and connected to the library's Wi-Fi. A modification on its OS startup configuration makes them run automatically a web browser in full screen mode that loads repeatedly previously selected slides or video playlists hosted on a Google Driver's account, broadcasting the library's agenda, it's services or any other marketing related content on every screen.

Results

The library staff uploads remotely the contents to display avoiding server hosting expenses through the use of Cloud-based Google storage services. The library has also reduced significantly their digital signboards budget, almost 1,000 US$ per screen, and cut completely the cost of printed posters.

Figure 1 – From left to right, Digital Panel's early development; Teton County Library's Auto-Loan Station
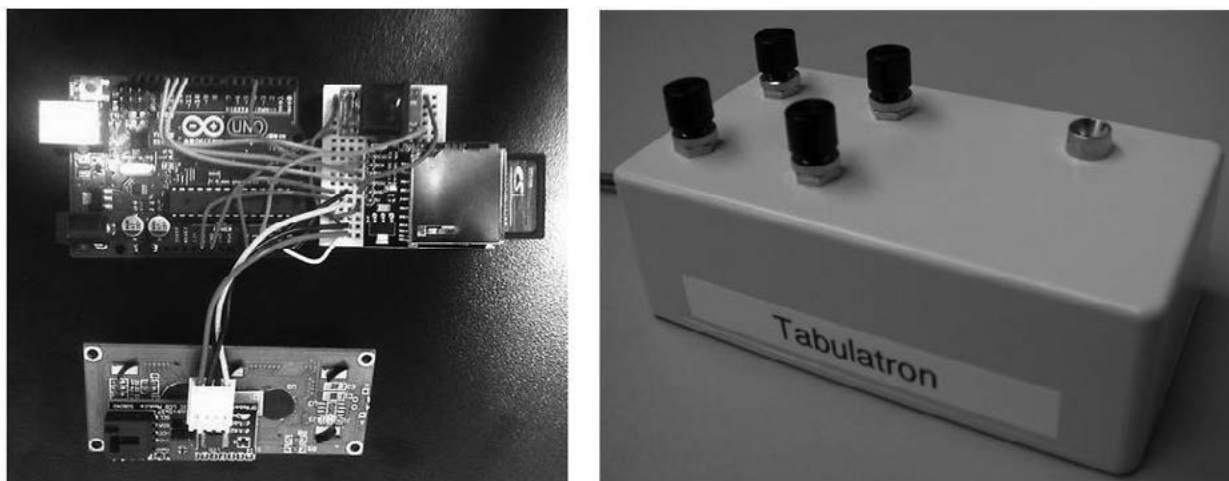
Figure 2 – From left to right, Brock University Library's Barcodinator and Tabulatron

Auto-Loan Station
Presentation
Teton County Public Library (Teton County Library, 201?) adapts an fully functional open-source auto lending kiosk previously developed by Eric Melton.

Process
The auto lending station recycles an old CPU unit, adding a barcode scanner to connect to their automated library system via an open-source PHP based application. In order to be a friendly user's interaction a touchscreen is deployed and also lets to prints a receipt of the transaction with a handheld printer.

Results
The library staff has gained time to invest in patron's personal attention instead of spending it in the checkout queue thanks to the deployment of this device for only 1.200 US$, saving an amount from 15,000 US$ to 30,000 US$ of a commercial auto lending kiosk.

Barcodinator
Presentation
The Barcodinator (Younker & Ribaric, 2013) is a barcode scanner developed at Brock University Library that works as an 'in-house use' statistics collecting device to provide usage data to an integrated library system.

Process
Conceived as a hand-held, low-cost, and easy-to-use circulation utility to collect and scan items waiting to be re-shelved, the project involves an Arduino board which scans the books barcodes using the surplus PS/2 scanner and stores them on an SD Card, until they are uploaded to the integrated library system. Its design also incorporates a two-line LCD screen that lets to check it's last barcode scanned and operates autonomously a week at a time between battery charges.

Results
The device has an affordable cost of approximately 80 US$, but their main advantage is the improvement of the process of data gathering about the in-house use of library items, statistics that are often forgotten by their difficult collection. Barcodinator can be developed using technologies other than Arduino, like Raspberry-Pi. Future improvements involve the use of RFID item identification and the connection to integrated library systems via Wi-Fi.

Tabulatron
Presentation
The Tabulatron (Younker & Ribaric, 2013) is a device developed at Brock University Library that can register the interactions at the reference desk. The device counts four different types of patron's demands: reference questions, technical questions, directional questions and referral to a specific department.

Process
A mechanical set of four switches, connected via an Arduino dashboard allows the reference desk librarian to register the inputs of every patron's interactions. The electronic signals of this crafted counter are displayed on the staff terminal and stored in a Google Spreadsheet Form as an aggregated value on its correspondent field using a script made with Processing.

Results
This device automates the reference desk data recollection workflow replacing handmade count and paper forms and avoiding human error as other statistical

```
1   <!-- Author field -->
2   <xsl:for-each select="a1">
3       <dcvalue element="contributor" qualifier="author">
4           <xsl:choose> <!-- Adds a space after the comma that seperates first and
5               <xsl:when test="contains(.,',')">
6                   <xsl:variable name="last" select="substring-before(.,',')"/>
7                   <xsl:variable name="first" select="substring-after(.,',')"/>
8                   <xsl:value-of select="concat($last,', ',$first)"/>
9               </xsl:when>
10              <xsl:otherwise>
11                  <xsl:apply-templates/>
12              </xsl:otherwise>
13          </xsl:choose>
14      </dcvalue>
15  </xsl:for-each>
```
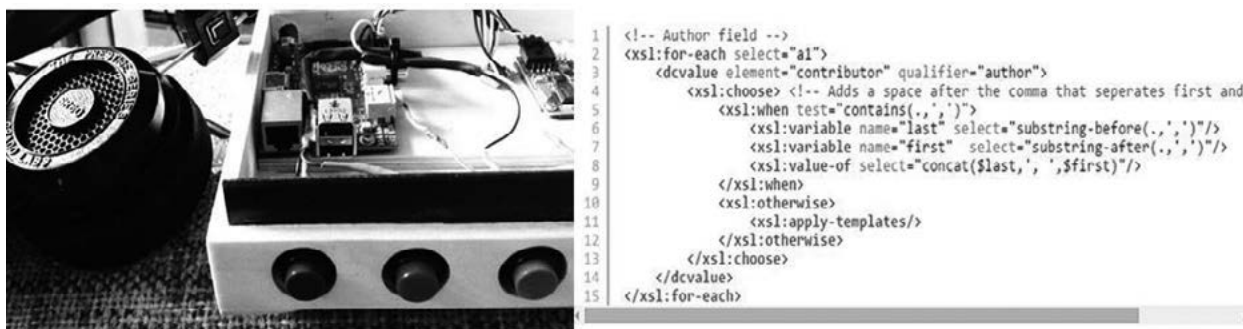
Figure 3 – From left to right, RFID Audiobook's entrails; XSTL Batch Repository Ingestion code

software package like LibStats. The low expenses of its tinkering and it's smart use of Cloud-based Google services permits a cheap infrastructure to daily monitoring of interactions that can be deployed at any scale of organization.

RFID Audiobook
Presentation
An RFID based device that allows sight-handicapped people to play audiobooks autonomously (Van der Jagt, 2014).

Process
The design deploys an RFID antenna connected to a Raspberry Pi dashboard and a set of DVD cases RFID cards filled into DVD cases prepared to point to its correspondent mp3-coded audiobooks hosted on an open-source server-based music player. The file is played when one of these cases is approached to the top of the device, activating an script made with Python that orders the server to play the requested item. A control panel allows the user to pause, adjust its volume and rewind the track 20 seconds.

Results
That device provides total independence to the visually impaired users with a low cost investment by the library.

XSTL Batch Repository Ingestion
Presentation
This initiative is a workflow developed by the College of Wooster (Flynn, Oyler & Miles, 2013). that automatizes the way to add references to an institutional repository and allows the librarians to do that more quickly.

Process
It consists in two different code scripts. The first one converts RefWorks citations into XML with a Dublin Core structure, using a XSTL stylesheet that standardizes their metadata. Then, it loads the PDF files into the institutional repository importing the Dublin Core XML file into DSpace. The second one checks the publisher's permissions of the articles in Sherpa/Romeo. That is done using a Google Docs spreadsheet, and checking the journal's ISSN sending an HTTP request to Sherpa/Romeo's API. Sherpa/Romeo returns a XML file with the journal's policies that tell the librarians if they can load the article or not.

Results
The automatizing of certain processes of the workflow reduces the time expended by the librarians in loading files to their institutional repository with scholarly articles, mainly in the tasks of filling their metadata and checking the copyrights policies of each article. Both scripts substitute time consuming manual tasks. That

Figure 4 – Kinograph's capture system

system can be adapted to different reference managers or institutional repositories.

DIY BookScanner

Presentation

This system, developed by Daniel Reetz (DIY book scanner, 2013), provides a fully-functional manual book digitization based on low cost components and open source software.

Process

The site provides the design patterns to build an adjustable structure to install the stereo camera extraction system, its lights and the board to sustain the book into an all-in one case. The site points to an open-source editing software (ScanTailor) to process the output files. That software recognizes pages and the images within, cuts and rotates them and extracts their text via OCR recognition.

Results

Significant reduction of cost, in comparison to commercial solutions, by using open-source software and low cost hardware components.

Kinograph

Presentation

Kinograph (Epler, S.d.) is a film digitization project by Matthew Epler modelled from low-cost electrical components, open-source software, a few 3D printed parts, and a consumer level camera to produce high quality video output with sound.

Process

The project captures the movie film combining a Reflex camera with an automated system of simple printed circuit boards (Arduino and Raspberry Pi) and 35-16-8 mm rollers designed specifically that can be produced in 3D printers. This mechanical system synchronizes the shoots from the camera with the pass of the photographic film in the roller system with a script made over Processing and its OpenFrameworks library that recognizes the beginning of each frame. Another script from Processing allows editing and converting the frames from the output to video file, stabilizing the flow of the images and extracting the optical soundtrack of its side with AEO-Lights, an open-source optical sound recovery tool.

Results

Due to the affordable premises of its crafting it's adoption stands out above other commercial solutions, diminishing the expenses of the digitization hardware around an average of 2.500–3.000 US$. It also can be purchased in terms of scalability, replicating it to process simultaneously several rolls of film without incurring the substantial costs of its outsourcing or the purchase of specialized hardware.

Discussion

The cases previously presented evidence a wide range of application of the DIY into specific library context areas. Even without been exhaustive in the selection the analyzed cases are enough representative of the diversity of their appliance.

A first common pattern on them are their aim to reduce in resource investment, proving that low-cost materials and open-source software are game changers that prove to be as valid to solve specific library needs as commercial products. Kinograph, as the clearest example of this premise, performs for only 3,000 US$ what the cheapest commercial product performs for more than 175,000 US$. Same thing happens with the DIY Self-Checker, reducing the costs from nearly 25,000 US$ to a ridiculous cost of 1,200 US$.

Benefits of automatizations of processes at library's workflow is its second common pattern. As we see on the of XSLT batch loading and the Tabulatron cases, these projects also substitutes repetitive manual processes and save time to the library's staff that can be invested in other issues. But despite the time that saves, all these projects also require a time investment in order to deploy them, usually when they are made from scratch to solve specific needs by themselves.

These are the consequences of working with these technologies. Low-cost solutions will be always limited in comparison with the commercial ones, and nearly anytime demand the integration of more components. As we can see in Kinograph and RFID audiobook reader cases, for the development of this kind of projects is needed to have some basic knowledge of programming and some experience with electronic components. Open-source is a double-edged sword because of its ubiquitous documentation. Possible valid references are spread on multiple resource types as forums, blogs and so one and relying on them instead of having a commercial technical support requires permanent availability and

accuracy of this sources, not always as methodological as desired.

The richness of this movement promotes an open exchange of experiences from individuals with expertise in different disciplines and varied backgrounds. Thanks to that, an experience applied on any context can be adapted to fit in a library and then reused again and again to match other needs, creating a win-win scenario to everybody involved. As shown in the presentation of the majority of cases analyzed in this study, that are based on previous experiences.

Conclusions

MakerSpaces will be a reality of libraries' daily routine in the near future. As some Code4libs journal's editorials advice, a good understanding of the digital scenario can step forward our institutions on solving new needs or procuring the right tools to let these innovation happens on their facilities. That demands skills from the librarian collective not previously assumed as part of their CV but more present on our environment as time passes (Peterson, 2009; Scott, 2014). Libraries have to be able to take advantage of them from within its institution or, in case, from their user's creativity and talent.

Sharing tips and tricks always have been a major strength on libraries. What in previous times was restricted to closed professional circles, now spontaneously sprouts locally from a bottom-up perspective and it's easily reused or adapted, but there is still needed the support of the management department because there's a high risk factor associated to these kinds of developments.

We must consider that when the DIY solution is chosen, trial and error becomes the most common way to move forward into the final version and it must be always presumed as a constantly beta product. But their gain, when successful, becomes a beneficial stake to the library that wagers them. It encourages staff's proactivity and implication in the resolution of their own needs, trying to offer by themselves a solution to improve their daily work. In order to promote the efficiency of these spontaneous projects, coordination of innovative initiatives in a networked framework is a desirable action to be applied in a near future.

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05.2.4

SCIENTIFIC PAPERS IN THE FIELD OF INFORMATION SCIENCES IN CROATIA AVAILABLE IN OPEN ACCESS

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Abstract

This paper addresses the problem of open access, with special reference to scientific papers. Scientific communication is the most important for the development and progress of science; it allows scientists to exchange information and experiences. With this in mind, publishers held a monopoly over scientific production, and subscriptions to scientific journals that are highly expensive. But the development of computer technology and network environment offers scientists new opportunities for scientific communication, new ways of distribution, exchange and access to scientific papers. As a protest on increasingly expensive subscriptions, scientists have launched repositories with articles and journals in open access. Also, the group of scientists from the Open Society Institute started the Budapest Open Access Initiative, which promotes free access to scientific and research papers on the Internet, and will serve on the starting point for this work.

This paper will present the results of a study conducted in order to determine how many scientists in the field of information sciences in Croatia are ready to give their papers in open access. For this purpose, the research will be carried out on the availability of papers whose authors are professors at universities of three Croatian cities: Osijek, Zadar and Zagreb. For data collection, we will consult the Croatian Scientific Bibliography, which stores all published scientific papers. The goal of this research is to find out the concrete number of the published papers that are available in open access. To get the results, we will compare the number of published works with the number of those available in open access. We will also conduct a survey among professors at mentioned universities to find out what are their attitudes on the issue of open access. These results will be compared with the results of the previously mentioned studies.

Introduction

The rapid progress and development of information and communication technologies had a strong influence on today's society, and had largely influenced the scientific communication and research. Scientific communication is of great importance for the development and progress of science and with the emergence of Internet it is greatly changed. Internet is not only an alternative to the publication of scientific papers in printed form, but it is a superior way which allows the publication of a wide range of data and information dissemination at lower prices. However, lower prices in the process of scientific publishing imply higher costs of subscriptions to journals in which the articles are published (Wren, 2005). This problem is one of the reasons why the need for publishing articles in open access has emerged.

Open access in general

Open access allows immediate, free and unlimited online access to scientific work in digital form, primarily in scientific journals which is different from traditional access with payment of subscription fee. There is indeed a global shift towards making research findings available free of charge for readers. Newest researches suggest that open access is reaching the tipping point, with around 50% of scientific papers published in 2011 now available for free. For instance European Commission is promoting open access in Europe with ideological statement that the European taxpayer should not have to pay twice for publicly funded research (European Commission, 2013). But, it is important to note that even commercial publishers see open access as a way forward. Market leaders such as Elsevier Science, John Wiley & Sons and Springer agree that open access is useful and achievable. Some of them already offer the user much of what the open access community is looking for, but there is difference in how these advances should be paid for (Franklin, 2003). In addition to that, there are two main roads to Open Access. One is commonly known as „gold", and that one refers to the articles published in open access journals, and the „green" road. This road refers to self-archiving, when authors publish their works online for free, often in institutional repository or personal website (Harnad et. al., 2004). One of the growing movements lately in scientific communication

is Open Access Initiative – a revolutionary movement that promotes free access to all scientific publications on Internet. Open access has spread from developed countries around the world to many countries in transition that had accepted this ideology. The first significant international initiative for free access to information is the Budapest Open Access Initiative, launched in February 2002, under which the definition of open access was set. It had great influence on other countries with the growing number of signatories of this statement each year. A year later, two additional documents followed: Bethesda Statement on Open Access Publishing and Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities from 2003 (Prosser, 2007).

Budapest Open Access Initiative

The Budapest Initiative was the first initiative to use the term "open access". It began on 1 December 2001 when the Open Society Institute (OSI) called a meeting in order to discuss the issue of open access. The purpose of the meeting was to accelerate progress in the international effort to make research and scientific papers in all academic fields freely available on the Internet. There were some other initiatives before, but in Budapest it was explored what are the most effective and affordable strategies for serving the interests of researchers or institutions that support research which ended is this initiative. "It is at once a statement of principle, a statement of strategy, and a statement of commitment." (Budapest Open Access Initiative, 2012) In the next thirteen years a growing number of individuals and organizations around the world supported this strategy and it became a worldwide campaign for open access to all new peer-reviewed research. In the past decade or so, the leaders of the Open Access movement worked to provide the public with unrestricted, free access to scholarly research. In response to growing demand to make research freely available to anyone with an Internet connection, a diverse coalition has issued new guidelines that could bring huge advances in the sciences, health and medicine. They are still improving their work and the new goal of this initiative is to achieve Open Access as the default method for distributing new peer-reviewed research in every field and in every country within ten years' time (Budapest Open Access Initiative, 2012).

Previous studies

A lot of research was conducted on open access to scientific publications, both worldwide and in Croatia. Studies were conducted on whether publishing of papers in open access increases the visibility of the scientific papers, how it affects the citation, general attitudes about open access etc. The studies were also conducted on how often do scientists publish their papers in open access and is it more often than publishing in limited access journals.

An example of research on open access in Croatia is a study conducted in 2010. Research was carried out on how often Croatian scientists publish their papers in open access and how many of them are at all familiar with open access in general. Participants were Croatian scientists who published their scientific papers in Hrcak, portal of scientific journals in Croatia. The research results indicate that Croatian scientists are not sufficiently familiar with open access. Another interesting survey was conducted in late 2012. This was a pilot study on the use of open access and publishing openly available scientific and educational contents. The target group was scientists in academic institutions from different scientific fields. Among other things, an attempt was made to determine whether there were differences between the frequency of use of information resources with limited access and those with open access. It was found that the resources in open access are used more often. It was also attempted to determine whether respondents publish their papers more frequently in open access than with limited access. It was found that respondents published more of their papers in journals with limited access (Krelja Kurelovic, Rak & Tomljanovic, 2013).

This last study inspired us to do our own research on publishing in open access. Most of the researches that were conducted in Croatia were qualitative and there were very few quantitative researches, so we concluded that there is a need for quantitative research to be conducted among the Croatian scientists in the field of information sciences.

Methodology

The research was conducted among scientists in the field of information science in Croatia. The sample consisted of 64 professors at three Croatian universities in Osijek, Zagreb and Zadar. The first part of the study included the analysis of the works in the field of information science available in electronic form. Analysis was con-

ducted in Croatian Scientific Bibliography (CROSBI)[1] for every scientist whose articles are available in electronic form in following categories: original research and review articles in peer reviewed journals, other publications in peer reviewed journals, scientific papers in other journals, other papers in other journals, scientific papers in conference proceedings with international review and other refereed conference papers. Once the works are noted, it was analyzed how many of the total number of individual papers are available in Open Access and is calculated by the percentage of papers in open access and those who are not. After analyzing scientific papers in The Croatian Scientific Bibliography, we conducted a survey among the professors and assistants. The questionnaire contained eight close-ended questions, which were created on the model of analysis of the papers in CROSBI. The main goal was to determine the attitudes of respondents on publishing the papers in Open Access. From a total of 64 scientists whose works were analyzed, 34 of them responded to this questionnaire. This amounts to 53%, which is sufficient percentage of results to be applicable.

Results and discussion

First of all, it is important to note that the research was directed towards authors and their papers in open access. In addition to that, every professor's bibliographical record was analyzed separately. In the end that means that papers under co-authorship, perhaps if there were two authors, were noted in two different places in research document. That implies two open access notes, and not just one. The main reason of doing so is that

Scientific papers
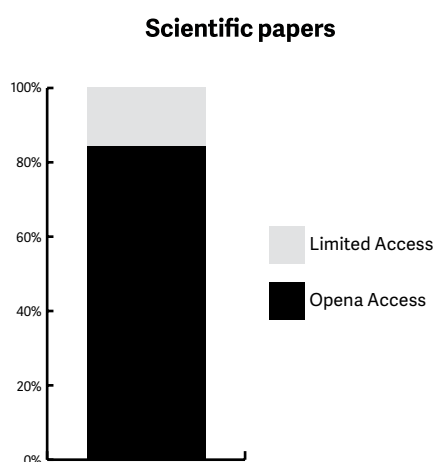
Figure 1 – Overall statistic for analyzed authors and their papers

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1   https://bib.irb.hr/

the purpose of research is aimed at specific authors and their attitude towards open access, and survey that was conducted in the second phase of research is a direct proof of that intention. In the end, the number of concrete papers, done in co-authorship or not, is not noted, but only numeric data of open access papers for every author. That gives the total number of 906, which means that this is the number of all noted papers for every author in electronic form. From the total number, 766 are in open access, which is 84.5%, and 140 has limited access which is 15.5% (Figure 1.).

Following the overall results are those in specific Croatian Universities. In Osijek, the average number of papers in electronic form per a professor is 12.6. From that number the average number of papers in open access per a professor is 9.75. In accordance with that, the overall statistics follows (Figure 2.).
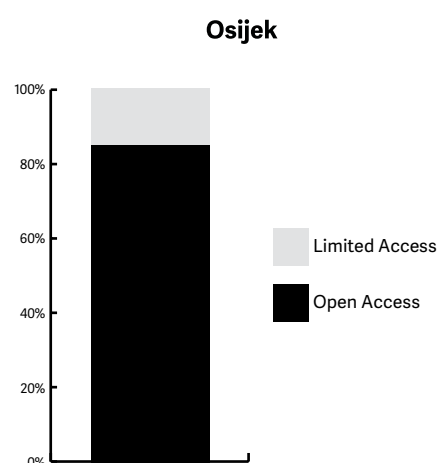
Osijek

Figure 2 – Overall statistic for analyzed authors and their papers in Osijek

The total number of recorded papers for every professor is summed 183, from which only 28 are not in open access. In Zadar, the average number of papers in electronic form for a professor is 9.3. From that number the average number of papers in open access per professor is
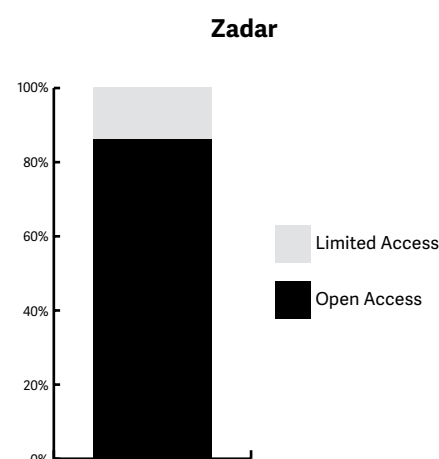
Zadar

Figure 3 – Overall statistic for analyzed authors and their papers in Zadar

8. In accordance with that, the overall statistics follows (Figure 3.).

Total number of recorded papers for every professor is summed 112, from which only 16 are not in open access, and even 96 are in open access, in percentage that is above 80%. Even though the results from the University in Zagreb follow the detected pattern (Figure 4.), there are quite differences.
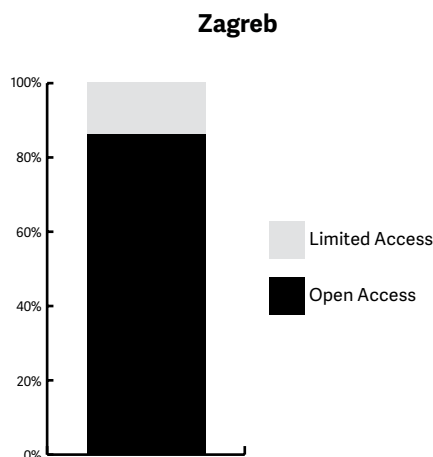
Zagreb

Figure 4 – Overall statistic for analyzed authors and their papers in Zagreb

The average number of papers in electronic form per a professor is 18. From that number, the average number of papers in open access per professor is 15.1. It is interesting to note that there is one professor that has all of his papers published in open access. The important case to highlight is that the University in Zagreb, apart from the other Universities, has scientific repository in which the papers are archived, so personal archiving plays a big role. The total number of recorded papers for every professor is summed 612, from which 97 are not in open access, and even 515 are in open access.

After analyzing scientific papers in The Croatian Scientific Bibliography, we conducted a survey among the professors and assistants. The questionnaire contained eight close-ended questions and the main goal was to determine the attitudes of participants on publishing the papers in open access. From a total of 64 scientists whose papers were analyzed, 34 of them responded to this questionnaire. This amounts to 53%, which is sufficient percentage of results to be applicable.

From the total number of respondents, there were 21 females and 13 males. Most of the respondents were assistant professors (9) and senior assistants (8), and the others were associate professors (6), assistants (4), full professors (3), professors with permanent tenure (2) and junior researchers (2). Most of them are employed at the Department of Information Sciences in Osijek (15), and the rest of respondents were from the Department of

Information and Communication Sciences in Zagreb (10) and the Department of Information Sciences in Zadar (9).

First, we wanted to find out what are their attitudes towards the open access in general, and analysis showed us that the attitudes were in most part positive (Figure 5.). Secondly, we asked them about their personal experience with publishing in open access. 70.5% of respondents (24) always publish a full-text document along with bibliographic data, some of them occasionally publish bibliographic data and a full-text document (9), and just one respondent publish only bibliographic data, and never a full-text document. The next question was about them not publishing in open access. The main reason was that the publisher does not allow publishing in open access (28), and only one person said that coauthors do not want to publish their work in open access. Some of the other reasons were that their paper won't be accepted in scientific society if it is not published in a journal with high impact factor, which are mostly with limited access, and similar reasons. We also offered them the answer "I don't want to publish my paper in open access" and not one respondent marked that answer, which implies a very positive attitude towards the publishing in open access.

Analyzing the scientific papers in Croatian Scientific Bibliography showed us that many scientists in the field of information sciences self-archive their papers, weather in CROSBI, institutional repository or in some other service. 85.3% of respondents publish their paper in institutional repository, 67.6% in CROSBI, some of them self-archive their paper in other services like Research Gate, Academia.edu, Slide Share, Mendeley and Zenodo, and one respondent uploads his work on his own website to make it openly available for other researches to use. Some of the scientific journals offer a delayed open access to separate the most recent period, for which a subscription is needed, from an older period, where a subscription is not needed and anyone may access the article published in that journal. This is called embargo period and its purpose is to protect the revenue of the publisher. In our research we found it interesting to ask our respondents about embargo; are they familiar with it and is it important to them that the journal offer this option. Most of the respondents answered that it is important to them (19), some of them said that it is of great importance (3), six of them said that it is not important and the same number answered that they are not familiar with embargo.

These two researches complement each other and give us valid results on the concrete number of papers
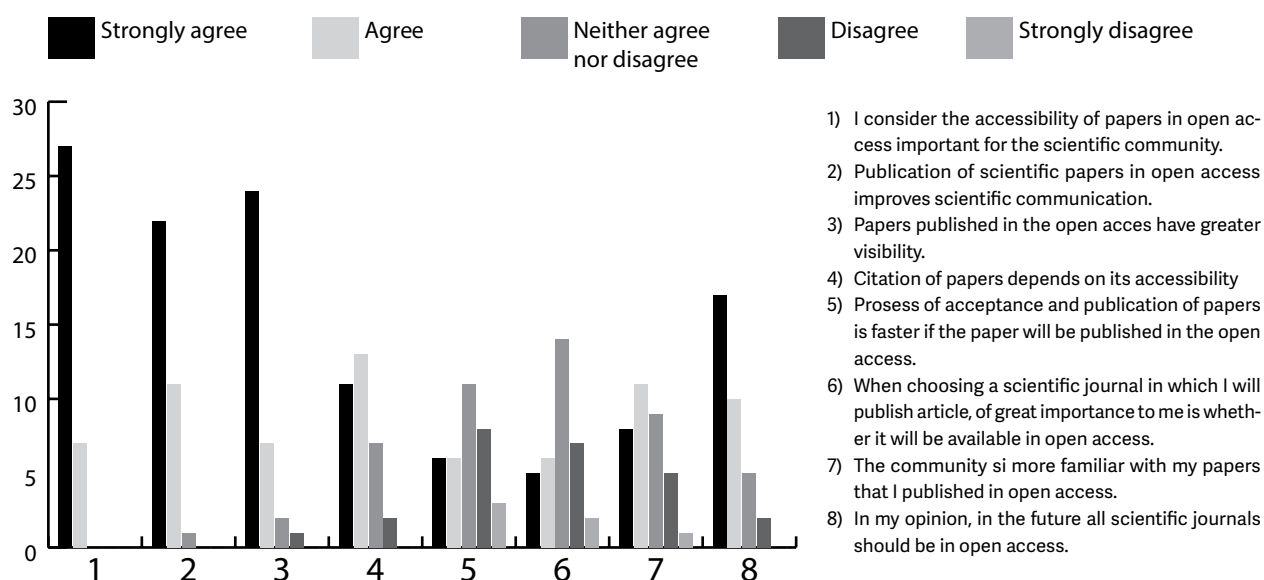
Figure 5 – Respondents' opinion on open access

Legend and questions for the figure:

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

1) I consider the accessibility of papers in open access important for the scientific community.
2) Publication of scientific papers in open access improves scientific communication.
3) Papers published in the open acces have greater visibility.
4) Citation of papers depends on its accessibility
5) Prosess of acceptance and publication of papers is faster if the paper will be published in the open access.
6) When choosing a scientific journal in which I will publish article, of great importance to me is whether it will be available in open access.
7) The community si more familiar with my papers that I published in open access.
8) In my opinion, in the future all scientific journals should be in open access.

published in the open access by the single author, as well as their attitudes towards the open access in general.

Conclusion

Previous studies showed us that the open access in scientific community is of great importance and the number of papers published in open access is increasing every year. Some of the studies conducted in Croatia showed that Croatian scientist are not sufficiently familiar with open access and all the possibilities that it gives them, but either way, they were still publishing their papers in open access journals more often than in journals with limited access. Our study implies that the scientists in the field of information sciences are well aware of the benefits of publishing in open access. Most of their papers are freely available and some of them self-archive they're papers in institutional repositories or other services. The results of the study showed us that the percentage of the papers published in open access per a professor is really high, which is a very positive situation for the scientific society in Croatia. Even thou they are not entirely familiar with all the options that publishing in open access gives them, they are indeed aware of its benefits and in most part they support the Open Access Initiative.

Most positive results from analyzing papers in the Croatian Scientific Bibliography were those from the University of Zagreb. The Department of Information and Communication Sciences in Zagreb encourages the professors to publish their papers in their institutional repository and make it available for all the researchers, scientists and students interested in their work. There were some exceptions where some of the participants did not support publishing in open access, but they were very rare and we can conclude that the Croatian scientists from the field of information sciences publish their papers in open access very often and they fully support the Initiative.

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DESIGNING OF VIRTUAL SPACES

05.3.1

CONCURRENT FACTORS OF A VIRTUAL SPACE REDESIGN

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Abstract

Background

www.DiscoverMoreCorps.com is a social network comprising more than 13,000 members from the library and information science community worldwide, primarily library and information science students and faculty. The site is maintained by ProQuest and hosted by Ning, a SaaS platform for the deployment of social communities.

In 2014, Ning announced that all sites would migrate from the existing version to Ning 3.0. As a student trainer intern for ProQuest, the author was familiar with the DiscoverMoreCorps site. ProQuest enlisted the author's design expertise in managing the migration and redesign of the site from version 2.0 to 3.0.

The Project

Contrary to popular belief, Design goes beyond creating aesthetically pleasing objects and spaces. Design is a much bigger equation that includes resolving issues of usability, experience, and structure. Within the virtual space, it plays an important role in improving the quality and interaction between content and user. Additional factors such as branding and established users can also greatly affect this equation. What are the ways to maintain balance of all these concurrent factors, along with time and technical constraints as well as the account for various stakeholders during the design of a virtual space?

Speaking as an experienced designer and a recent graduate from an information studies program, I explore the creative and technical processes taken during the ProQuest Discover More Corps social platform redesign to attain these aforementioned factors. The following processes were utilized to gain insight on the architecture and ensure the quality of the overall experience:

- Prototyping instead of wireframes to save time and to keep the project on schedule for launch.
- Maintaining familiarity with established branding style and basic structure to neutralize the overall design changes; the site is active with more than 12,000 members at the time of transition so a seamless migration was crucial.
- Employing design and typographic principles to better organize and disseminate information within each virtual page.
- Envisioning a new taxonomy to improve the site architecture and negotiate a better user experience.

Implications

These simultaneous processes are investigated in detail as to how each affects one another and will provide recommendations for similar virtual space design. Near-constant changes in technology and increased mobile usage will continue to drive the need for site redesigns to meet users' shifting needs. However, organizations that rely on third party software will not always be able to choose their own timeframe for redesign. Constant feedback mechanisms with customers or patrons ensure that organizations have the necessary feedback to inform their design when changes are imperative or externally forced, preventing sufficient user testing or beta-phases. Recommendations for "emergency" redesigns are discussed.

Introduction

The motivation behind a virtual space redesign can be as broad as the factors that affect its overall creative and technical processes. In the case of the ProQuest DiscoverMoreCorps (also called the DMC network), the redesign was propelled by many external factors and was not as straightforward as usual practices. Other circumstances including changes to the hosting platform, product delivery method, and timing led to a major redesign instead of usual influences from regular user assessments or survey feedbacks. These concurrent cir-

cumstances also determined how the project evolved and did not take the usual steps in design practices. This case study examines the various positions that set the DMC network onto the course of redesign and all the considered factors that contributed to the final outcome.

DiscoverMoreCorps hosts a 13,000 members social network maintained regularly by the team for Graduate Education Program (also known as GEP) at ProQuest. The network is in service and hosted by the third-party SaaS platform – Ning since 2010, with growth in new members from the information field each year. The social network serves a number of different purposes. Primarily, the network acts as a connection hub for students and faculty from institutions that are part of the Graduate Education Program to access the program's complimentary databases. Students and faculty can also connect with their schools' student trainers to arrange database and citation management training sessions and ask questions through the network. Additionally, the network works as a space for information and learning resources for anyone who are DiscoverMoreCorps members but not part of the Graduate Education Program. These members can access learning and professional development resources such as Quantum and the monthly-featured database. Aside from these resources, members get network updates about events, scholarships and any newly available resources. DiscoverMoreCorps is also used as a forum for discussions with community groups for students and professionals within the field of Library and Information Studies. Members can participate in specific discussion threads or write blog posts on LIS related topics to open new dialog with other members.

Schools participating in the Graduate Education Program with student trainer interns make use of the DMC network frequently to connect with one another because of their diverse geographical locations. Because this is the primary access point for the GEP databases, the DMC network is also the main training tool for student trainers. Student trainers make use of the network to teach other students and faculty on campus how to access and how to use the program's available databases.

Issues and Redesign

The DMC network is an important access point for a variety of users but was facing a number of issues. These include changes to the hosting network and the GEP database access as well as an outdated architectural structure.

The original DMC network was hosted on the older Ning 2.0 platform. Ning is a third party platform with comprehensive features and tools for communities to build their social network. Ning announced in early 2014 that all existing communities would migrate to their newest version 3.0 platform. This would affect the architecture and original content of the overall DMC network. While much of the content would be migrated and transferred, certain features from the old Ning 2.0 platform are eliminated in the new version. Much of the content would need to be reviewed and organized to a new architecture to match with how Ning 3.0 features are organized.

The DMC network also needed changes to how GEP databases are accessed by participating members. The original network design required users to join a private group within the network in order to access GEP databases. This was a cumbersome process, involving multiple steps for LIS faculty and students:

1   First, instructors had to join the DMC network.
2   Separately, they were invited by the GEP administrators to join a private, invitation-only group.
3   After joining the group, GEP administrators promoted the instructors to group administrators, which enabled permissions for them to invite their students to the group.
4   As group administrators, LIS faculty could then invite their students to the private group.

Members also need to join the private group again as it is renewed every academic year. Not only was this multi-step process a drawback on user experience for instructors and for GEP administrators, limitations in the Ning email invitation delivery process prevented instructors from easily inviting their students. Emails were frequently diverted into spam or junk mail or, in some cases, blocked by university firewalls altogether. The email invitation feature within the network was also difficult to find and poorly displayed; it was not intuitive for instructors and was costing GEP administrators hundreds of hours of technical support to help instructors with the invitation process.

As the primary driver of member usage, access to complimentary databases through the GEP needed to be streamlined for instructors and students, while maintaining security and protecting against abuse of the free products. Therefore, changes were set in motion to use EzProxy to maintain members' database access instead. This would have to be retrofitted with the old DMC network and would have altered established users' past experiences with the site. Through the new access procedures, instructors and students need to join the

05 DESIGN // Designing of Virtual Spaces

site only. Instructors would be issued usernames and passwords to share with their students that could be used to access the complimentary GEP resources.

There were also various design issues with the original network that affected the overall usability and experience. Most noticeably, individual sections within a virtual page were not differentiated into various levels of importance. When sections are not greatly distinguished from one another visually, it becomes difficult for both trainers and trainees to identify the different sections quickly during training sessions. Trainees would also subsequently find it hard to locate the information again on their own time when they review what they have learned. Usability was also affected due to the increasing amount of information and how they are organized within the larger framework. Information for all the different users were not greatly distinguished and resulted in key information being buried within other content. This ultimately affected some of the intended social features such as forum discussions and blog postings being underused. Buried content also resulted in outdated postings and dead links being left undiscovered. The network's architecture was lacking a clear pathway for users to find their way back and forth between the different virtual pages. Upon deeper inspection, dated HTML tag practices were also still in use. Additionally, parent company ProQuest have also gone through recent changes with their brand and style. The old DMC network was no longer consistent with the company's style guidelines.

The changes in the platform, database access methods and issues with the architecture and usability all corresponds with Fichter & Wisniewski (2014) stated reasons for a redesign. Fichter & Wisniewski (2014) pointed out obsolete coding, outdated content, inconsistencies in design and architecture as well as declining usability are all factors that should launch a site redesign. All these factors were found within the old DMC network. They are also coinciding with the timing of the network migration and the change to EzProxy access. These circumstances prompted the network's course of redesign.

However, it should be noted there are opposing arguments for any major virtual space redesign. User experience consultant Aaron Schmidt has pointed out to be against any major website redesign due to the negative effects of sudden changes on users (2011). He asserted that massive changes to an existing virtual environment could cause confusion for heavy users (2011). Schmidt defended that implementing progressive improvements to a site is a better choice, showing consistent refinements and allow a site to slowly evolve instead (2011). The chal-

lenge is the DMC network would only face greater issues if the previous mentioned circumstantial changes were to take place without a redesign. Progressive upgrades for this case would only compromise the network's usability and user experience. With consistent revisions and an unstable architectural structure, it would create bigger challenges for users in navigating through the site and finding the information they need.

The Project

In addition to the site's redesign, the project was also facing a number of time and technical constraints. After the content migration from the old Ning platform to the new, the platform host only allowed a maximum of seven days to coordinate migrated content with the new platform structure. Also, we only had a set amount of time to test out the new EzProxy access before implementing the procedure for the new academic year. We must maintain service of the old network during the redesign and content migration as well. The time constraints simply did not allow the project to take on the step-by-step design practices of ideation, research, wireframing, critique, feedback, prototyping and user testing before implementation. We expected early on much of the processes would be simultaneous under the circumstances. Similar to Mellone & Williams' (2010) case study on Queens College Library website redesign, the DMC network was without any usability study but maintained usability standards by understanding the underlying user needs. We must translate all the qualities and features of the old network along with existing user needs and site objectives to the new framework. We anticipated the combination of changes with the new platform, the redesigned site plus new access procedure may disorient established community members. In order to ease the transition of a major redesign during and after for both the maintenance team and current users, a number of creative and technical strategies were taken to balance the overall design process.

The new Ning 3.0 platform allowed new users to sign up for 14 days for a free trial. We took this route as a way to quickly advance the redesign project to prototyping instead of starting with wireframes upon realizing this option. Prototyping with the platform allowed us to see how the new features worked. This eliminated any potential surprises in learning the new platform for the maintenance team. We were better able to test out the new platform templates with our customizations. It helped us plot out how our content will fit with the new

service platform structures. It also allowed us to actively experience the network under the new platform as users ourselves without disrupting services in the old network. This allowed us an extra two weeks and a sandbox area to do any necessary testing and quality assurance in the redesigned network's usability and experience. It also saved the actual seven days after content migration to carefully sort and weed out old content materials.

Furthermore, this extra time and sandbox area provided the space for the team to test out the new EzProxy implementation for members' database access. We were able to foresee the experience as a user and find options to reduce the steps in accessing the GEP databases through the prototype. In addition to streamlining the process with EzProxy, we also reduced the steps from the homepage to the database access page. In the past, members must go to the private groups page and look for the access link after they log into the network. By implementing a member access banner in the home page, our largest members group can quickly access the information they need within one click.

We cannot deny Schmidt's argument on the havoc caused by a major redesign for established users (2011). Although our circumstances did not allow us to slow down the redesign process, we did take into account various strategies on how to ease the changes for our users. The original network's basic structure and style were maintained instead of a complete overhaul. Elements such as the title banner and the prominent orange color from the old network were kept to maintain a sense of familiarity for users. Our three key user groups, Quantum Continuing Education, Graduate Education Program, and Educational Resources Program, as well as the developed content they access most often were identified in order to maintain the basic structure of the old network. This keeps the most accessed content front-and-center in the navigation and easily accessible. The language used to identify the various sections largely remained the same despite the changes in content layout. These strategies allow users to quickly identify with the new network without feeling lost or displaced by the more pronounced visual changes.

Significant changes to the visual layout were put in place to improve the network's ease of use. Design and typographic practices were employed to better organize the content of each virtual page. Instead of the old network's non-differentiated contents, a new CSS style sheet was incorporated. Each group of information was properly tiered and organized to primary, secondary and tertiary by using colors, type weight or sizes. Section headers are now distinct and easily iden-

tifiable with a prominent color and surrounding white space to separate the various content. Type weight is used to identify each topic's title and different type sizes were employed to highlight key information. Links are characterized with a different color, arrows and call-to-action language to distinguish itself with the text. Most accessed content such as the featured database and the GEP member access were given prime real estate on the home page. This allows our key users to quickly access these features without orienting themselves through the navigation. These strategies greatly improved the network's usability and user experience. The result is a visually textured space with differentiated content that users can quickly pinpoint the information they are looking for.

Although the basic structure of the old network was maintained, the network was in need of a properly defined architecture within the navigation as well as on the virtual page. By defining the architecture of the network, best practices are established to maintain consistency in information delivery. A well-defined architecture also improves user experience with clear navigation, structure and organization. Aside from the three main information resource groups of Quantum Continuing Education, Graduate Education Program, and Educational Resources Program, additional features such as news, blogs, groups and members pages were not defined within the old network's navigational architecture. These features became buried with other content and underused by network members. In the redesigned network, we grouped these features into one category called Discover Now in the new navigation. This highlights and differentiates the news and social content from the resource contents and indicates the information is perpetually updated. Architectural changes were also made to individual virtual pages. Each virtual page is consistent with space for primary topic and additional information by incorporating a three-column grid. Such an application allows network users to quickly identify the different information within a page. This also establishes a consistent practice for the maintenance team in determining where different types of content should situate.

Implications

It is important to consider how established users will react to an unexpected redesign to a frequently used virtual space. It is just as important to be mindful of how the same users might react with a disoriented virtual

space with minimal upgrades that progress slowly over time. In the case of DiscoverMoreCorps, a full virtual space redesign benefitted the network much more than a progressive upgrade. The project demonstrated not all virtual space designs are driven by usability testing and survey feedbacks. Other external forces such as changes to a third-party hosting platform as well as information access methods and out-of-date architecture can all be valid reasons for an overhaul. The project also revealed how external forces and constraints may not always allow the same design progression of planning, research, development and implementation. Instead of a linear process, it should be seen as a spectrum with synchronized attention to certain aspects depending on the limitations. In this case, prototyping was used to manage time and technical restrictions but also moved the project ahead towards interface and architectural redesign, experience testing, and quality assurance simultaneously. To maintain these concurrent factors in similar virtual space redesign, existing qualities and features along with core user needs and site objectives should be identified. These details will keep the project on track with a concrete understanding of established users and basic content or functional requirements. This allows visual and architectural changes while sustaining site usability and overall user experience.

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A TAXONOMY
OF UN WEBSITES

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Abstract

We often define taxonomy as a directory or catalog that is a dissection of a set of objects such as documents, goods, services, images, and products into several sets of categories. From an epistemological stance, taxonomy is defined as "a knowledge organization system (KOS).[1]" From a theoretical standpoint of information science, knowledge organizational structure and information representation is a significant core of Library and Information Science (LIS) disciplines. KOS plays a crucial role in knowledge organization (KO). Scholarships in the Information and Library Science domain have given extensive definitions of knowledge organization structure. From an epistemological stance, Knowledge Organization Systems have been defined by scholars in LIS as that which is envisioned to comprise every type of scheme aimed at organizing information, as well as promoting knowledge management. These definitions of KOS are applicable to this study and will be used as a framework for investigating the knowledge organizational structures of the United Nations (UN) websites and to review literature that addresses KOS schemes for the organization of information and the promotion of knowledge management. This study aims to analyze the United Nations' websites in order to investigate the knowledge organizational structures. I am taking a rationalist approach, to see if data on refugees and immigration used in these websites can fit into a taxonomy.

This study also looked to see if the information structures on these websites concerning refugees and immigration is complicated or not. Each website was examined and individual concept maps were created. The method used is content analysis. The sample of this study is the United Nations High Commissioner for Refugees (UNHCR) website, and six other UN websites. The knowledge organizational structures and information representation in regards to refugee and immigration were examined. This study used information visualization and concept maps. This research approached taxonomical structure from an epistemological stance of refugees and immigration. The findings of the study indicated that there is no adequate visualization of knowledge organizational structures of refugees and immigration in the UN websites, it is complicated, and users do not easily locate data.

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1   (Hlava, 2011, p. 9).

Introduction

We often define taxonomy as "a taxonomy, or directory or catalog, [that] is a division of a set of objects (documents, images, products, goods, services, etc.) into a set of categories" (Lee, & Zhang, 2004, p. 472).

From epistemological stances, taxonomy is defined as "a knowledge organization system, or KOS" (Hlava, 2011, p. 9). However, it is essential to specify that from a theoretical standpoint of information science, Knowledge Organizational System (KOS) as well as information representation is a significant core of Library and Information Science (LIS) disciplines. KOS plays a crucial role in knowledge organization (KO) (Broughton et al., 2005). However, scholarships in the Library and Information Science domain have given extensive definitions of knowledge organization structure. From an epistemological stance, we often define KOS as "knowledge organization systems [that] are intended to encompass all types of schemes for organizing information and promoting knowledge management" (Hodge, 2000, p.3). Broughton et al. (2005) defined traditional KOS as "classifications and thesauri [that] are often used for organizing and searching printed media" (Broughton et al., 2005, p. 137). These definitions of KOS are applicable to this study and will be used as a base/framework for investigating the knowledge organizational structure of the UN websites as well as reviewing various literature that addresses KOS "schemes for organizing information and promoting knowledge management" (Hodge, 2000, p. 3). For this

study, the literature review of KOS domains/disciplines will give this study a vital vignette of the structure and applications of KOS.

The purpose of this study is to analyze the United Nations' (UN) websites to investigate the knowledge organizational structure. Each website will be examined and individual concept maps will be created. The content analysis method will be used in this study to analyze various contents reviewed in the literature, as well as the analysis of various contents reviewed on the UN website. The sample of this research study is the United Nations High Commissioner for Refugees (UN-HCR) and other UN websites. The UN websites that will be analyzed are: UN website, the United Nations High Commissioner for Refugees (UNHCR), United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), United Nations Women (UN Women), United Nations Environmental Programme (UNEP), and United Nations Industrial Development Organization (UNIDO). This study will analyze the UN websites to investigate the knowledge organizational structure and information representation (in regard to refugee and immigration). This study will closely look at the knowledge organizational structure and information representation that is presented concerning refugees and immigration. This study will look at how the UN websites present and structure information concerning refugee and immigration on their websites if they are complicated or not. This research study is important because it will investigate how the UN and its agencies' present knowledge organizational structure and information representation on their websites concerning refugees and immigration issues and find out if the structure is complicated or not.

This study commences with: Section I comprises a brief history of taxonomy. Section II encompasses an in-depth overview of various theoretical and philosophical views of KOS from the epistemological schemas of knowledge organization. Section III includes an in-depth literature review of various studies on taxonomy. Section IV contains an in-depth description of the methodological approaches employed in this study. Section V, gave extensive results of the findings of this study. Finally, Section VI shows a comprehensive conclusion of the research study.

Before proceeding to investigate the aim of this study it is important to give a brief overview of the history of taxonomy, KOS and the literature of several profound theorists in the field of information science that have been reviewed in order to better understand and analyze the concepts of knowledge organizational structure of UN websites.

Section I
Brief History of Taxonomy

From a philosophical standpoint, it should be noted that taxonomy is the "classification of living things, has its origins in ancient Greece" (Godfray, 2002, p. 17) as well as in its contemporary "form date[ed] back [to almost] 250 years, to when Linnaeus" (Godfray, 2002, p. 17) initiated the binomial classification that is being utilized today (Godfray, 2002, p.17) which is applicable to this study and its analysis of this study.

Section II below will comprehensively explore various literature on the epistemological schema for knowledge organization to better understand knowledge organizational structure and information representation in the information science domain, and to better understand KOS and its applicability when analyzing the UN websites.

Section II
Theoretical and philosophical views/ stances of KOS

Several scholarships have investigated, as well as defined, the taxonomical structure of KOS. It is fundamental to indicate that the epistemological schemas of KO such as taxonomy have been examined in the field of knowledge organization by Jacob (2004). Jacob (2004) investigated the taxonomical schema of KO from epistemological stances. Jacob (2004) broadly defined taxonomy as "the science of classification", or [Jacob quoted Mayr] that Mayr (1982) defined taxonomy as "the theory and practice of delimiting kinds of organisms" (Jacob, 2004, pp. 522–523). For Jacob (2004), "the objectives of taxonomic investigation are to provide an orderly and systematic organization of knowledge about the biological world; to identify the defining characteristics that distinguish a biological entity; and, based on those characteristics, to place the entity within a hierarchical ordering of mutu-

ally exclusive superordinate and subordinate classes in accordance with a set of established and widely accepted principles" (Jacob, 2004, pp. 522–523). It is essential to indicate that taxonomy is associated with KOS structure, which deals with the logical organization of knowledge. Taxonomic definitions and functions have been defined or viewed from various perspectives. Smiraglia (2004) presented taxonomical structures and functions from the perspectives of the "work"[2] (Smiraglia, 2004, p. 309). Smiraglia (2004) argued that the coordination and "extension of a taxonomy of works form the documentary to the artefactual domain presents an attempt to further knowledge sharing across cultural boundaries" (Smiraglia, 2004, p. 309). Smiraglia (2004) noted that the uses as well as "users of works, both documentary and artefactual, are global – [and there is] a need for this advance in the organization of knowledge [and it] is therefore also global" (Smiraglia, 2004, p. 309) in nature.

Taxonomical schema was discussed in LIS in terms of its bibliographical relationships. Tillett (1991) examined taxonomy of bibliographic relationships; he specified that taxonomy of bibliographic relations were acquired from an analysis of cataloging rules as well as the categories of bibliographical items in their analysis of taxonomical structure. And taxonomical structure helped their organizational structure of cataloging by specifying their specific relationship, and by taxonomically putting entities into various kinds of relationships. Taxonomical structure has been playing a big role in catalogical structure in LIS.

Having reviewed various scholarships and their perspectives and definitions of taxonomy it is vital to look at several studies in the literature's reviewed section on various studies that have been carried out on taxonomy and classification structure on the web/websites in order to better understand the taxonomical structure of the UN websites.

Section III
Literature Review

Web

Lee & Zhang (2004) carried out an interesting experimental study of web taxonomy to explore the problem of assimilating "objects from source taxonomy into a master taxonomy" (Lee & Zhang, 2004, p.472). Lee & Zhang (2004) noted that there is a problem presently prevalent on the web. They showed that "implicit knowledge in the source taxonomy can be effectively exploited to boost taxonomy integration by marrying Cluster Shrinkage (CS)[3] and Transductive Support Vector Machines (TSVM)[4]" (Lee & Zhang, 2004, p.480).

Similarly, Petrova-Antonova and Dimov (2011) conducted a comprehensive study of taxonomy of web services. They specified that, "in order to be" (Petrova-Antonova & Dimov, 2011, p. 377) capable to expansively "study the web service composition process," (Petrova-Antonova & Dimov, 2011, p. 377) diverse methodologies should be analyzed as well as structured into appropriate taxonomical framework. Petrova-Antonova and Dimov (2011) created comprehensive classification in their study, as well as a "comparison scheme, which could serve as a basis for a taxonomy framework of the web service composition process" (Petrova-Antonova & Dimov, 2011, p. 377). The recommended approach for web service composition comprises of six stages. The first was web service composition, which is portrayed as abstract workflow utilizing Business Process Modeling Notation (BPMN).[5] Second was the "quality factors from the three dimensions are selected and their quality weights are determined" (Petrova-Antonova & Dimov, 2011, p. 377). Thirdly, the limitations of quality factors were outlined as well as preference indexes for each

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2   Smiraglia (2002b) asserted, "Work is key entities in the universe of recorded knowledge. Works are those deliberate creations (known variously as opera, oeuvres, works, etc.) that constitutes an individual set of created conceptions that stands as the formal records of knowledge" (Smiraglia 2002b, p. 191). Smiraglia (2002b) defined work, by noting that "a work is a set of ideas created and set into a document using text, with the intention of being communicated to a receiver" (Smiraglia 2002b, p. 191).

3   "Support Vector Machine (SVM) is a powerful classification method which has shown outstanding classification performance in practice. It is based on a solid theoretical foundation – structural risk minimization" (Lee & Zhang, 2004, p. 474)

4   "Transductive SVM (TSVM) introduced by Joachims extends SVM to transductive learning setting. A TSVM is essentially a hyperplane that separates the positive and negative training examples with maximum margin on both training and test" (Lee & Zhang, 2004, p. 474).

5   "The languages for description of business processes like BPEL and BPMN are also proposed for web service orchestration" (Petrova-Antonova & Dimov, 2011, p. 371).

quality factors were indicated. "The preference index expresses the preference of one service over another considering all quality factors" (Petrova-Antonova & Dimov, 2011, p. 378). Lastly, "outranking flows amongst web service applicants were determined according to the preference indexes" (Petrova-Antonova & Dimov, 201, p. 378).

Likewise, in the discipline of human information interaction (HII), Jank (2010) gave a summary of his dissertation showing "taxonomically documents" (Jank, 2010, p. 403) of diverse scholarship in regards to human information interaction. Jank (2010) taxonomically documented the disciplinary field of HII scholarships in the domain of information technology, social sciences, physical sciences, information access and use, and social computing (Jank, 2010, p. 409). It is also vital to indicate that taxonomy could be incorporated in diverse disciplines as interpreted by Jank (2010).

Manley and Saltzer (1997) carried out an analysis of Internet web server logs for a diverse range of sites. While Manley and Saltzer (1997) presented a taxonomy of the diverse types of websites as well as distinguished "their access patterns and, more" (Manley & Saltzer, 1997) prominently, "their growth (in terms of number of hits) correlates with one of six different quantities: the number of web users, the number of documents a user is likely to visit on a site, the number of documents on a site, the fee structure for accessing data, the frequency with which search engines return a particular site, and the efforts of webmasters at attracting users" (Manley & Saltzer 1997).

Kumar et al. (2001) carried out a "semi-automatic construction of taxonomies over the Web" and "addressed the problem of discovering high-quality resources that belong in a [specific] node of a taxonomy" (Kumar et al., 2001, p. 1). Kumar et al., (2001) utilized Clever to construct a taxonomy tree of [approximately] "600 topics with [nearly] 70 human-hours of effort" (Kumar et al. 2001, p. 2). The conclusion Kumar et al. (2001) found that "the user study, as well as the timely results of the instrumented taxonomy creation tool, is that an ontologist armed with the paradigm of iterative topic creation using progressively "sophisticated forms of query can construct a high-quality taxonomy" (Kumar et al., 2001, p. 2) with a rational rapid turnaround time (Kumar et al., 2001, p. 2).

Broder (2002) examined a taxonomy of web search from an information retrieval (IR) perspective as well as discussed "how global search engines [changed] to deal with web-specific needs" (Broder, 2002, p. 3). One of the aims of the study was to "analyze a taxonomy of web searches" (Broder, 2002, p. 5). Broder (2002) "introduced a taxonomy of web searches" (Broder, 2002, p. 5). Broder (2002) noted that, "in the web context the need behind the query is often not informational in nature" (Broder, 2002, p. 5). Broder (2002), categorized web queries concurring to their concentration into three distinct classes: "(1) Navigational. The immediate intent is to reach a particular site. (2). Informational. The intent is to acquire some information assumed to be present on one or more web pages. (3). Transactional. The intent is to perform some web-mediated activity" (Broder, 2002, p. 5).

Section IV Methodology

This study applied content analysis. The knowledge organization structure and information representation was analyzed based on their contents. This study carried out an exploratory study via searching several databases such as ESCOHOST, JSTOR, ISI, as well as the Merriam-Webster Thesaurus and other thesauruses for the terms refugee and immigration. I did an online/free –text search as well on the terminology of refugee and immigration as carried out by Jank (2010). There are lots of software tools such as Microsoft Excel to calculate the frequencies of the display patterns of terminologies on the dictionary and thesaurus, but I decided to manually write down the observed displays of several thesauruses' terminologies that were utilized taxonomically. However, I manually grouped the taxonomical terms into various relations based on the in-depth data gathered from various classifications on dictionaries and thesauruses due to lack of time. This study employed Jank's (2010) framework of taxonomical structure that was portrayed in several interdisciplinary fields of human information interactions (HII).

Based on Jank's (2010) framework of taxonomical structure of the interdisciplinary field of human information interaction (HII), Table 1 below was created to depict the taxonomical structure of refugee and immigration based on the search described above. Table 1 gives a broad taxonomical classification of refugee and immigration, which was one of the aims of this study: to investigate the knowledge organization structure and information representation of refugee and immigration on the UN websites and to see if it was complicated or not.

Table 1 clearly depicts the taxonomical structure of refugee and immigration, which was derived from two separate sources listed below Table 1. The taxonomical

Refugee	Immigration
Deportee	Migration
Evacuee	Brain Drain
Expat	Citizenship
Alien	Foreign Policy
Fugitive	Immigrants+
Castoff	International Relations
Pariah	Land Settlement
Loyalist	Migrants+
Patriot	Migration Patterns
	Place of Residence
	Population Trends
	Refugees
	Undocumented immigrants

Taxonomy of refugee retrieved from <http://merriam-webster.com/thesaurus/refugee?show=0&t=1367045467>. Last Accessed April 26, 2013.

Taxonomy of immigration retrieved from <http://web.ebscohost.com.cwplib.proxy.liu.edu/ehost/thesaurus?sid=116211eb-6c2e-4e20-a77d-e61d7d7e620d%40sessionmgr198&vid=12&hid=119>. Last Accessed April 26, 2013.

Table 1 – Taxonomy of refugee and immigration

structure was derived from the Merriam Webster Thesaurus. The taxonomy of immigration was derived from the ESCOHOST database thesaurus. Content analysis assisted in demonstrating word partnering grounded on the taxonomical description on various databases/thesauruses concerning refugee and immigration. The constructed taxonomies of refugee and immigration have shown a profound and an in-depth taxonomical description of various themes that are imbedded in the terms refugee and immigration. Section V below gave a philosophical overview of the results/findings of this study based on the analysis of the knowledge organization structure and the complexity of the UN and other six UN websites regarding refugee and immigration.

Section V
Results/Findings

Based on the review of the UN website, Concept Map 1 (see below) was created to depict the taxonomical and the organizational structure of several information representations on the UN's website.

It should be indicated that in structuring an effective organizational website, it is vital that the design is equivalent to the organization's well-defined objectives. Obviously, diverse kinds of websites will have distinct aims or ambitions. The Concept Map 1 above shows the taxonomical structure, organizational structure and the interconnection of various information repre-
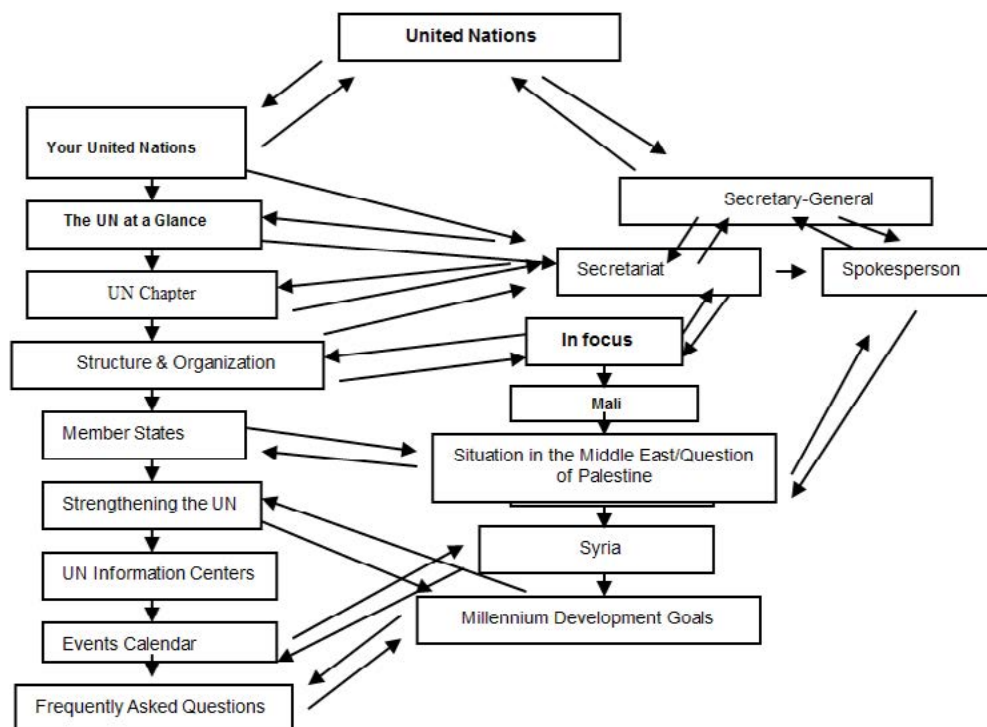
Concept Map 1 – A Taxonomy of UN Website

sentations on the UN's main webpage. Concept Map 1 also depicts various information representations on its taxonomical structure of member states, calendar of the UN, the secretariat, the Secretary-General of the UN, and many more (see Appendix 1). However, the UN presents several visualizations of information representations that generally represent the major organization entities/objectives taxonomically, which I thought to be profound. However, the UN's website is complicated because the information representation of refugee and immigration was not virtually displayed. From a philosophical stance, it should be noted that the information representations of refugee and immigration were not visually represented on the UN's website. The information representation of refugee and immigration were imbedded in the various classifications that will take the user to major documentations regarding refugees and immigration (or via direct to UNHCR). There is no specific link or information representation on issues relating to refugee and immigration on the taxonomical structure on the interface/webpage of the UN that is taxonomically structured.

Nevertheless, the second UN website that was analyzed in this study is the UNHCR's website. The UNHCR's website was not complex, but the knowledge representation was worded differently (See Concept Map 2 on UNHCR's website taxonomical review) (see Appendix 2 and 3 for UNHCR's webpage). Immigration was worded migration, which is consistent with the taxonomic structure of immigration on Table 1. On Table 1, migration is taxonomically classified under immigration.

Furthermore, Concept Map 2 was constructed to depict the taxonomical structure of refugee and immigration on UNHCR's website. The knowledge organization structure and information representation on UNHCR's website were visually represented and not hard to find. It was easy for the user to search the taxonomical structure of refugee and migration. The UNHCR's information representation of refugee states that its mandate is to protect refugees. On the information representation of migration, UNHCR specified that there is mixed migration flow and refugees could migrate via sea and its mandate is to see that these refugees are protected (see Appendix 2 and clicked on asylum and migration on the information representation).

From a philosophical viewpoint, it is essential to note that UNHCR has depicted a profound and well-structured taxonomical classification of its various activities as well as its interconnection of activities (see Concept Map 2). Users will not find it difficult to access information representation on refugees and migration. The
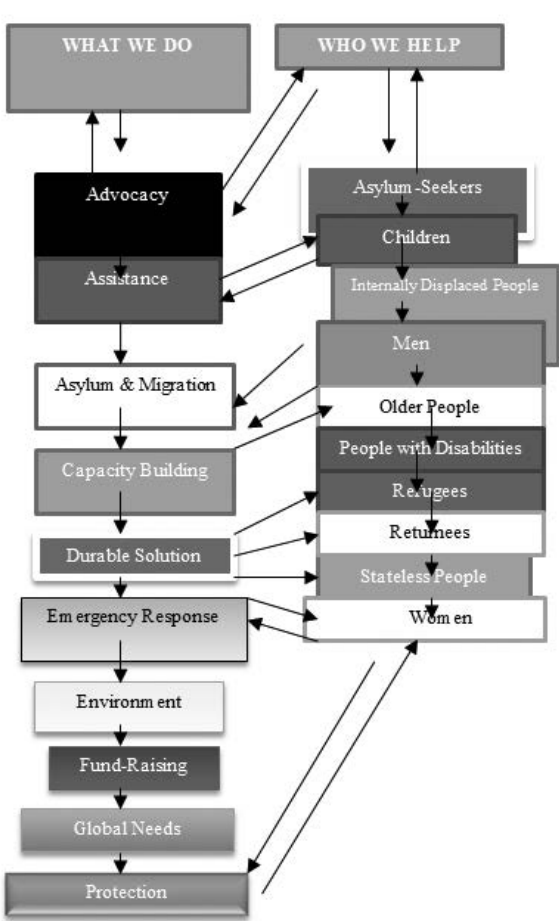
Concept Map 2 – A Taxonomy of UNHCR Website
(Created based on the data analyzed)

UNHCR presented a profound visualization of various knowledge representations of what UNHCR does and whom it helps. UNHCR's presentation of information representation on refugee and migration was not complex, but rather visual.

Epistemologically, the third website analyzed from a philosophical stance was the United Nations Development Programme (UNDP) (see Appendix 4). The knowledge organization structure was well-categorized taxonomically and various information representations on its functions were well-displayed. UNDP visually displayed several information representations taxonomically (such its main functions: fighting poverty, building democracy, and many more), but it does not contain information representation of refugee and immigration on its interface/website (see Appendix 4).

United Nations Children's Fund (UNICEF) was the fourth website analyzed in this study. The knowledge organization structure of UNICEF was complicated. The information representations of refugee and immigration were not found on the interface/website (see UNICEF Website page on Appendix 5). In general, UNICEF's web-

page is very complex with various sets of words, and information representation is not easily found. For instance, the information representation on the main page "What We Do" has no taxonomical structure. Whenever a user clicked on the information representation such as "what we do," it takes the user to a different page regarding the subject clicked, but the user needs to explore more on the subject browsed in order to retrieve various documents. UNICEF does not follow knowledge organization structure regarding the design of its website.

The fifth website analyzed in the study is the United

but there were no information representations found on refugee and immigration.

From a philosophical stance, it should be noted that in all six UN websites analyzed, United Nations Environmental Programme (UNEP) has the most complicated knowledge organizational structure. Various information representations were not easily browsed, making it very difficult for users to identify and retrieve information or documents from the website. In addition, there is no taxonomical structure on the main page; this makes it more difficult to search for information. However, based
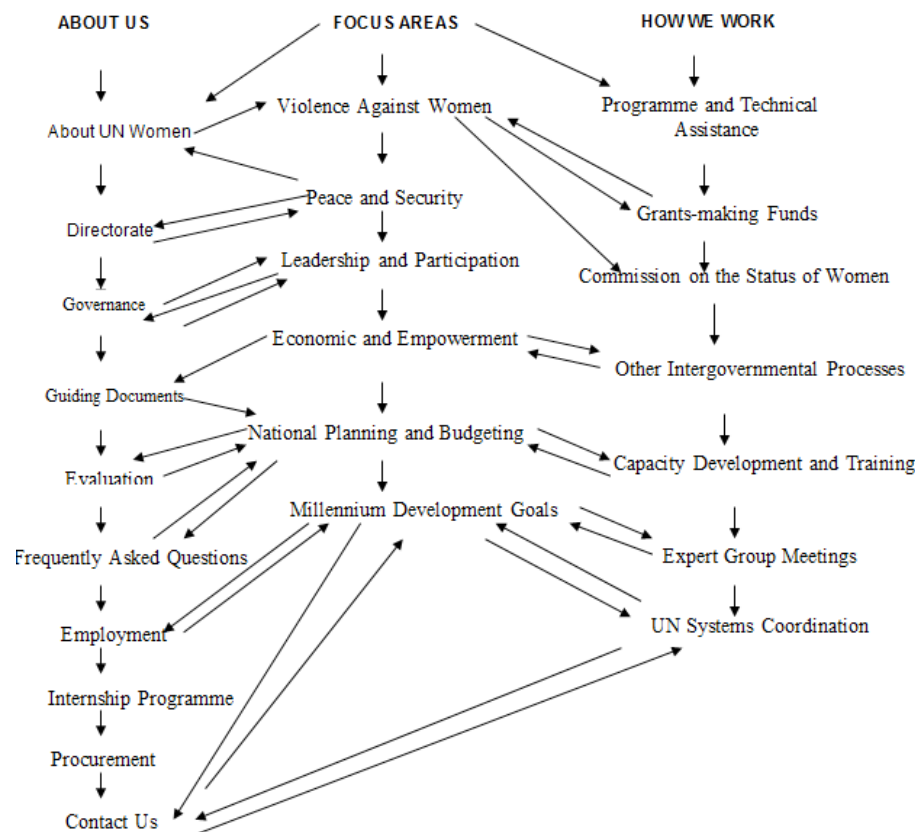
Concept Map 3 – A Taxonomy of UN Women Website (Created based on the data analyzed)

Nations Women's (UN Women) websites. The website has a well-structured knowledge organization systems based on its agenda, which enables information to be easily retrieved. The structure on the websites looks like knowledge organization structured. It was easy to search several documentations. The UN's Women's website was structure taxonomically on its "Focus Areas" (such as violence against women, peace and security and many more) (see Concept Map 3) (see Appendix 6). UN Women had a well-structured information representation, which connects to various focus areas regarding their objectives/focus. The various information representations were connected and easily accessed and retrieved based on several information representations,

on various information representations browsed on UNEP's website, there are no information representations on refugee and immigration. UN Women's goal was to protect the environment, which is outside the agenda of this research (see Appendix 7 for UNEP's webpage). The seventh website analyzed was UNIDO's website. It was reviewed and a taxonomy was constructed based on various information representations on the website (see Concept Map 4 on UNIDO below).

United Nations Industrial Development Organization (UNIDO) was the last UN website analyzed from a philosophical stance. UNIDO has a well-structured knowledge organization structure. There are various documents that were well-categorized, which allowed

Poverty Reduction through Productive Activities

Trade Capacity Building

Energy & Environment

Cross Cutting Issues

Competitive Productive Capacities

Resource-efficient & Low-carbon Industrial Production

Gender Equality & the Empowerment of women

Business, investment & Technology Services

Quality and compliance Infrastructure

Energy access for Productive uses

South-South & Triangular Cooperation

Agribusiness and Rural Entrepreneurship Development

Corporate Social Responsibility For Market Integration

Capacity Building for The Implementation Multilateral Environmental

Least Developed Countries (LDCs)

Human Security & Post-Crisis Rehabilitation

Women & Youth in Productive Activities

Concept Map 4 – A Taxonomy of UNIDO Website What We Do (Created based on the data analyzed)

the users to easily retrieve various documents. For instance, when a user clicked on the information representation such as "What We Do," it takes the user to a taxonomical structure of what the organization does. If a user clicked on "Investment Monitoring Platform," it takes the user to the left taxonomy where documents could be easily retrieved. However, this is outside the scope of the study (see Appendix 8 for UNIDO's webpage). There is no information representation of refugee and immigration on UNIDO's interface. Since this is taxonomical research, it is fundamental to depict some of the taxonomical structures of UN websites. Therefore, Concept Map 4 was constructed to depict various taxonomical structures of several information representations of the work of UNIDO and interconnected on various works the group carried out such as "productive reproduction through productive activities, trade capacity-building, energy and environments" when clicked on "What We Do" (see Appendix 8) (also see Concept Map 4).

Section VI
Conclusion

This study has analyzed the UN websites in order to investigate the knowledge organization structure of refugee and immigration and to see if information representation is complicated or not. Each website was examined and several concept maps were created. This study utilized content analysis methodology to analyze the various websites and the knowledge organization structure and information representation based on their contents. This research also employed Jank's (2010) framework of taxonomical structure that was depicted in various interdisciplinary fields of human information interaction (HII) to make this research a grounded research. Jank's (2010) framework was a profound framework of taxonomical structure, which enables this research to create a grounded taxonomical structure of refugee and immigration (see Table 1). From an epistemological stance, based on the examination of seven UN websites, this research reaches a final conclusion that a majority of the websites that were analyzed were complicated and several information representations were not easily retrievable. The information representation of refugees was not represented in five of the six UN websites analyzed. The UNHCR's websites were the only websites that presented refugee and migration information representation, taxonomically. The information representation on refugee and migration on UNHCR's site was not complicated; it was easily browsed and retrievable. Some of these websites did not follow the knowledge organization structure. This is supported by Jank (2006) quoting Tillett's (1991) saying that "taxonomical structure may either be constructed based upon pre-determined classification schemes, or can actually emerge as a result of organization practices implemented without specific adherence to established structure" (Jank, 2006, p. section 3.1). Based on these phil-

osophical viewpoints of Jank (2006), a profound scholar in the field of information science, it should be noted that, having reviewed and analyzed the seven UN websites, this study reaches a conclusion that the UN and its agencies' websites lack the information representation of refugee and immigration. The UNHCR was the only website that presents information representation of refugee and migration visually and taxonomically. Refugees and migration were not difficult to find in the search process. This study will contribute to the body of knowledge of information science.

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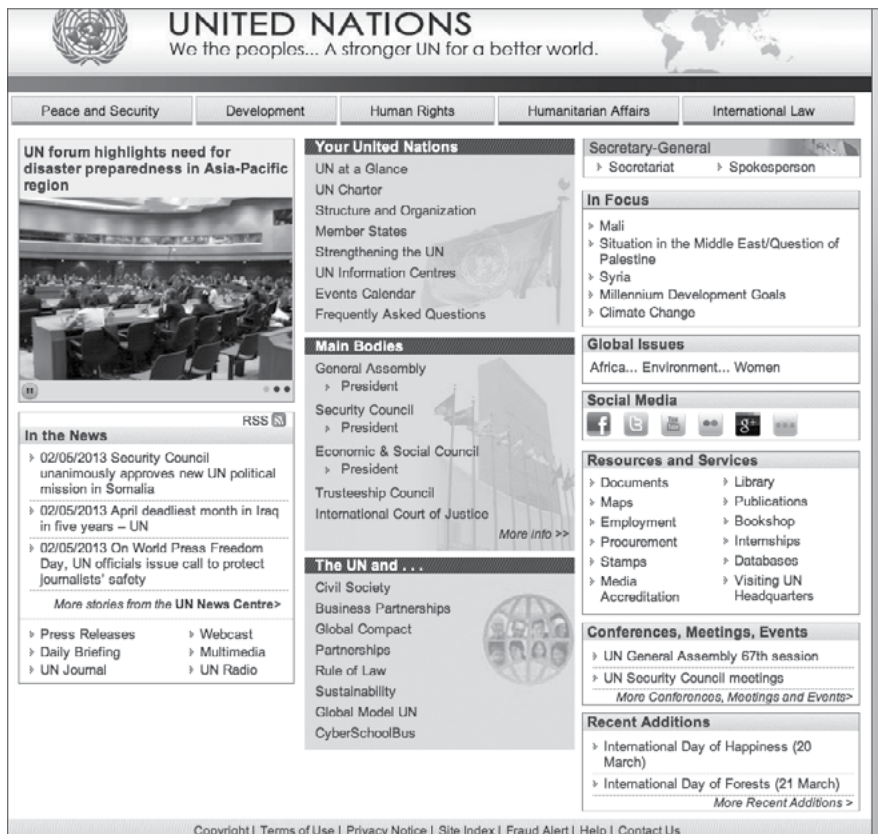
Appendix 1 – UN Website <http://www.un.org/en/> (Last accessed May 2, 2013)
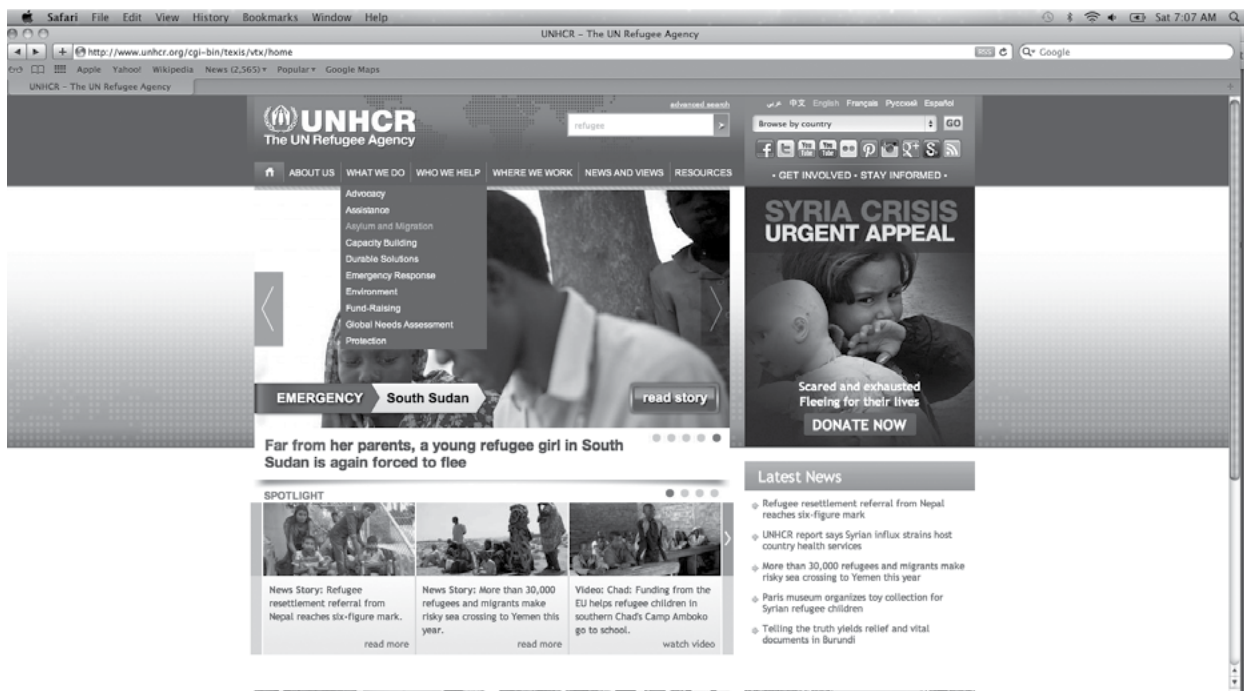
Appendix 2 – UNHCR's webpage – Taxonomy of Immigration <http://www.unhcr.org/cgi-bin/texis/vtx/home> (Last accessed May 2, 2013).
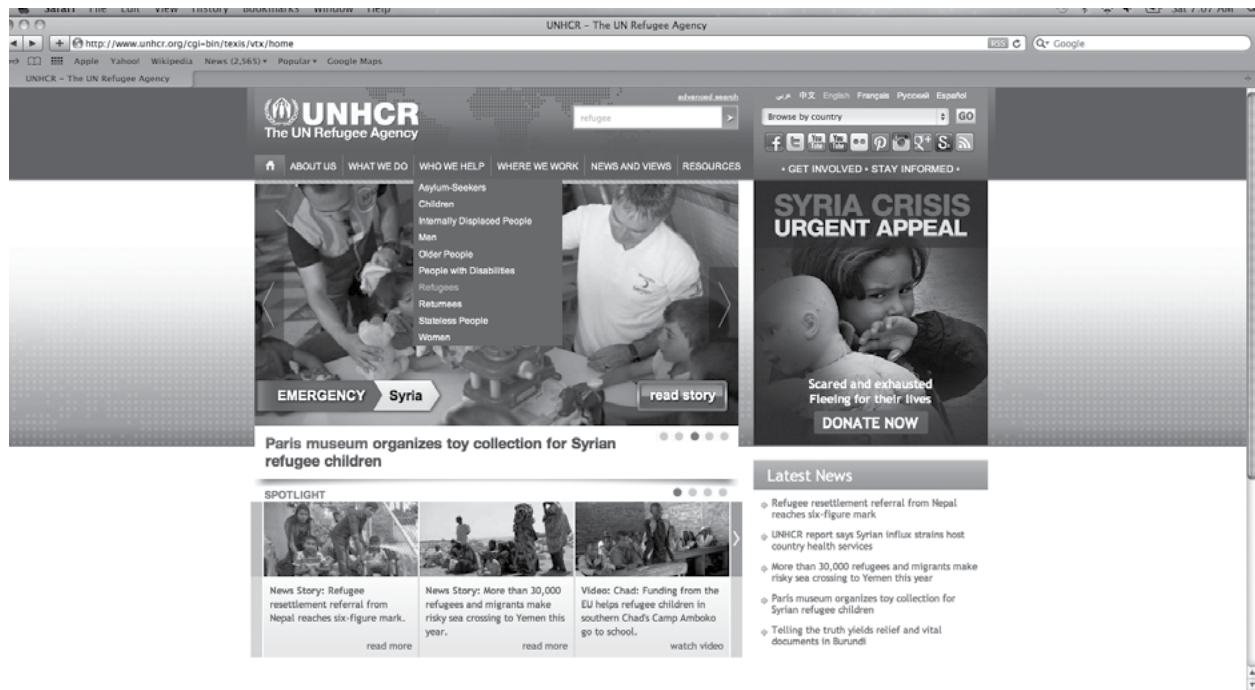
Appendix 3 – UNHCR's webpage – Taxonomy of Refugee <http://www.unhcr.org/cgi-bin/texis/vtx/home> (Last accessed May 2, 2013).
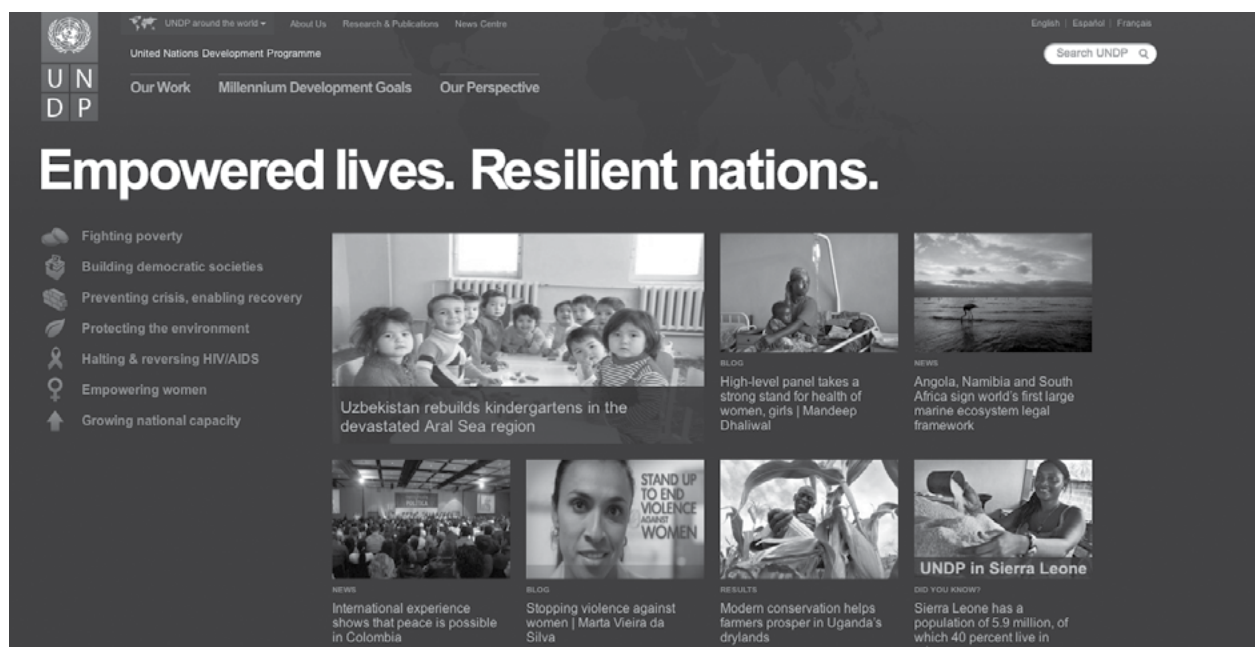
Appendix 4 – UNDP Website <http://www.undp.org/content/undp/en/home.html> (Last accessed May 2, 2013).

Appendix 5 – UNICEF webpage <http://www.unicef.org/> (Last accessed May 2, 2013).

Appendix 6 – UN Women's webpage <http://www.unwomen.org/> (Last accessed May 2, 2013).
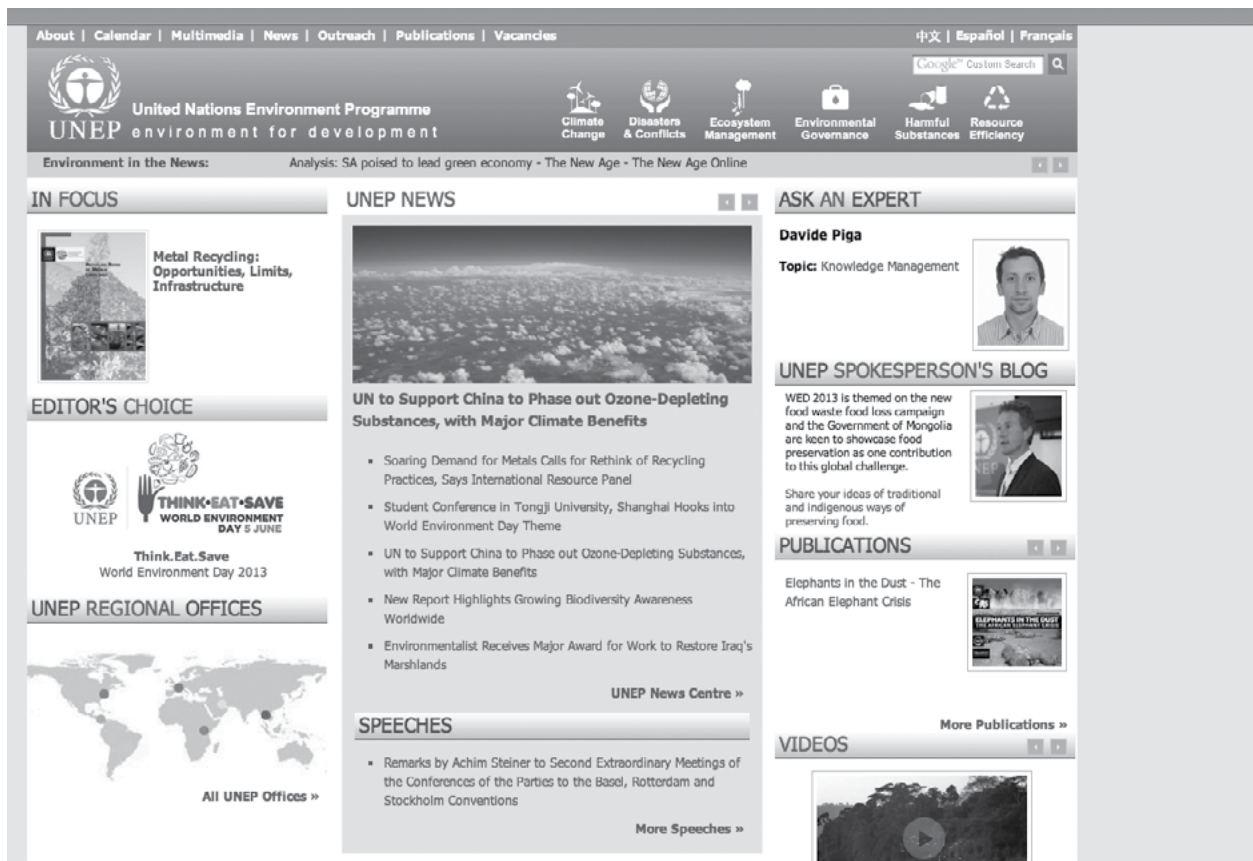
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05.3.3

USER-CENTRED IMPROVEMENT OF INFORMATION ARCHITECTURE FOR ENHANCED USER EXPERIENCE

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Abstract

As more information is represented digitally, human-computer interaction has become central to information science. This specialty area of computer science itself has reached a certain degree of maturity and now focuses on holistic and individualized interaction experience (Hassenzahl & Tractinsky, 2006; Maxwell, 2002). There are many factors that shape users' experience with digital products and websites in particular, however the most important ones are attributed to content and its findability (Morville & Rosenfeld, 2007).

Traditional architecture logically structures physical spaces like buildings and cities. Information is also most useful when it is structurally grouped, the way libraries have always been organized. One of the approaches that helps to organize ever growing amounts of digital information into meaningful structures enabling people to find necessary information is information architecture (Morville & Rosenfeld, 2007). This research aims to determine the role of information architecture in website design and enhanced usability, a topic that in Latvia has had a limited research so far.

This study was conducted in two stages. Initially various methods, tools and best practices were analysed and the usability of National Library of Latvia website was evaluated. Using heuristic evaluation, usability testing and user survey, efficiency, effectiveness and satisfaction with the website were measured. Results indicated four types of usability problems, three of those attributing to components of information architecture – labelling, organization and navigation systems.

During the second stage, several user-centred design methods were employed. In order to obtain content structures in accordance with users' mental model card sorting technique was used. As a result of that and taking into account the findings of usability testing two new conceptually different versions of website content structure were designed. Using an online tool interactive prototypes were produced and tested with users, measuring efficiency and effectiveness. Results show agreement with theoretical predictions and significant improvement over original website content structure. Therefore, research results confirm that user-centred improvement of information architecture helps to achieve better usability of website.

Introduction

Over the past decade the amount of information has been rapidly and uncontrollably growing, and it mostly exists in digital format somewhere in the web. Inadequately managed, this rapid information growth causes many problems, however it can also offer new, unprecedented opportunities if properly organized and governed. This exceedingly applies to websites as the volume and diversity of their content continues to grow but approaches to content structuring and organization have remained unchanged. Findability issues caused by poorly structured information lead to inconvenience and increased costs stemming from insufficient information, user frustration, low grades, bad decisions etc.

Several studies investigating factors that impact findability have been carried out. Among those factors are low computer skills, bad user interface design and poorly structured and organized information content (Alkindi & Bouazza, 2010).

This paper examines the emerging role of information architecture in the design of user-friendly content publishing websites by employing the latest approaches, skills and tools. As a result, it offers a combined approach that uses multiple techniques for ensuring improvement of information architecture and usability of the content management sites.

Information architecture is a relatively new discipline in knowledge organization field merging approaches and concepts of several other disciplines – library and information science, classification theory, logic and philosophy, psychology and ergonomics – and aiming to structurally design shared information environments (Morville & Rosenfeld, 2007; Resmini & Rosati, 2011).

While a variety of definitions of the term 'information architecture' have been suggested, this paper will use the definition adapted from L. Downey, S. Banerjee and J. J. Garrett – information architecture is information organization with a goal to support findability and intuitive access to content from infrastructure to user interface level (Downey & Banerjee, 2011; Garrett, 2003). This study focuses on three information architecture components – organization system, labelling system and navigation system.

Theoretical background

As an increasing amount of information is represented digitally, human-computer interaction concepts have become more relevant in library and information science. In the 1990s with a turn first toward human interaction with computers and later computer mediated interaction among people, the area started to attract more socially oriented researchers. Human-computer interaction also has its roots in engineering and human factors, and usability, ease-of-use, user-friendliness are some of its key concepts.

However the recent advances of information and communication technologies have moved the field of human-computer interaction into practically all realms of the human society and its activities. This shift has moved the traditional primary goal of product usability to a broader, more holistic paradigm that encompasses all aspects that come up when a person interacts with a product. User experience is a relatively new and growing concept within the area of human-computer interaction where the focus is put on the value and pleasure rather than performance (Hassenzahl, Hvannberg, & Law, 2006).

User experience occurs within interaction and usage context and is felt internally by the user (Hartson & Pyla, 2012). User experience results from input of many different disciplines: accessibility, content strategy, user research, interaction design, user interface design, information architecture and a number of others. It must be stressed that usability and usefulness are major components of user experience.

There is a large volume of published studies describing the role of usability in general, and evaluating website and library website usability in particular. However most studies have only focused on suggesting improvements and have neglected to evaluate usability after implementation (Jacob & Loehrlein, 2009; Robins & Kelsey, 2002). This study offers comparison of two

usability dimensions measured in original website and two interactive prototypes. Besides that it also proposes a structured approach for evaluation of information architecture of existing sites and for its improvement with the goal of reaching higher usability.

The theoretical framework used for interpreting the research presented in this paper has its basis in Donald Norman's Stages of action model and the related concept of mental models (Carroll & Olson, 1987; Norman, 2013). In interacting with the world, people form internal representations or mental models of the objects with which they interact. Mental models are based on belief, not facts, and they provide predictive and explanatory powers for understanding the interaction. According to usability expert Jakob Nielsen, the gap between designers' and users' mental models is one of usability's big dilemmas (Nielsen, 2010). Stages of action model explains how this gap causes gulf of execution (the difference between the intentions and the allowable actions) and gulf of evaluation (the difference between system representation and the degree to which user's expectations and intentions have been met)(Norman, 2013). Because of this gap current study relies on user-centred design approach as an overall strategy.

Research methodology

To date various methods have been developed and introduced to design and evaluate websites. Predominant information architecture design methodology is user-centred and according to ISO 9241-210:2010 standard: Human Centred Design Process for Interactive Systems it calls for design based upon an explicit understanding of users, tasks and environments and active involvement of users throughout design and development ("ISO 9241-210," 2010). A case study approach was used to allow an in-depth study of a particular – National Library of Latvia website www.lnb.lv and to test and assess the selected combination of methods and its usefulness in similar studies.

The overall process included the following stages:
1. evaluation of existing web site usability
   a) usage and content analysis, and heuristic evaluation,
   b) usability testing with users;
2. design and evaluation of alternatives
   a) design of content structure,
   b) prototype development,
   c) prototype tree-testing and result analysis.

During the first stage the existing website was examined and its usability evaluated. In order to achieve thorough results and to prepare for testing with users:

- website traffic data was obtained and analysed
- existing content was analysed determining content object types and content structure
- heuristic usability evaluation was performed.

Following this and taking into account the acquired results, eight usability testing tasks were devised.

Only grown-up actual or potential library patrons were included in the study. Ten participants aged between 17 and 59 with varying occupation, education and computer skills were recruited for testing. Over half the sample (60 %) was female. Only one participant had used the website before. Data for this part of the study were gathered using questionnaire and think-aloud protocol.

To assess three usability dimensions the following quantitative and qualitative measurements were carried out:

- task success rate (completed, partially completed, abandoned) to measure effectiveness;
- lostness indicator (Smith, 1996) (similarity of user's navigation path to the optimal path) and self-evaluation (five level Likert scale questionnaire) to measure efficiency;
- questionnaire to measure user satisfaction.

In addition to that all user errors and comments were recorded and categorized.

During the second stage of this study an improved content structure was designed. To gain insights into users' mental models card sorting method was selected.

Seventeen participants were asked to sort 33 cards with various objects of the website content into groups that made sense to them, and to name the groups. The gathered data were analysed and processed with a free online card sorting tool ConceptCodify (http://conceptcodify.com/). Figure 1 shows the dendrogram illustrating the clusters of cards.

Two new versions of content structure and corresponding interactive prototypes were designed with an online tool Naview (http://www.naviewapp.com/). Prototype P1 was based on card sorting results. Bearing in mind that one drawback of card sorting method is that it ignores typical usage scenarios, prototype P2 was created, based explicitly on users' tasks.

Both prototypes were evaluated with six participants using tree-testing method. Tree-testing helps to assess top-down content organization and category labelling, but excludes other factors that impact findability, such as visual design, information layout, contextual links and search. It is especially beneficial to carry out tree-testing in the early stages of design.

Three participants were shown prototype P1 first, the other three were asked to start with prototype P2 to avoid bias. The users performed similar tasks to the usability testing of the first stage of this study. Again users were asked to think aloud and all their actions were recorded. Both qualitative and quantitative data were collected to determine efficiency and effectiveness. To increase reliability of measures all participants were asked which prototype they preferred.
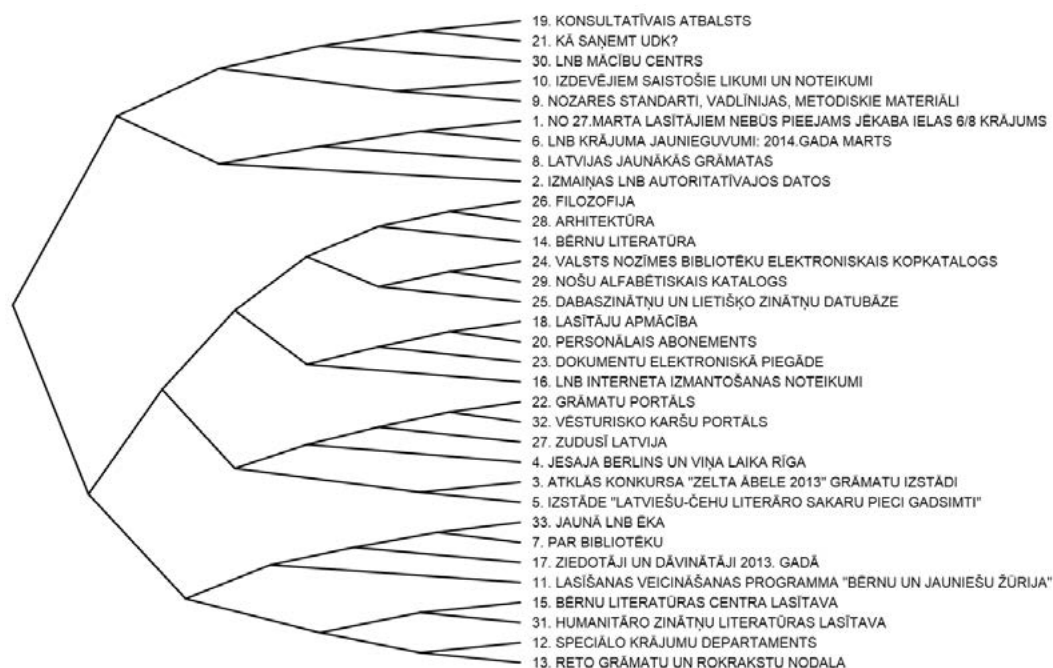
Figure 1 – Dendrogram resulting from hierarchical cluster analysis

Findings

Usability of the existing site was assessed using heuristic evaluation and usability testing with a specific purpose to identify usability issues attributed to information architecture. The key findings were:

- task success rate was slightly above average, but in 48 % of cases participants were lost;
- no significant differences in task success rate were found among users;
- reasons for limited efficiency and effectiveness were mostly related to information architecture:
  - category labelling incompatible with users' mental model,
  - grouping of content objects incompatible with users' mental model,
  - inconsistent navigation elements,
  - visual design flaws;
- no direct correlation was found between length of navigation path and lostness. This finding supports the assumption that lostness was caused by inconsistent categorization and labelling conflicting with users' mental model, not by bad navigation;
- participants' self-evaluation of efficiency tended to be higher than objective indicators suggest;
- high level of agreement with the statement It is easy to see what content is in this website implies that the number of top level categories is sufficient;
- the high heuristic evaluation score for navigation was supported by overall positive reports by users;
- according to best practices, library catalogue is accessible by four very short navigation paths, but the poor results of the respective task were caused by labelling and visual design flaws;

- emotional reaction of participants was noted only once, which suggests that this indicator in artificial circumstances must be interpreted with caution.

Card sorting results during the second stage show how the content objects should be grouped and categories labelled according to users' mental model:

- the most frequent number of categories was five, which means that the existing content could be successfully organized into smaller number of groups (the existing site had seven top level categories);
- the majority of participants grouped content objects intended for specific user groups separately;
- labelling by participants differed from the one used in the existing site (News vs. Current Events, E-Resources vs. Digital Collections etc.).

Testing results of both prototypes were compared with the testing results of the existing website in two dimensions – efficiency and effectiveness:

- effectiveness was measured by task success rate, which was 100 % for both prototypes.
- efficiency was measured by lostness indicator.

Figure 2 provides an overwiew of the obtained data and comparison of the three versions. The highest optimal path and the lowest lostness indicators were observed in the case of prototype P1. Interestingly, while prototype P2 scored lower, it was still better than the existing site.
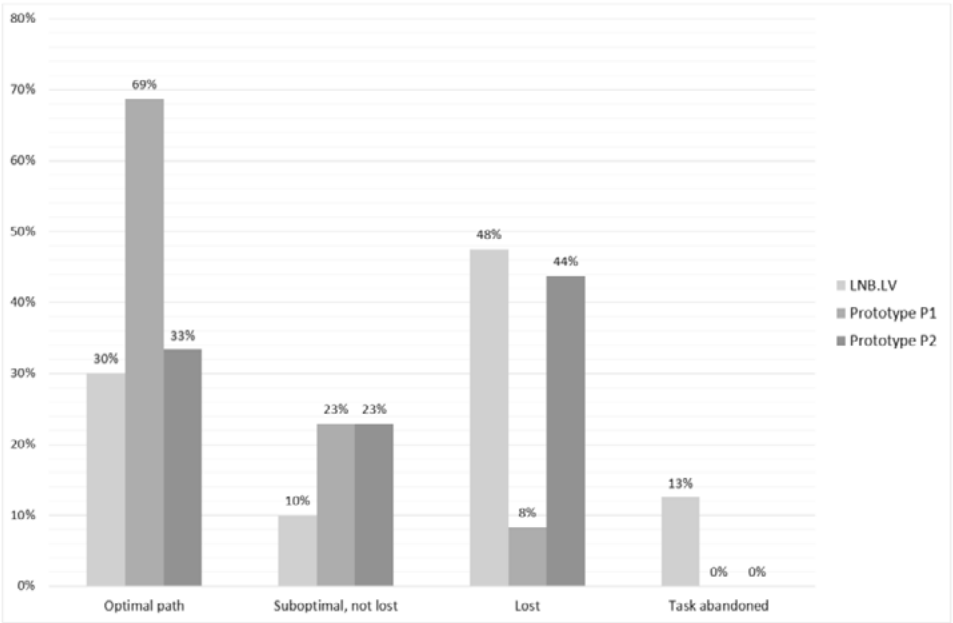
Figure 2 – Comparison of testing results for the existing website LNB.LV, prototype P1 and prototype P2

Conclusion

Besides a very practical and applicable result of this research, a significant outcome is the approach to website information architecture redesign that was devised in the course of this study and can be reused in other projects. This approach is based on a thorough analysis of best practices, theories and related research and entails the selected methods and tools.

The main goal of the current study was to determine the role of information architecture in the design of user-friendly content publishing websites. The present study confirms previous findings and contributes additional evidence suggesting that the impact of information architecture on usability is undeniable and that by improving information architecture at least two important usability dimensions – efficiency and effectiveness – are improved.

However the most obvious finding to emerge from this study is that the best results can be obtained using user-centred design approach. One of the most significant problems of information architecture design is the gap between users' and designers' mental models. Therefore it is almost impossible to create a user-friendly information architecture without conducting thorough user research. However one potential problem is consolidation of the results generated by radically different, contradictory user groups (i. e., library patrons, publishers and librarians, children and adults, etc.).

A number of other possible future studies are apparent: research of biasing effects when the same participants are involved in usability testing and card sorting; relationship between efficiency and effectiveness in a prototype and a respective fully functional website; relationship between different dimensions of user experience.

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VISUAL COMMUNICATION OF MUSEUM WEBSITES: ANALYSIS AND COMPARISON OF EUROPEAN AND CROATIAN ART MUSEUMS

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Abstract

Museums are amongst the most popular information institutions – a certain country's first time visitors are often likely to view a museum as their first attraction. Information about museums, their exhibits and collections are usually placed on their respective websites. Today, in the age of information, it is very important to have a website that is visually appealing and organised in terms of content.

Visual communication is a process of dialogue between the user and a website. Among other aspects, the primary goals of creating and designing websites should be presenting the contents in a visually alluring way, but also fulfilling the needs of all users and answering their questions. The users, knowingly or not, usually visit a website with a number of questions on their mind. These include, but are not limited to questions such as: where am I, what can be found on this website, how do I search through it, how do I communicate with the institution, what are the current events, how do I get back to the Home page, where can I get some help.

Considering the importance of visual communication on the Internet today, this paper analyses and compares European (The National Gallery London, Museo Nacional del Prado, Musee d'Orsay, Rijksmuseum) and Croatian (Mimara Museum, Museum of Arts and Crafts, Museum of Contemporary Art, Gallery of Fine Arts Osijek) art museum websites regarding visual elements (such as colour, signs, symbols, typography and information architecture). To satisfy user needs, design and the information presented on the websites should be visually attractive and easy to search and use. Thus, the paper will analyse the contents, organization of elements, images and website navigation. Digital collections on the websites will be compared regarding content, image size, ability to scale or download.

The hypotesis is that most Croatian museum websites did not recognise the importance of a developed system of visual identity and communication with the users. Therefore, the purpose of the paper is to point out the lack of awareness of the importance of visual communication on the website. Furthermore, the paper aims to present some guidelines on improving websites user satisfaction.

Introduction

Humans are primarily visual beings, processing most of the information around them through their eyes. Although the numbers differ from source to source, spanning from about 70%[1] to about 80%[2], it is clear that our perception depends heavily on eyesight. Knowing this, it becomes evident how the inclusion of visual elements in different media, ranging from educational materials to commercial bilboards, makes us perceive and remember the messages communicated more easily. A paragraph of pure text can be rife with information, but combined with an image that gives it shape, it makes the communication of said information more effective and easier to understand. Vice versa, an image combined with text to give more context works better than an image itself. In the words of Paul Martin Lester – "The most powerful, meaningful, and culturally important messages are those that combine words and pictures equally and respectfully."[3] But communicating a certain message to a certain audience is not as simple as putting images and texts together, it requires thought, organization of

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1 Carr, Rebecca & Harrington, Mary (2011). Effective Communication Through Visual Design: Tables and Charts. Retrieved December 15, 2014 from: http://aaude.org/system/files/documents/public/strategy-institute-handout-final.pdf

2 HP (2004). The Power of Visual Communication. Retrieved December 15, 2014 from: http://www.hp.com/large/ipg/assets/bus-solutions/power-of-visual-communication.pdf

3 Lester, Paul Martin (2014). Visual Communication: Images with Messages. UK: Cengage Learning.

visual elements and application of different principles – it needs to be carefully constructed and designed.

Regarding this, the importance of visual communication design (VCD) can not be denied. It is "the action of conceiving, programming, projecting, and realizing visual communications that are aimed at broadcasting specific messages to specific sectors of the public",[4] or, to put it more simply, it is the "interpretation, organization, and visual representation of messages".[5] It relies on use of priciples and visual elements to create a visual language that is able to communicate ideas and messages to a specific audience. Underlying it is a process of developing a brief, researching, generating ideas, developing concepts, refining and finally presenting the visual communications.[6] The goal of that entire process is creating communication that is not only visually appealing but also appropriate, effective, easily understood and memorable – it exists not only to inform, but to evoke interest.

Applying VCD on the Internet follows similar rules and principles as with any other form of media. But given the size of it and the number of users, VCD becomes extremely important. Not only is it significant to be present on the Internet, but also to be distinct, appealing and attract users. A web page, especially the Home page, needs to be obvious, self-evident and self-explanatory.[7] It needs to present information in a way that is both meaningful and requires as little effort from the user as possible. The Home page holds the rest of the site together, it conveys the identity and mission of the site, it establishes the hierarchy, it shows hints of content that might interest us – it communicates the big picture.[8] Users tend to have many questions while visiting a website. Questions like "Where am I? What can be found on this website? How do I search through it? How do I communicate with the institution? What are the current events?"[9] need to be addressed properly and prompt-

ly. And given that the users tend to skim and scan the provided information[10], messages need to be clear and concise, minimizing the effort needed to perceive them.

While everything stated can be applied on a wide range of different websites, this paper concentrates on museum websites. A website is a cultural product of a museum, created to promote the institution and attract visitors.[11] The need for well designed visual communication is obvious, but the question is have the museums recognised its importance, and if so, how well do they incorporate it in their websites?

Methodology

This paper analyzes 10 European (The National Gallery London, Museo Nacional del Prado, The Museo Nacional Centro de Arte Reina Sofía, Musee d'Orsay, Louvre Museum, Rijksmuseum, Van Gogh's Museum, Natinal Gallery of Ireland, Belvedere, Kunsthistorisches Museum) and 5 Croatian (Mimara Museum, Museum of Arts and Crafts, Museum of Contemporary Art, Gallery of Fine Arts Osijek, Croatian Museum of Naive Arts) art museum websites. European museums listed are some of the most visited and well-known museums in Europe and worldwide, while the Croatian museums are some of the best known museums of art in Croatia. Said websites were analyzed applying the visual content method that is commonly used in research regarding mass media and messages in communication processes. It represents a systematic research method that allows inductive and deductive reasoning and hypothesis testing based on the observation of visual elements through various measurable categories according to theoretical assumptions.[12] Elements analyzed are: museum trademark (usually a logo), element organization on the website, that is, the composition of the website. Moreover, online collections and digital materials such as photographs of the artworks, their size and ability to scale, were also taken into account. Multimedia is analyzed as well: virtual tour, audio and video elements etc. Furthermore, communi-

4   Frascara, Jorge (2004). Communication Design: Principles, Methods, and Practice. New Your: Allworth Press. pg 2.

5   Ibid, pg 3.

6   Learner, Ruth (Ed.) (2012). Visual Communication Design: Victorian Certificate of Education Study design. Retrieved December 15, 2014 from: http://www.vcaa.vic.edu.au/documents/vce/visualcomm/visualcommunicationdesignsd-2013.pdf, pg 12.

7   Krug, Steve (2006). Don't Make Me Think: A Common Sense Approach to Web Usability. Berkley: New Riders, pg 11.

8   Ibid, pg 95–97.

9   Morville, Peter & Rosenfeld, Louis(2006). Information architecture for the World Wide Web. O'Reilly Media. pg 42.

10   Krug, pg 22.

11   Johanson, A. M. & Carneiro, L. Communicating visual identities on ethnic museum websites. Visual Communication, 13, 357–372

12   Rose, Gillian. Visual methodologies: an interduction to researching with visual materials. SAGE publication: london, 2012. pg 88

cation with the users, the existence of links to social networks and available languages were also examined.

Evaluating the websites, most attention was paid to the Home page, since it is the page almost every visitor sees and quite often the only one[13]. Having that in mind, it is extremely important to have it well organized and appealing while also accommodating the institutions identity and mission.[14]

It is hypothesized that most Croatian museums have not yet recognised the importance of a well developed system of visual identity and communication with the users, making their websites less effective in conveying messages than their European counterparts. Therefore, the purpose of this research is not only to point out the lack of awareness of the importance of visual communication on the websites, but also to provide some general guidelines in improving them which may in term bring in more visitors both in the online and in the physical environment.

Results

The results are represented according to previously mentioned criteria.

Museum trademark
Institution trademark is usually a simbol, an emblem and/or a logo which is used most frequently for the role. A logo is often a combination of text and different shapes or images. It should represent the institution, therefore recognizability should be one of its key features.

Most of the European museum have their logos displayed on the homepage. The majority of those logos are simple, based on typography and the name of the museum. Three of the ten museums evaluated do not have any kind of trademarks on their websites (both Netherlands museums and the Kunsthistorisches museum in Austria). All of the Croatian museums have some kind of a trademark – four out of five had logos, while one of them used pure typography.

Organization of elements (composition)
Composition of the website refers to the layout and organization of elements and their mutual relationships. The most common types of visual organization are: 1_2_1 composition (the header occupies the upper part, while menus are underneath in both left and right sides of the page; news and other content can be found in the middle), F composition (elements on the page form the shape of the letter F, menus are mostly under the header which is placed on the top of the page horizontally), oF composition (inverted F composition), SK composition (the main element on the page is placed in the middle while the upper and lower parts of the page are reserved for menus, links etc. It is most commonly used on the websites that have an introductory page), 1_3 composition (elements are placed in the ration of the golden section) and Z-gutenberg diagram composition (where the user moves his/her eyes from the upper left corner of the page horizontally, then diagonally moves downwards to the left side and repeats)[15]. The most frequently used composition among the selected websites is the Z-gutenberg diagram (three European and two croatian museums). Second most used is the SK composition (two European and one Croatian museum). Some of the other compositions are applied as well, but usually on one to two websites.

Online collections
Being one of the more important components of museum websites, online collections serve as a way of introducing the users to the scope of their collections in the physical environment. The importance of said collections has clearly been recognized since all of the evaluated museums provide some sort of them. However, there are some significant differences in the quality and number of options available between European and Croatian museums, especially when it comes to enlarging and downloading the images.

Seven out of ten European museums provide several levels of enlargement enabling the user to magnify the photographs to see the finer details, while the other three have more limited options, allowing users to only slightly enlarge the images. Croatian museums offer the same level of enhancement as the three aforementioned museums. Regarding the download options, four of the ten European museums do not allow any kind of saving, while the rest do, but only two of them have a visible download button, the rest allow saving by right clicking. On the other hand, four Croatian museums allow saving by right clicking, and only one allows no such thing.

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13   Krug, pg 97.

14   Ibid, pg 95.

15   Selthofer, Josipa (2014). Kulturološka obilježja vizualnog identiteta hrvatskog mrežnog prostora. Zadar. pg 134–137.

Multimedia

Multimedia refers to using more than one medium of expression or communication. In computer technology and applications it means incorporating audio and video, especially interactively.[16] The paper evaluates the presence of animated, video and graphic sections on the websites, as well as games, virtual tours etc.

It was expected that most of the websites (especially the European ones) offer virtual tours as an effective visual presentation of the real museum environments. This was only partially confirmed because two out of ten European websites provide virtual tours, while none of the Croatian ones do.

Audiovisual content and multimedia guides are common in both European and Croatian websites. Also considered were the dedicated apps – none of the Croatian, and five of the European museums have a mobile app. A good alternative to an app is a responsive site that scales and adapts to various screen sizes across different platforms. It enables the communication to be as effective on mobile devices as it is on monitors. Unfortunately, none of the Croatian and only two European sites are responsive. It should also be noted that Kunsthistorische museum in Austria has a responsive site while also providing a dedicated app.

Communication with the user

Basic contact information such as a telephone number, an e-mail address and contact forms are offered in all of the evaluated websites. Newsletters are quite common too, six out of ten European, and one out of five Croatian museums offer a subscription to the museums newsletter.

Social network links

Social networks are dedicated websites or other applications which enable users to communicate with each other by posting information, comments, messages, images etc.[17] They present a good way of communication with the public since they enable reaching a wider audience of people that have not visited the museum website, while also maintaining contact with the visitors.

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16 Oxford dictionary. Multimedia. Retrieved December 15, 2014 from: http://www.oxforddictionaries.com/definition/english/multimedia

17 Oxford dictionary. Social network. Retrieved December 15, 2014 from: http://www.oxforddictionaries.com/definition/english/social-network?q=social+network

As expected, the network most commonly used is Facebook, but two out of five Croatian museums do not offer links to any of the social networks illustrating that the importance of this form of communication can still be overlooked. The other frequently used networks are Google+, Twitter and YouTube. It is also important to note that two of the Croatian museums offer links to Trip Advisor which surely makes them more visible, while none of their European counterparts do the same.

Languange

It is always recommended to offer more than one language on a website, especially when it comes to cultural institutions. Croatian museums are lacking when it comes to that. While they do offer two languages, Croatian and English, communicating with a wider, more diverse public, would be far easier by adding more languages. It is definitely a step in the right direction, but room for improvement is evident. On the other side, European museums are well aware of the benefits of multilingual websites, so there are usually English, Italian, German and many more versions of said sites.

Merchandise

Another component of a museum website can be, and more often than not, is an online giftshop. seven out of ten European museums offer souvenirs and promotional materials in online giftshops, while only one Croatian offers the same service.

Conclusion

Visual communication in this day and age takes an irreplaceable role in information and communication science. Institutions in general (and especially information institutions such as museums) need to understand the impact visual communication has on the visibility of the institution in both the physical and online world. This paper analized multiple websites of art museums from both Croatia and Europe in order to acquire an insight into the understanding said institutions posess when it comes to the relevance of visual communication and also to expose any shortcomings when it comes to creating a visual identity. The aforementioned analysis concluded that European and Croatian museums have approximately the same understanding when it comes to visual communication, especially when it comes to portraying a unique personality through a logo and a stylized font. Online collections shine through the web sites due to the nature of art museums themselves – which is not

only to gather and preserve art but to exhibit it to the public on a daily basis. European museums especially recognize the importance of online access to exhibits and have therefore allowed users to inspect high resolution photographs of each and every art piece and to download said photographs to their personal devices. As a key element in recognizing the needs of their users, most web sites offer a form of communication between users and the institution, whether through contact information, through a mobile app or through social networks. Although European museums recognized the need to connect to their users, Croatian museums mostly do not offer newsletters or communication through social networks.

Although the hypothesis was confirmed only in some aspects, there is still room for improvement on Croatian museum websites – specifically in online collections, apps or responsive design, and social connectivity respectively. Regarding the online collections, the following changes could be made – providing a wider array of artwork photographs, enhancing the resolution of the images, and clearly stating the permissions when it comes to downloading them. Furthermore, a dedicated app is an excellent choice of promoting the institution across different platforms, another good option would be making the sites responsive, enabling the same quality of communication on all kinds of devices. Moreover, the aspect of communication with the visitors, mostly overlooked, should be expanded across more social networks.

This is one of the hypotheses which we should be glad is mostly disproved. It has been shown that Croatian museums are more aware of the relevance of visual communication than was originally suspected. Even though there are improvements to be made, none of them are crucial for establishing a well known visual identity.

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Museo Nacional del Prado. URL: https://www.museodelprado.es/en

The Museo Nacional Centro de Arte Reina Sofía. URL: http://www.museoreinasofia.es/en

Musee d'Orsay. URL: http://www.musee-orsay.fr/en/home.html

Louvre Museum. URL: http://www.louvre.fr/en

Rijksmuseum. URL: https://www.rijksmuseum.nl/en

Van Gogh's Museum. URL: http://www.vangoghmuseum.nl/en

Natinal Gallery of Ireland. URL: http://www.nationalgallery.ie

Belvedere. URL: http://www.belvedere.at/de

Kunsthistorisches Museum. URL: http://www.khm.at/en

Croatian museums:

Mimara Museum. URL: http://www.mimara.hr/

Museum of Arts and Crafts. URL: http://www.muo.hr/

Museum of Contemporary Art. URL: http://www.msu.hr/

Gallery of Fine Arts Osijek. URL: http://www.mlu.hr/

The Croatian Museum of Naive Art. URL: http://www.hmnu.org/default.asp

GAMES & GAMIFICATION

APPLICATION OF GAMIFICATION IN LIBRARY ENVIRONMENT

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Abstract

Gamification can be defined as "the¬ use of game elements and game-design techniques in non-game contexts." (Werbach and Hunter 2012, p.26). For the right application of gamification, it is necessary to identify its objectives and consequently these objectives adequately integrate with gamification elements such as badges, points, tasks or progress bar. An important part is also an onboarding, where we adjust the first steps of beginner player in the system, so that the player is engaged and attracted by the game from beginning (Zichermann, Cunningham 2011).

Integration of gamification to library is a very sensitive process, which requires the cooperation of several parties, in our case students of Department of Library and Information Science and Department of Applied Informatics at Comenius University in Bratislava and the City Library in Bratislava. Thanks to this cooperation, we are able to design, develop and implement gamification to library information system.

Our application aims to entertain readers and increase loans in the library. To reach these goals, the application uses gamification mechanics, social interaction, e-learning and game elements. According to Spina (2012), gamification has the potential to help the library to engage and inspire their readers in new ways and it can be a powerful tool. In the commercial area, the gamification potential is used for longer time, unlike in the libraries, where the first projects appeared just recently. Application called Lemontree from England used in academic libraries integrates simple gamification with social interaction for users (Librarygame 2013). Transoceanic network of libraries Pierce County established a dual gamification applications for youth as well as for adults, where application offers also diverse activities not related only to literature (Scout 2014).

As experience has shown, none of the previously created applications uses just gamification, but offers many other modern elements to motivate and attract users. Similarly, more elements are used in our application as it contains several sub-applications. Sub-applications as "The Book World", "Book Clash" and "Full Shelf" contain specific elements that are designed to reach a large number of users.

The vision is to create a unified mobile and web application, working in all web browsers and all mobile devices, including Android and Apple iOS. The web application should meet the criteria of W3C accessibility for disadvantaged users, so that it could be used by general public.

Introduction

Why do users engage in games and why is gamification so popular nowadays? It is mainly because of receiving awards, building status, self-realization, completing tasks, fighting and also because altruism (Buzová 2014).

Building a gamification system is a complex process with several steps, ranging from design, implementation, testing and maintenance. We started the whole process by the overall requirements specifications for the application. The first step was gathering up the objectives and requirements of the public library. We went on by defining our core user groups and matching them with player types. To solve the challenges of our client in compliance with our target group of users, we chose some of the gamification components found in literature. As gamification is quite a new term and its best practices are still evolving, we decided to follow an incremental life-cycle model of software development. Each increment, that means each sub application, will be developed and evaluated by all parties involved to avoid mistakes that could affect the functionality of the whole application.

Elements of gamification

When designing gamification application Booga, two theoretical frameworks were especially useful: the MDA framework (Zichermann and Cunningham 2011), which

contains elements as game mechanics, dynamics and aesthetics and DMC framework (Werbach and Hunter 2012) that contains slightly different elements: game dynamics, mechanics and game components. Booga application is built on DMC framework, because this framework is designed especially for gamification, while MDA framework is used for gamification and also for traditional game design. This choice influenced also the choice of gamification components (points, budges, leader boards etc.) discussed further.

Game dynamics

Dynamics is the corner-stone of any gamification system. They apply to the game system indirectly as they focus on user's behaviour and feelings. According to Werbach and Hunter (2012, p.78), the most important dynamics to consider are constraints (limitations or forced activity), emotions (curiosity, competitiveness, frustration, happiness), narrative (a consistent, ongoing storyline), progression (the player's growth and development) and relationships (social interactions generating feelings of camaraderie, status, altruism). As we can see, these elements are very abstract and dynamic and as such they cannot be implemented into gamification system.

Game mechanics

"Mechanics are the basic processes that drive the action forward and generate player engagement" (Werbach and Hunter 2012, p.79). Each mechanic is a way of achieving one or more of the dynamics described above. There are ten important game mechanics that application Booga focuses on: challenges (obstacles or other tasks that require effort to solve), chance (perceived randomness), competition (one player or group wins, and the other loses), cooperation (players must work together to achieve a shared goal), feedback (information about how the player is doing), resource acquisition (obtaining useful or collectible items), rewards (benefits for some action or achievement), transactions (trading between players, directly or through intermediaries), turns (sequential participation by alternating players) and win states (objectives that make one player or group the winner–draw and loss states are related concepts) (Werbach and Hunter 2012, p.80).

Game components

Game components are widely known and used in any gamification system. The most traditional examples are points, badges and leader boards' triad (further PBL). As Werbach and Hunter (2012) state, components are the most specific part of game elements. In another words, components are the parts of system, which affect users. They are the concrete representations of mechanics and aim to achieve dynamics of gamification. The best known components are achievements (defined objectives), avatars (visual representations of a player's character), badges (visual representations of achievements), boss fights (especially hard challenges at the culmination of a level), collections (sets of items or badges to accumulate), combat (a defined battle, typically short-lived), content unlocking (aspects available only when players reach objectives), gifting (opportunities to share resources with others), leader boards (visual displays of player progression and achievement), levels (defined steps in
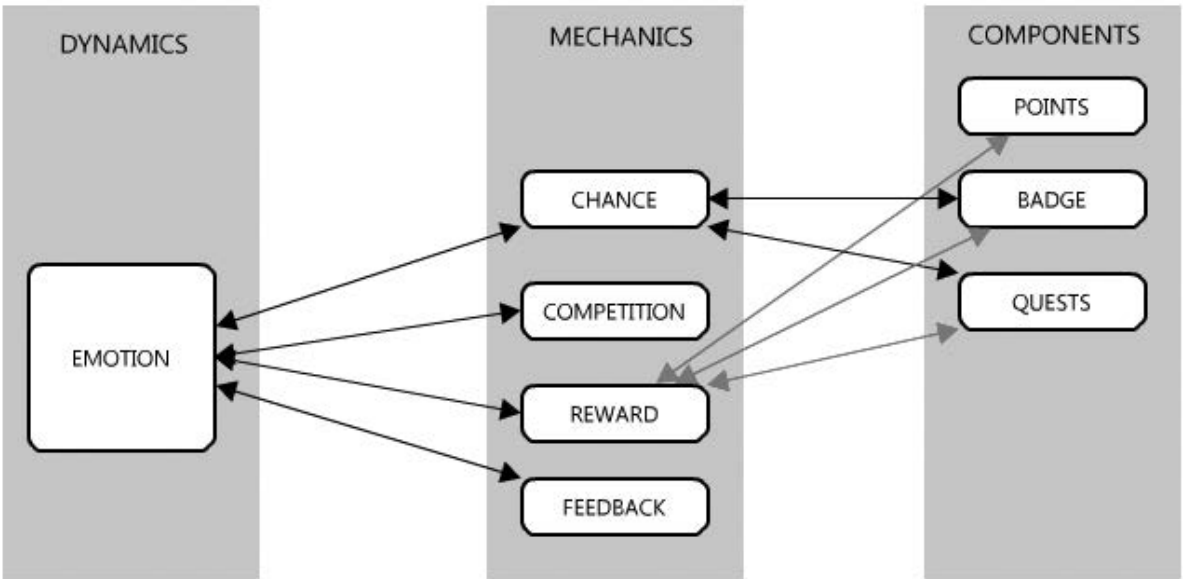
Picture 1 – Example of gamification elements interconnections in Booga application

player progression), points (numerical representations of game progression), quests (predefined challenges with objectives and rewards), social graphs (representation of players' social network within the game), teams (defined groups of players working together for a common goal) and virtual goods (game assets with perceived or real-money value) (Werbach and Hunter 2012, p.80).

Booga application uses the traditional PBL triad. Players obtain points and cards (which represent books) for every book they borrow from the library. The cards can be used in the sub application Book Clash, explained further. Another type of feedback that is proven to be influential are leaderboards – tables, where players can see their position in game system in comparison to another players. In some special occasions, namely by participating on unusual quests or challenges, players can also obtain badges. Badges are strong motivators, for example they help to set the goals that player wants to achieve and also they help user to differentiate from the others (Antin, Churchill 2011).

An example of the interconnection of DMC framework gamification elements in Booga application is provided on picture 1. Four mechanics (chance, competition, reward and feedback) were identified as the influencers on peoples´ emotion that is one of the dynamics, expected in Booga. Three components of the game (points, badges and quests) are the suggested materializations of rewards, and two of them (badges and quests) define chances in Booga application. There are also more interconnections, we just name these two to illustrate the concrete relationships between the elements in Booga.

Designing the gamification application

Application Booga is also built based upon six steps of design process according to Werbach and Hunter (2012):

1 definition of business objectives,
2 delineation of target behaviours,
3 description of players,
4 devise activation circles,
5 don't forget fun,
6 deploying the appropriate tools

Definition of business objectives

"For effective gamification, it's critical to have a well-developed understanding of your goals" (Werbach and Hunter 2012). Goals describe problems that application

aims to solve. We have set the goals of Booga together with the City Library of Bratislava as follows (in order of priority):

- to increase loans of all types of documents in library collection with the emphasis on music documents, poetry, classical Slovak literature, curriculums vitaes, travelogues and literature about Bratislava from current users
- to increase number of users,
- to increase attendance of each library branch,
- to increase the interaction of users in terms of evaluating and commenting items they had used,

The emphasis of the application´s objectives is not permanent and according to Werbach and Hunter (2012) should by regularly evaluated and adjusted to the actual needs or problems of library. The application and its objectives has to be flexible also because it is planned to serve more libraries in the future.

Delineation of target behaviours

Every goal is reachable by defined action expected from the user. This action, or in other word target behaviour, should meet business objectives, but the path to do it could be indirect. To overcome complexity or confusion, it is important to develop as many target behaviours as possible and give users a range of options and activities (Werbach and Hunter 2012).

Because of the phenomenon called the autonomy of free spirit identified by Marczewski (2014), it is also necessary to let the users move through the game freely, not just according to a strict plan. This player behaviour can be found in all users, but especially in explorers as "they don't want to be restricted in how they go through their personal journey, to explore the system. They are also likely to find the most holes in a system" (Marczewski 2014).

An important principle is also the measurability of the target behaviour. Therefore we set the target behaviours in Booga application as follows:

- singing up to the library
- visiting library
- borrowing items from library collection,
- reading items (books) from library collection,
- singing up in Booga application,
- downloading Booga mobile application,
- evaluating an item in library collection,
- adding a comment for item in library collection,
- sharing Booga activity via social networks.

Description of players

According to the statistics (Essential Facts about the Computer and Video Game Industry 2014) up to 39% of American adults older than 36 play games. It is the biggest group that is playing, even bigger than teenagers (where just 29% play games) and young people between 18–35 years (32% of them are game players). According to the statistics about smartphone penetration by age in the USA (Webster 2014), young people between 18–34 years are the heaviest users of smartphones but the most productive adults (between 35–44) generally don´t stay behind.

by Zichermann and Cunningham (2011) to our personas as well. These types of players are:

Explorers – players, who examine every possible game options within the game,

Achievers – players who like to accomplish something in the game,

Socializers – players who play games for the benefit of a social interaction,

Killers – players who have to win and beat another players

It is necessary to understand that no user is just one type of player – every person has some percentage of

Picture 2 – Smartphone penetration by age in USA. Source: Webster (2014)

These surprising statistics gave us the foundation for the choice of our main target group. Those are not just students (young adults), but we want to focus also on adults in productive age. Young people are a group of users that is the most opened to the new and unusual interactions with the library. They are also users that City Library in Bratislava addresses the most also at present – 43% of users (aged 16–26) are students. The second largest group is formed by adult users (aged 27–64) that form 35% of the overall users. Application Booga will also serve to younger teenagers that are our marginal target group. Currently City Library in Bratislava serves to 12% of youngsters (aged up to 15). The remaining percentage are the elder users that aren´t the target group of our application. Our special target group is formed by low vision and blind users as well. Currently there is just 0, 01% of all users that are visually impaired, but as they have some special requirements that library as a public institution has to fulfil, we created a separated target group of disadvantaged users for the needs of our application.

Our target groups are quite broad and to define appropriate game mechanics and components it is not sufficient to model them just according to their age, preferences, fears, interests or profession, as it is usually made when designing other types of product. The designers of game environments tend to focus more on player types. Therefore we included four types of players mentioned

each type (Zichermann and Cunningham 2011). We created the personas with these sharp types just to imagine better the preferences of each type. While creating the game design, we creating activity circles with consideration of all four types of players.

Activity circles and Progression stairs

"Player actions result from motivation and in turn produce feedback in the form of responses from the system, like awarding points. That feedback in turn motivates the user to take further actions, and so on. The key element here is feedback" (Werbach and Hunter 2012, p.95).

The game experience has to change as players move through it, this practice is called progression stairs. The first and very important stair is an "onboarding", which helps user to understand game and engage him from the beginning (Werbach and Hunter 2012, Zichermann and Cunningham 2011). Booga application further uses levels, karma and progress bar to help mapping the players´ progress. Additionally, to achieve good user experience, each user knows, which steps he completed and which he failed thanks to the process steps included in top of the pages.

Fun and deploying the appropriate tools

The main reason, why gamification is so popular is fun and therefore fun is a factor which will be mostly considered in Booga. e.g. Nicole Lazzaro lists four most

important ones: (1.) Hard Fun: Fiero – in the moment personal triumph over adversity; (2.) Easy Fun: Curiosity; (3.) Serious Fun: Relaxation and excitement and (4.) People Fun: Amusement. (Nicole Lazzaro 2014).We build on these kinds of fun in various parts of our application- differing from naming the roles of players to the unexpected tasks. To make good fun is a serious process and just further testing will show, if it is created appropriately.

Bogga sub applications

The analysis of two existing library gamification applications indicate that none of them offers just pure gamification without any supporting features. For example, Library Game (Lemonthree) enables sharing the virtual shelf of already read books with friends on social networks. American web application Scout uses only badges to motivate players. Nevertheless, each badge calls to action – not just to read a book or magazine, but also to try some specific tasks. For example, after reading a book about airplanes, player can try to create his own paper models of airplanes and share his experience.

We designed three sub applications of Booga application, called "The Book World", "Book Clash" and "Full Shelf". Each sub application will serve to different type of users discussed above.

Book Clash

This part of Booga application was created to satisfy achiever and killer types of users, but can be successfully used also by socializers ranging from students to adult age. It helps also to "double" check, if player really read the book. Basically, Book clash is a quiz that is based on book which have been borrowed from the library by the player. The questions in the quiz are connected to the cards that represent books he has read. With the aim not to demotivate the users, just extra points will be given for the right answer. The questions will be created by the community of users. The number of answered questions will be represented by a percentage. When the player reaches 100%, he will receive a special badge. Every "play" of book clash contains 5 or 10 cards and the player can answer just one question from each card in one time. Player can choose any card from his collection, until the system doesn´t assess the quiz as too simple. Then it starts to choose cards automatically according to the age of card and success rate of the user.

The Book World

The purpose of Book World is to suggest further books that can be interesting for players. This part of Booga is therefore intended mostly for explorers. Concerning age, it is estimated to absorb mainly students and adults. Data needed for the suggestions will be collected from user behaviour on Facebook and user searches in web and library catalogue.

These suggestions will be visualized in the form of virtual world map which will contain several reading paths. Each path will represent different type of literature (fantasy, horror, etc.) and the player can naturally "walk" through more paths.

Full Shelf

Full shelf will provide a playful e-learning sub application for teachers and students at the elementary school. It is intended to strengthen the cooperation between the library and the school and consequently to increase the number of children users in library.

The sub application consists of digital reading list, which is pre-defined by a teacher and identified by a unique identification number generated by the system. With this number, students log into the system and upload their reading logs. Teachers will be also enabled to create a short test to inspect, if students read books properly.

Accessibility of Booga

As we have already stated, one of the requirements of the City Library of Bratislava was to develop an application that will be accessible for its disadvantaged users. Smartphones with their flat screen seem to be ones of the most hostile environments for visually impaired people. With screen reading technologies as e.g. TalkBack for Android and VoiceOver for iOS it is not true at present. Blind people just use the screen differently than others. This includes swiping over the apps to hear, what is on the screen and activating the last mentioned app by double tapping anywhere on iPhone screen (Appcessible, 2014).

Alternative forms of navigation hardware include keyboard (tab and arrow keys for movements, space and enter for activation), D-pad or trackballs. An accessible app lets users navigate content by using any of this devices and is not relying just on the touchscreen.

When developing Booga application, we build on the accessibility guidelines WCAG 2.0 and accessibility requirements and tips for applications published by Google and Apple (c2012) that are all in compliance with

the WCAG 2.0 guidelines. These three key players in the world of smartphones concur in the principle that built-in user interface controls provide accessibility support by default and usually require adding only few app-specific accessibility attributes.

We decided to develop two versions of the gamification application- one for the visually disadvantaged users with no scripts and one for the rest of the users. Users will be identified by their user ID on library card that will be required when signing in to the application. We decided to use this solution because of the speed reasons.

One of the most crucial accessibility rules that our app will observe, is providing text alternatives for any non-textual content. Content and purpose alternative descriptions for non-text user interface components as buttons, images or check boxes will be provided in our application with the exceptions of graphics with pure decoration purposes. We are not planning to include videos or audio feedbacks, so visual or haptic alternative feedbacks won´t be necessary to provide.

There are many important requirements that apply to an accessible app. In this paper we will mention just a summary of the basics. With the aim of not confusing the user, we won´t use any unexpected features as automatically refreshing the content or fading away/ disappearing user interface controls after certain amount of time. The navigational mechanisms also appear and are in the same order on each of the sub applications and subpages. Nothing on user interface will be blinking or moving automatically when user didn´t initiate the movement as well.

Instructions for players will be provided in the application, so that they don´t rely just on sensory characteristics of components as shape, size, visual location, orientation, colour or sound. As the sub applications are named unusually (according to the traditions in the game environment) a thorough help and explanation will be provided for the users.

The application will be responsive that includes the possibility to resize the text without using assistive technology and without the loss of content and functionality. We counted also with contrast and no textual element will be presented on the background with a contrast ratio of 4,5:1.

Every elements of our app will be tested using the available tools. Concretely, the navigation in the application will be tested using keyboard and the compatibility with screen readers will be verified by TalkBack application for Android. An open source Web accessibility evaluation tool Accessibility Checker (c2011) will be also used for discovering possible mistakes.

Conclusion

Gamification is a new field of study and therefore many issues remain unresolved and abstract. For example, fun that is considered the corner-stone of gamification is a very ambivalent attribute. Nevertheless, the gamified application in libraries has the potential to excite an interest of young users, if we work on the presumption that it engaged the users in various private and non-profit organizations. As gamification in library environment is just evolving, a lot of testing with users has to be done. This is also our next planned step in developing the application. When tested, library application Booga will be a unique solution that combines knowledge from various fields, mainly gamification, accessibility, usability and user experience.

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THE FIRST LIFE: SOME ASPECTS ON GAMIFICATION IN THE REAL WORLD

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Keywords: gaming, gamification, future studies, personality traits

Abstract

Future studies have considered (Weiser, 1991; Kaku, 2011) the implications ubiquitous computing might have on our everyday lives for some time now. Recent studies on gamer population and gamification are based upon various disciplines like information science (Miller, 2013; Rasmusen, 2005), and psychology (Bailey et. al., 2012; Brühlmann, 2013). Gamification (Hamari et al., 2014) refers to transforming mundane activities into the form of gameplay; ubiquitous computing refers to pervasiveness of computers into almost every minutia of our lives. It would be interesting to investigate into perception of interactions those two trends may provide, as well as into some psychological and sociological variables that may shed a light on how such perceptions and attitudes are formed.

We will focus our research on interactions between some personality traits (using Hexaco model), gaming behaviour (including variables like genre preferences, emotional and economic investment, community dedication, visual art and soundtrack appreciation), gamer's demography (sex, education, socio-economic status). What sort of influence those variables might have on subject's attitudes toward some future studies' predictions considering ubiquitous computing, gamification of every day activities, and acceptability of several theories cultural anthropology provides on the nature of gameplay in general (Huizinga, 1938; Caillois, 1961) is our next point of interest. We are to use triangulation methodological approach to gathering empirical data by means of questionnaire, survey, interview and experimental method, and to provide detailed statistic analysis.

Introduction

Video games are a form of electronic games that involve human interaction with the user interface and generate visual feedback. Platforms are electronic systems used to play video games, and the most used are personal computer and a variety of consoles. The first interactive computer game (Gentile & Anderson, 2006), Spacewar, was created in 1961 by MIT student Steven Russell, for the PDP-1 computer. The first commercial video game, Pong, was released in 1972. During the 1970s and 1980s, most video games are played on arcade machines (Gentile & Anderson, 2006). From that time video games industry is continually growing. Sega, Nintendo, Sony, Microsoft are some of the world's largest console and video games manufacturers. In 1995 (The Playstation Story, 2014) Sony introduced the Playstation console that brought a gaming revolution, especially when introduced haptic feedback of dual shock gamepad. Three more console versions followed. Over time graphics in games became more realistic, especially considering the games based on the real world.

There are possibilities such as creation of our own personalized character and then experiencing its virtual life. Within virtual reality, manufacturers created new and more improved devices that make virtual experience more convincing. One example is Microsoft's console Xbox360 for which they produced Kinect device (Kinect for Xbox One, 2014). This is a motion and voice sensor that allows players to interact with the game using body movement. Two new and revolutionary technologies that are entering in field of video games are Oculus Rift and the Razer Hydra controllers that provide us with 4D experience. Oculus rift visual device in the form of ski masks provides a view of virtual reality in high resolution with the possibility of moving the view to 180 degrees, and the Razer Hydra controller for movement and orientation works on the principle of magnetic field.

Recently, video games industry is becoming one of the leading entertainment industry. Global market for console games provides constant growth, and for 2012 it was calculated to reach a value of $ 34.7 billion. Some of the games that came out in 2013, such as Grand Theft Auto V, Diablo III and Call of Duty Black Ops have together sold over 50 million copies and made profit of more than $ 2 billion (Entertainment Software Association, 2013).

Considering gamer population, several studies (Ipsos MediaCT, 2012; Entertainment Software Association, 2013 & 2014) provide empirical data on who gamers are, what are they gaming preferencies and some other insightful demographics. Several studies (Bryce & Rutter, 2002; Kowert & Oldmeadow, 2012) point out the lack of empirical support for various stereotypes considering gamers, especially females.

The importance of game is evident from two capital works of cultural anthropology: Huizinga's Homo Ludens (1949) and Caillois' Man, Play, and Games (1961). Those books provide general theory of culture as a kind of game. Furthermore, recent trend of gamification (Deterding et. al., 2011) shows how various activities, ranging form learning to marketing campaigns may be transformed into games. Some of the best examples for practical usage of gamification are: The US Army Game, Nike + and the Running Experience Community Project, Coca-Cola's Shake It, etc.

Considering the importance of gamification as a process of making content more appealing to users and the sheer numbers of gamers and revenues in video game industry, one have to wonder on what future brings. Future studies considered the impact ubiquitous computing will have on our everyday lives (Weiser, 1991; Kaku, 2011). We are probably facing the time of ubiquitous entertainment supported by ever-present computers and gamification strategies.

Research goals

We are interested in revealing relationship between gamer's traits, their attitudes on gamification, role of the game in general and some consequences that gaming brings, from various benefits to addiction. We set out four goals:

1 To find out characteristics of gamer population in highschool and college students sample.
2 Determine influence of personality traits from Hexaco model on gaming behavior.
3 Examine attitudes on gamification, gaming in general and on some ethical issues.
4 Determine if gamers are different on some researched aspects (personality, attitudes).

Methodology

This is the first part of a larger study in relationship between personality traits and gaming and music preferences and some methodological issues. We constructed a battery of test consisting of Hexaco personality inventory (H; 60 items) (Ashton & Lee, 2009), demographic-related questions, and sub-scales on benefits of gaming (B; 19 items), stereotypes on gamers (S; 13 items), gaming addiction (O; 11 items), anthropology of game (L; 17 items), attitudes on gamification (G; 11 items) and ethical issues (E; 8 items). In total, we had a battery of 174 items; except for demographics, all items are Likert-type questions. Participants filled on-line survey. Sub-scales were rotated for elimination of serial effects. In total, 172 participants were gathered, but due to fact they answered on some scales, casewise deletion left us with 118 participants on inferential statistics analysis. All statistics are calculated using Statistica (2004).

Results and discussion

Our participants were high-school and college students. Their age spanned from 15 to 48, with two peaks at 17 and 22 years of age. There were 78 males and 94 females ($\chi2$=1,488 df=1 p>,05). We asked them on their monthly budget in total (over three quarters, 77%, chose the lowest group, less than €500) and how much did they spend on fun (61% stated less than €33, another 20% chose €34–67). We wanted to know what are they tipical fun activities and they could pick three from a list (here are answers listed by frequency): going out (70%), drinking (63%), video games (49%), watching TV (47%), reading (30%) and music concerts (24%). Almost one third (60%) of them is not in a relationship, and almost half of them (47%) do have a pet.

When we take into account gamers, then age modes are the same. There is a relevant difference between sexes now (63% males vs. 37% females; $\chi2$=4,129 df=1 p<,05). No significant difference is find between gamers and non-gamers[1] on monthly budget ($\chi2$=2,860 df=3 p>,05) or how they spend it ($\chi2$=2,017 df=3 p>,05). A significant difference is found considering living conditions: a third (35%) of gamers lives in rented flat opposed to 12% ($\chi2$=11,971 df=1 p<,05) non-gamers, and 78% of non-gamers live with parents opposed to 51% of gamers who live more with partners (23%) and roommates (21%) than non-gamers do ($\chi2$=13,695 df=3 p<,05). Our gamers and non-gamers are similar considering being in a relationship (42% vs. 45%; $\chi2$=1,039 df=1 p>,05) or owning a pet (52% vs. 48%; $\chi2$=1,258 df=1 p>,05). The vast majority of them plays on PC platform (both desktop and laptop 98%) and on smartphones (56%), and they do it almost exclusively at home (85%).

There is a question of benefits and negative consequences of gaming. In constructing B-scale we included

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1   Note: non-gamers are not participants who never use video games, they're participants who didn't pick gaming as one of three passtime activities. Otherwise, some analysis we did couldn't be possible to interpret.

items like "While playing my favorite game I met other players, and I hang out with them in real life also.", "Gaming provides escape from everyday life.", "My virtual company understands me better than those from my school / neighborhood.", "Video games are hobby just as any other." etc. Gamers score significantly higher on this scale (Mg=55 sdg=16,586 vs. Mng=41 sdng=17,740; ρ=,407 p<,05; F=19,653 df=1 p<,05). To measure negative aspect of gaming, we used PVP scale (problem video game playing; Salguero & Morán, 2002) that consists of nine items and with relative consistency (reliability) and it seems to measure a single construct (validity). Gamers are showing significantly higher results on the scale than non-gamers (Mg=37 sdg=3,804 vs. Mng=35 sdng=3,921; ρ=,295 p<,05; F=10,869 df=1 p<,05). It is interesting to notice a fairly intensive correlation between those two scale for both groups (rg=,723 rng=,863) and it seems the higher the benefits of the game, higher the problems. One probable explanation is due to time spent on gaming – the more you play you are to find more benefits and are more likely to develop some problems. Mind you, a range for PVP scale is 9–45.

Our gamification sub-scale consisted of 11 items like "It would be perfect if all activities are fun", "Learning is easy if transformed into a game", "I would like to receive a reward for every task in my life just like it is in a game." or "Only a small number of companies uses gamification". A significant difference is found between our two groups (Mg=37 sdg=3,804 vs. Mng=35 sdng=3,921; ρ=,311 p<,05; F=10,115 df=1 p<,05), with gamers showing to be more informed on the topic.

Final sub-scale that showed significant difference was on ethical issues, more specifically items "Some computer games should be banned due to excessive violence." (Mg=2,172 sdg=1,201 vs. Mng=3,217 sdng=1,228; ρ=-,394; F=19,036 df=1 p<,05), "I think I could sometimes confuse between game violence and real-life violence." (Mg=1,534 sdg=0,863 vs. Mng= 2,022 sdng=1,097; ρ=-,250; F=6,381 df=1 p<,05), and ""Just like TV, video games encourage violence." (Mg=2,121 sdg=0,993 vs. Mng=3,022 sdng=1,270; ρ=-,357; F=16,361 df=1 p<,05). It seems like non-gamers show more consideration that violence in video games might spill into the reality.

On general theory of game, we considered some statements from Huizinga (1949) and Caillois (1961). We were measuring attitudes participants hold on such theories, not validity of arguments per se. This provides us with psychological perspective on one segment of cultural anthropology and philosophy, as well as how such attitudes fit with other gaming-related ones. There were found no significant difference between our two groups. A significant correlations is found with subscales on problems with gaming and (O; rH=,45 df=114 p<,05; rC=,38 df=114 p<,05) and gaming benefits (B; rH=,45 df=114 p<,05; rC=,34 df=114 p<,05) indicating that Huizinga's and Caillois' theories may be a good starting point for providing a wide-frame explanation on video game culture.

Finally, we tested our two groups on six Hexaco (Ashton & Lee, 2009) factors. Hexaco is a model founded on reorganization of Big5 personality theory. Results show higher prognostic validity on Hexaco behalf. Six personality dimensions are identified: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. Each of them contains four sub-facets. Significant differences are found on three factors: emotionality (Mg=30 sdg=5,405 vs. Mng=33 sdng=6,580; ρ=-,299; F=10,182 df=1 p<,05) with gamers showing less accented trait; agreeableness (Mg=32 sdg=5,076 vs. Mng=29 sdng=5,527; ρ=,264; F=8,063 df=1 p<,05) and openness to experience (Mg=33 sdg=6,127 vs. Mng=30 sdng=6,040; ρ=,255; F=7,674 df=1 p<,05) where in both cases gamer show more developed feature. Considering emotionality gamers and non-gamers are opposite in measure, while in agreeableness and openness to experience they are simply more accented.

Conclusion

We find that gamers are not so different than the rest of our sample. In some aspects they show more agreeableness, openness for the experience, and they tend to show more game-related problems as well as reap more benefits from gaming. They show less emotionality.

On ethical issues, gamers show less anxiety about violence spilling from virtual to the real world.

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05.4.3

VIDEO GAMES IN NORTH AMERICAN PUBLIC AND ACADEMIC LIBRARIES

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Abstract

Video games have been popular in young people's homes for decades now, but they have only recently been considered worthy of a place in academics and public libraries. With this paper presentation, I will explore the role of the librarian in curating video games for public audiences, as well as for research purposes. Many of the authors who have written about video games in libraries have done so to suggest that video games should be introduced as entertainment and as a way to bring in younger audiences (Czarnecki 2010, Nicholson 2010, Scordato & Forsyth 2014). While this may be useful for bringing people into the library, I am interested in the ability for libraries and librarians to promote video games as a medium worth studying and exploring, in the same manner that films and novels are treated in English or Film Studies departments. With new video games being introduced on various platforms every day and old forms of games being unplayable on new technologies, there are many video games that people will struggle to access on their own. The expansion of public archives and collections of video games would allow for people to develop video game literacy and more sophisticated studies of video games. In Jack Halberstam's talk "Queer Gaming, Glitches, and Going Turbo", Halberstam highlighted the uniqueness of video games compared to other visual media, as playing games and creating things in games adds to the experience in ways that film or literature could never achieve. Many librarians, library patrons, and academics struggle with more complicated games, and the librarianship and academic inquiry of video games is over simplified to a study of narrative. I will explore how librarians might collect and circulate video games do a better job to promote video game literacy, and to inspire more in-depth understanding of video games. I will also explore why video games and other digital media have not been embraced more by libraries, even as they are considerably more popular than novels for many populations.

Introduction

For as long as there have been libraries, there have been stacks of books. However, as technology has changed and improved, people have adapted new technologies and other media forms have become more popular than books. There is clearly a huge desire for television, movies, music, and video games, given the number of media files that are downloaded, both legally and illegally. Library holdings have started to reflect this shift, including more and more diverse media forms. Video games are just one aspect of contemporary digital cultural production, but they are what I will be focusing on for this presentation. Like digital film collections and ebooks, video game collections are new to libraries and they are mostly being developed in well-funded public libraries or academic libraries that are in universities with a video game studies program or courses. An example of such a university is Simon Fraser University in British Columbia, Canada.

History of Video Games and Libraries

The history of video games in libraries goes back as far as the 1970s, when computers were being introduced to public libraries. In "Playing in the Past: A History of Games, Toys, and Puzzles in North American Libraries", Scott Nicholson writes, "As libraries began to bring in computers, many of them also brought computer games. In 1983, the New York Public Library purchased five computers with a grant and… patrons were able to come in and get comfortable with the computers and try out different computing tools and games" (p. 349). Computers with games and creative programs on them are still popular in public libraries today. Computer stations are often set up in children's areas that have games to help young children learn everything from colours to math, reading skills, and problem solving. Console video games also have a history in libraries, but collections are still limited in smaller libraries by the high prices of consoles, which without any games can be up to 500 dollars. Not

every library has the resources that the New York Public Library does, and several academic and public libraries do not have a lot of video games in their collection, if any at all (Laskowski and Ward "Building the next generation"). From the book Gaming in Academic Libraries: "The Games Room and Collection was initially established in 2001, making it one of the oldest gaming collections in an academic library" (p. 1). Not every academic library needs a video game collection, but for libraries that serve large English, Film Studies, Liberal Arts, or Humanities programs, video games can be added to the various textual forms to be analyzed.

Sexism in Gaming

A reason to work towards more academic studies of video games is to produce criticisms of the issues in the narratives and gameplay tropes present in games. Anita Sarkeesian of Feminist Frequency, the contributors to The Mary Sue, along with various other critics, have written about sexism in video games, and other studies have focused on the unwelcoming environments of online video games ("Online gaming ranks poorly as welcoming place for women"). From Sarkeesian's "Tropes vs. Women in Video Games: Damsels in Distress Part One", she says, "when we chose the Damsel in Distress as the first vide in our series we thought we might find 50 or 75 games using the trope, instead we found several hundred" "The Damsel in Distress turns out to be one of the most widely used gendered clichés in the history of gaming and has been core to the popularization and development of the medium itself" (Tropes vs. Women in Video Games). Sexism is something that has plagued the history of video games, and it is still an issue today. In another article, game developer Brianna Wu states, "I lead a development studio that makes games. Sometimes I write about issues in the games industry that relate to the equality of women. My reward is that I regularly have men threatening to rape and commit acts of violence against me" ("No skin thick enough"). This opinion piece gathers experiences of harassment from many female game developers and critics, and shows the kind of resistance to change that exists among predominantly white, male gamers. Libraries that circulate video games can help to work against this problem by enabling more academic analysis and critique of games, providing a safe space to play video games, and cataloguing games in a way that will give library users more information about the content of different games. Of course academic critics still face harassment, but there is the possibility that with more criticism and more rigorous criticisms, the instances of harassment will become less frequent or less severe as people become more aware of the problems of sexism in games.

Video games have been around for a few decades, and there are a lot of college and university programs for creating video games. Many studies have been done by psychologists and educators on the impacts of (mostly violent) video games on childhood development, but only recently have people begun to study video games as cultural, textual objects, as films and novels are. Interdisciplinary, intertextual approaches are very popular in humanities research as many academic journals have special issues dedicated to graphic novels, television shows, social media content, and more. The study of video games is a part of this trend, and will become more popular as young scholars who grew up with story driven video games (compared to those who grew up on Pong and Tetris) begin to produce original research. In a book review for Half-Real: Video Games Between Real Rules and Fictional Worlds, Sheila C. Murphy writes about her work trying to study the culture and form of video games, stating, "I found myself groping for critical, humanistic, academic texts that took video games seriously. There were only a few to be found – most notably Mark J. P. Wolf's The Medium of Video Games and Henry Jenkins and Justine Cassell's anthology From Barbie to Mortal Kombat: Gender and Computer Games" (p. 142). It is clear that there is a lack of academic work being done on the content of video games, and the development of library collections and the circulation of video games in academic libraries are necessary to enable future research.

Video games tell stories, allow players to have new experiences, foster creativity, exploration, excitement, and more. These qualities are very similar to the ones that people value when reading a book or watching a movie, but video games do so in a different way. When talking about the relevance of video games to librarianship and books, Scott Nicholson said, "as games are now a popular form of recreational media in the marketplace, they should live alongside other forms of popular recreational media at the library. Therefore, the question 'what do games have to do with books?' comes from a lack of understanding of the more holistic nature of what libraries do" (p. 6). Video games belong in libraries for many of the same reasons that books do, as they both can provide entertainment and education. Yet, video games also provide librarians with new challenges and opportunities, as I will explore in the next section.

Moving Forward with Video Games in the Library

The future of video game librarianship (or librarianship of any media) goes beyond having a catalogue of video games available for users to borrow or play in the library.

Several online games are as much about social interaction and making connections as the gameplay, and many libraries and librarians are experimenting with multi-user virtual environments to create virtual learning environments, social science research projects, and community hubs. Second Life is one such multi-user virtual environment that librarians and educators worked with in the mid-to-late 2000s, but it has not really lived up to the hope that was built up from these studies. In an article about "Second Life Librarianship", Katherine Greenhill writes discusses libraries that created virtual library spaces in Second Life to provide online reference services for patrons, and virtual community organizing, but these features were primarily only used by the librarians and their friends. Greenhill (along with Peterman and Grieg in "Shift in Library and Librarian Roles" and Jack Halberstam in "Queer Gaming") write about the disappointment experienced when Second Life did not live up to its potential, "library experiments in Second Life are laying the foundation for using Multi-User Virtual Environments for librarianship. Second Life is not yet a mature, stable system. While I think we should definitely be experimenting and learning the information architecture of Second Life, I do not think we should be trying to serve our client base there" (p. 378). Second Life is a platform that was never really adopted for all of the uses that some librarians were hoping for. Yet, as Greenhill concludes, the lessons that were learned by librarians in Second Life can be applied to other, contemporary online games and environments.

Minecraft (Majong) is a video game that is basically a virtual Lego game that allows users to virtually things with all kinds of bricks, and it is another example of a Multi-User Virtual Environment. Online components are very important to this game, as users can work together and share their creations. The game has inspired a lot of creativity and would be perfect for children and youth programs, and it could potentially be a space for patrons to interact with each other and the library virtually. Also, unlike Second Life, Minecraft is immensely popular. It has sold 17 million copies, and the company that produced the game was just bought by Microsoft for 2.5 billion dollars ("Here's Why Microsoft is Paying 2.5 Billion"). The popularity will allow for a game like Minecraft to be ubiquitous enough for it to live up to the potential that librarians saw in Second Life, as some public libraries have already adopted the game into their collection and programing (Shereda and Rudisill "Minecraft in Your Library", Hunter "The Minecraft Craze at the Public Library"). Minecraft can be such an important game for libraries because it combines so many programs that public libraries hold into a single experience, and because the game has made licenses available so that places like libraries are able to use the game as they need to without worrying about copyright infringements.

Progressive, Productive Librarianship

Technological developments are much more important for media like video games, graphic novels, movies, and television shows than the shift from printed novels to ebooks. In a talk titled "Queer Gaming, Glitches, and Going Turbo", Jack Halberstam discusses the impact of technology on the content of various media types. Halberstam says that the shift from analogue to digital and from linear animation to CGI opens up new possibilities for storytelling in cartoons, as does the improvement of the technologies (improved polygon density, better hardware, et cetera) that video games rely on ("Queer Gaming"). Narratives in games follow the function and action of the user, whereas the only changes to the form of novels are to the use of language, and possibly the addition of graphics in graphic novels. A question that Halberstam asked in his talk was: "how much free space is there in the game to change the game?" or any set, scripted relations. Halberstam was interested not just in changing the appearance of characters, but also the way that they interact with their worlds and produced meaning, which has a lot to do with the way that the game is designed and developed. While gaming companies like Electronic Arts are being given Human Rights Watch awards for their inclusion of LGBT characters and polygamous, queer relationships ("EA scores top marks"), Halberstam warns that including lesbian characters in The Sims does not necessarily make a game more diverse, especially when players are forced to have a monogamous relationship, raise a family, and live in suburban America. One way to have games appeal to a wider audience is to make games that can be played in a variety of ways, and that do not force players to make

standardized, binary decisions, as in the way Minecraft works. But another option for libraries is to encourage library users to hack games and help to create game mods in the library, as a way to extend the computer literacy programs that many libraries already have.

Libraries have always worked to be on the cutting edge of technology, and to make these technologies accessible, but the approaches to librarianship need to change with the opportunities presented by new tech. Websites like youtube.com, twitch.com, and ustream.com allow video game players to stream and archive feeds of their gameplay to the web, allowing anyone with an internet connection to observe many new video games without having to buy them, and to participate through comments sections. Twitch is most memorable for the twitch plays Pokémon phenomena in early 2014. The content of these websites would be incredibly useful for librarians to catalogue, as hours and hours of gameplay could be made available for researchers and other interested library users who want to be able to experience different games without having to learn to play them.

Video games are changing, improving, and expanding, and libraries need to be involved in order to allow everyone to have access to video games, to enable critical academic analysis, and to develop an archive of video games that may be overlooked otherwise.

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06 INNOVATION

KEYNOTE
INNOVATIVE LEADERSHIP FOR THE INFORMATION RENAISSANCE

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Annotation

"Information Renaissance" is the concept that we are in a post-industrial age, whose characteristics can be understood to be like the historic transformation of the European Renaissance, (less-poetically called by specialists the period of "early modern Europe"). The historic renaissance had a decisive impact on human development, through the information catalyst of movable-type publishing. Renaissance ideas spread throughout Europe at first, then globally in the ensuing centuries.

My thesis is that we are now in such "renaissance times." I note these are periods of great human advance, yet full of social turmoil from "counter-reformation" currents, like the ocean's rip-tides of my California upbringing.

I characterize our historical context as "a knowledge society driven by an information economy."

Digital information is the catalyst for today's renaissance, whose impact will spread unevenly yet certainly through the knowledge-value history to come. To succeed in this era, I suggest participatory modes of leadership for individuals as people, by choosing to live as a renaissance man or renaissance woman.

The key to prosperity for organizations, whether in business or civic sectors, is to add knowledge-value to everything they touch. My concluding message is that we are in exciting, though fraught times, where we finally fulfill our species name, and role, as Homo sapiens, "Humans who know."

BETWEEN ONLINE & OFFLINE

06.2.1

EXPLORATORY STUDY OF SIMILARITIES BETWEEN VIRTUAL AND REAL-LIFE IDENTITY

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Abstract

People's senses of identity interacts with the ways they communicate in social networks. Digital communication involves virtual and anonymous dimensions and offers opportunities for online identity play (Stern, 2004; Valkenburg and Peter, 2008). More recent research focuses on identity that is 'anonymous', which means that users are no longer anonymous and are identified and accountable in online communication (Zhao et al., 2008). These studies highlight the way in which online identity becomes a self-conscious activity. However, online identity is also shaped by the mundane practicalities of offline identity, everyday life and the routines of daily digital communication (Wessels, 2010). In these daily contexts identity and privacy, as mundanely understood, are negotiated in practical terms.

One aspect of practical online identity is that individuals have less control over what is deemed 'public' and 'private' (RISEPTIS Group, 2010). The lack of co-presence markers of identity (cf. Goffman, 1959) means that e-service-providers and e-service users need to be authenticated so that identity can be verified. In informal online communication participants use an array of resources to present and secure identity to develop trust and rapport in social networks (Wessels, 2010). Both of these processes mean that individuals and organizations share aspects of identity that intrude into the private sphere. Addressing identity as it is mediated through the social relations of communication points to changing social forms, such as networked individualism (Wellman and Haythornthwaite, 2002), which are part of an informational, mediated and surveillance society (Lyon, 2001).

This paper describes the transmission from real-life to virtual identity. The goal of this paper was to explore differences and similarities between virtual and non-virtual identities which comprise three levels of comparison – to compare real and non-anonymous virtual identity, to compare real and anonymous virtual identity; and to compare anonymous and non-anonymous virtual identities. The research was conducted on student population of J. J. Strossmayer University, Osijek. The purpose of this paper was to acknowledge the differences which students recognize between the two identities they possess – real life and virtual identity.

Literature review

Cyberspace and virtual environments open the door to new identity experiences. Entering cyberspace and virtual world where people's real characteristics (both physical and personal) are not directly evident to others represents, from a psychosocial point of view, new ways of communication which imply new ways of being, of showing and negotiating identities at stake. Talamo and Ligorio (2000) stress the possibility to enter a new community, where any personal information is directly shown to others, as a possibility to experience different self and thus show and build new identities. The relative anonymity of disembodiment may encourage freedom of expression, emboldening people to express politically incorrect views that warrant discussion. The model Jenkins (2002) provides for identity is an: 'internal – external dialectic of identification as the process whereby all identities – individual and collective – are constitute. The interplay of internal senses of identity and external aspects of identity bridges the analytical gap between individual and society, including that between the digital network and users. Wessels (2012) notes how identity holds attributes of embodied individuals, which are socially constituted, sometimes as a high level of abstraction, as seen in digital identity systems.

The institutional order is part of a network of identities and routinized practices for allocating positions (i.e. identities) to individuals. The process of identification points to the way in which individuals seek to identify themselves with broad external markers such as norms, legal frameworks, cultural mores and social institutions in developing identity (Jenkins, 2002). Jenkins argues that individuals continually craft identity out of sociality, institutional identification, private and public senses of selves, and, as Poster (1990) also notes, through communication. Turkle (1985) argues that digital communication offers a way for people to represent themselves and think

about their social and psychological selves. She asserts that the interface between computers and cyberspace symbolizes identity and social interactions. Gabriels, Poels and Braeckman (2013) note that development and rapid growth of online three-dimensional virtual worlds since the 2000s is one of the most remarkable tendencies in the new media landscape. Castronova (2001) defines virtual worlds as computer programs that have interactivity, physicality, and persistence as their most essential features.

Notwithstanding the fact that virtual worlds are computer-simulated environments, Boellstorff labels them as 'places of human culture' (2008). Moreover, every virtual world has to contain three preliminary elements: a virtual world must be a place inhabited by persons and enabled by online technologies (Boellstorff, 2008). Numerous people nowadays have avatars in virtual surroundings like, amongst others, Second Life (SL) (Linden Lab, 2003) and World of Warcraft (Blizzard Entertainment, 2004). World of Warcraft surpassed 10,000,000 subscribers (Blizzard Press Center, 2014), and depending on the time of day one logs in on second life, there are between 30,000 and 60,000 people logged in simultaneously (Dwell on it, 2014).

Studies show that users take virtual environments such as massively multiplayer online role playing games (MMORPGs) very seriously and place intense emotional energies into them (Yee, 2006). In addition, substantial evidence exists that the norms of actual life interactions regulate interactions in virtual environments (Miller, 2007). In this context, Williams (2010) writes about the mapping principle, which is the extent to which human behaviours occur in virtual space in the same way as they occur in offline environments. More recent studies on identity in MMORPGs confirm this experimentation with identities – players quite often change gender (Hussain and Griffiths, 2008), and they generally create characters which are closer to their ideal selves than their real selves (Bessière, Seay and Kiesler, 2007). The gap between the players' real world and virtual world identities is even greater if they have low self-esteem and suffer from depression. Research into virtual worlds shows, therefore, that residents can play identity roles far removed from those of the physical world. Since they are artificial and separate from the physical world, these environments are likely to favour the external identity process and thus to lead to the building of new identities. (Parmentier and Rolland, 2009) when moving in the virtual world, the individual must build an identity by partially or totally transferring (or not transferring) their real identity to their virtual identity. He or she must "position" himself or herself. This introspective engagement of individu-als contributes to their identity conception and identity-building (interaction).

Methodology

The goal of this research was to determine is there a difference between virtual and real-life identity. Considering the fact that the virtual identity was divided into two sub-categories, more precisely anonymous and non-anonymous identity, there was a speculation that these two categories could differ from one another.

The authors were wondering how much difference is there in individual's anonymous and non-anonymous identity. The research questions were as following.

1. Does an individual create a different image of him/herself in cyberspace?
2. Is there a difference between anonymous and non-anonymous virtual identity?

Also, there were presumptions that the cyberspace could influence an individual's identity. The hypotheses of this research were as following.

1. There are differences between virtual and real-life identity.
2. Online communities and cyberspace influence individual's identity construction.

Method of this research was a questionnaire containing 17 questions regarding self-assessment of participants. There were four sets of questions which included demographic data of the participants, their self-assessment of their behaviour in real life, questions related to habits of quantity and nature of their posts and their self-assessment of their behaviour on Facebook, questions about the reasons of chosen avatar characteristics and their self-assessment of their behaviour in online games. The sample included 214 completed questionnaires.

For this analysis was used Likert type scale of agreement with 1 being Strongly disagree, and 5 being Strongly agree. The Likert type scale was used three times to identify respondents self-assessed perception of their real-life identity, virtual non-anonymous identity (on Facebook, respectively), and virtual anonymous identity which included MMORPGs, FPSs and Second Life.

Respondents expressed that they are less aggressive (although in total very non-aggressive), and more calm on Facebook than in real life. They also stated they are less sociable, considerate, critical, and less curious, i.e. more indifferent on Facebook than in real life. For all statements correlations do exist, and all are positive – medium strong correlations are sociability, criticism and indifference. Weak correlations are those of aggressiveness, calmness

Real-life and virtual non-anonymous identity					
	Mean		t	Sig.	Correlation
	In real life	On Facebook			
I am aggresive...	1,82	1,40	5,986	0,000*	0,379
I am calm...	3,86	4,05	-2,532	0,012*	0,351
I am sociable...	3,97	3,56	5,335	0,000*	0,479
I am withdrawn...	2,62	2,63	-0,054	0,957	0,391
I am considerate...	4,05	3,81	2,860	0,005*	0,222
I am critical...	3,80	3,20	7,392	0,000*	0,453
I am curious...	4,29	3,75	6,283	0,000*	0,191
I am indifferent...	2,06	2,45	-4,929	0,000*	0,426

Table 1 – Relation of real-life and virtual non-anonymous identity (* statistically significant at 0,05 level)

and withdrawnness, and extremely weak correlations are those of carefulness and curiosity. Difference in withdrawnness in real life and on Facebook was statistically insignificant.

Respondents are, self-assessed, in online games only more aggressive than in real life. In real life they are, counterintuitively, more sociable as more withdrawn, and more considerate as more critical. They are also more in-different in online games than in real life. Considering real-life and anonymous virtual identity correlations, it was discovered that medium strength correlation is between criticism, while the correlations of aggressiveness, sociability, withdrawnness, and curiosity are weak. Extremely weak correlations are those of calmness, carefulness and indifference. Difference in curiosity in real life and in online games was statistically insignificant.

Real-life and virtual non-anonymous identity					
	Mean		t	Sig.	Correlation
	In real life	In online games			
I am aggresive...	1,77	2,32	-4,919	0,000*	0,305
I am calm...	3,89	3,60	2,790	0,006*	0,214
I am sociable...	3,92	3,63	2,996	0,003*	0,383
I am withdrawn...	2,64	2,23	3,829	0,000*	0,366
I am considerate...	4,01	3,58	4,442	0,000*	0,256
I am critical...	3,69	3,33	3,710	0,000*	0,431
I am curious...	4,26	4,18	1,022	0,309*	0,388
I am indifferent...	2,19	1,74	4,339	0,000*	0,182

Table 2 – Relation of real-life and virtual non-anonymous identity (* statistically significant at 0,05 level)

Virtual non-anonymous and anonymous identity					
	Mean		t	Sig.	Correlation
	On Facebook	In online games			
I am aggresive...	1,41	2,32	-9,353	0,000*	0,456
I am calm...	4,05	3,60	4,813	0,000*	0,340
I am sociable...	3,58	3,66	-0,737	0,462	0,321
I am withdrawn...	2,61	2,22	3,770	0,000*	0,344
I am considerate...	3,75	3,56	1,682	0,095	0,246
I am critical...	3,17	3,31	-1,405	0,162	0,440
I am curious...	3,73	4,18	-4,497	0,000*	0,298
I am indifferent...	2,55	1,73	7,794	0,000*	0,209

Table 2 – Relation of virtual non-anonymous and virtual anonymous identity (* statistically significant at 0,05 level)

The respondents are more aggressive in real life regarding Facebook, but significantly more aggressive in online games regarding real life. Also, there is lower difference in calmness between real life and Facebook, than between real life and online games. However, there is lower difference in sociability regarding real life and online games than on Facebook regarding real life (in real life, the respondents are more sociable than on Facebook, but thedifference of sociability is lower in online games regarding real life). Respondents are more considerate in real life regarding Facebook – the difference between real life and online games is higher regarding the difference between real life and Facebook. However, the difference of criticism in real life regarding Facebook is higher, than the one in real life regarding online games. In lower degree, they are lessindifferent in real life regarding Facebook, than in real life regarding online games where the difference is higher. The correlations are stronger regarding aggressiveness, calmness, withdrawnness, criticism and indifference i.e. it is lower for thoughtfulness and curiosity.

Respondents expressed that they areless calm and less curious, i.e. more indifferent on Facebook than in online games. Self-estimated, they are more withdrawn on Facebook than in online games and are more aggressive and more curious in online games than on Facebook (this is expected in a way due to the nature of MMORPG which includes both battling (fighting) and/or adventure quest).Between anonymous and non-anonymous virtual identity in cyberspace, medium strong correlations are aggressiveness, and criticism. Weak correlations are those of calmness, sociability, and withdrawnness. Extremely weak correlations are carefulness, curiosity and indifference. Differences between Facebook and online games on sociability, consideration and criticism were statistically insignificant.

The highest difference in aggressiveness is between Facebook and online games, although statistically they are equally non-aggressive as in real life regarding Facebook and real life regarding online games. The difference of calmness is also higher than in real life regarding Facebook and in real life regarding online games, but again, respondents are in total very calm. The difference of withdrawnness is lower than the one of real life regarding online games – respondents are less withdrawn on Facebook and in online games. The difference of curiosity is lower regarding Facebook and online games than regarding real life and Facebook – respondents are less curious regarding Facebook and online games. In accordance with curiosity, the difference regarding Facebook and online games is higher than real life regarding Facebook. The

correlations higher regarding real life and Facebook are those of aggressiveness and curiosity, and they are lower for calmness and indifference. The correlation higher regarding real life and online games are those of aggressiveness, calmness and indifference, and they are lower for withdrawnness.

Conclusion

One of the common facts today is that communities, i.e. social networks exist both offline and online. The Internet is no longer a separate world for the techno-savvy. Tens of millions of people around the world spend time online on daily basis, and rather than isolating them in cyberspace and virtual worlds, internet extends their social and communication networks from the physical world. People use it to connect with individualized and flexible social networks rather than with fixed and grounded groups. People integrate their offline and online activities. They email each other, chat, search the web and send instant messages–but they also walk, drive, bike, take a bus, fly, phone each other and send an occasional greeting card. The reality is that using the internet both expands social networks and communication process and changes them in subtle ways. Wellman (2004) even points out that Some people claim that the internet is the biggest "thing" since Gutenberg.

There are larger differences between real-life and non-anonymous identity than between real-life and anonymous identity – respondents' virtual identities are more similar to real-life identities in anonymous environment than in non-anonymous environmentwhich is quite surprising since Facebook facilitates personal view of the self. Social media, such as Facebook where people have to act as non-anonymous identities, are popular platforms for self-expression, self-presentation and self-promotion. Also, more often does online identity become recognized as person's online representation, which can be seen in professional social media contracts – social networking guidelines for employees. Accordingly, the biggest differences are between anonymous and non-anonymous cyberspace identity which leads to the conclusion that people create their cyberspace identity depending on the (non)anonymity of the environment, adjusted to the environment. This fact confirms the first hypotheses which claims that there are differences between person's real-life and cyberspace identity, respectively, they are not projected equally, therefore, the second hypotheses, which claims that online community and cyberspace influence individual's identity construction, can be sub-

stantiated as well. There are correlations between examined values, which are in range from extremely weak to medium strength which indicates the identities are linked and do have some similarities but the differences between correlations and their strengths indicate that real-life and virtual identities still have certain differences. Regarding research questions we can say that people build their virtual identities on Facebook in a different way than in online games – the differences between anonymous and non-anonymous identities do exist and are much greater than those between real-life and virtual identities in general. It can be concluded that cyberspace plays a vast role in identity building causing people to undergo cultural and social transformation into the online world of infinite potential, multiple dimensions and unbounded personas.

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06.2.2

FEATURES FOR THE FUTURE LIBRARY

Designing an Augmented Reality App

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Abstract

As a knowledge provider a modern library has to integrate technologies in its services in order to enhance the transfer of knowledge. User-friendliness is one of the most important tasks for libraries today. Furthermore by providing mobile access to enriched library data the institution is able to stay in touch with users with a high affinity to technologies or can even generate new users. For instance the integration of social media and social reading functions could provide to reach that aim.

While in the area of games and in navigation systems Augmented Reality (AR) developed into a common technology in libraries the use of AR is quite rare yet. The Gartner's 2014 Hype Cycle still lists AR as an emerging technology, which will reach its plateau in 5 to 10 years.

In the project mylibrARy, which has been started in June 2014 we are facing the challenge of designing an app that a library user really wants. mylibrARy is a cooperation project between the University of Applied Sciences in Potsdam, a public library in Berlin and one of the leading AR-software companies metaio GmbH. The project is founded by the German Federal Ministry of Economic Affairs and Energy and the aim is to develop an AR-app for libraries. So far despite of the connection to the local library data we implemented social reading features as well as information sharing and social-media-features. In the end of 2014 the first of three user studies will take place. Therefore next year we will be able to present first results and give answers to the question, what features library users want.

In our contribution we will introduce the project mylibrARy and the conceptual process of a library AR-app. As well the possibilities of AR-technology for libraries will be discussed and contextualized within the concept of a modern user-friendly library.

Challenges for the future library

The relevance and the availability of digital information have a huge impact on the expectations of library users today. Search engine technology and full text availability defined the standards for information research. The role of the library is therefore changing in the digital age. The times when a library only collects books and other media and provides a possibility for users to borrow them or to work with them in the library, to put it a bit simplified, are over. With the availability of digital information the task of a library as a knowledge provider changed. But new technologies mean not per se a disadvantage for libraries or are a competition with the library services. They particularly offer the libraries a chance to enhance the transfer of knowledge, to gain a closer contact to the user or even to generate new users. In terms of providing digital information and a fast search performance libraries have developed pretty fast in the last ten years. Discovery systems provide a fast access to the library resources and many full texts, especially in academic libraries, are available. This development shows the importance of focusing on the needs of users. So user-friendliness is one of the most important tasks for libraries today. With the integration of technology in its services a library is able to stay in touch with users with a high affinity to technologies. One way of pursuing this aim is to enrich the library data with further information. And what can be more user-friendly than giving the user augmented library information on his own mobile device?

Augmented reality for libraries

Augmented reality (AR) is a variation of Virtual reality and enriches "the real world, with virtual objects superimposed upon or composited with the real world".[1] In the gaming area, in navigation systems or in medical

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1   Azuma, R. (1997). A Survey of Augmented Reality, p. 356.

expectations

Internet of Things
Natural-Language Question Answering
Wearable User Interfaces
Speech-to-Speech Translation
Autonomous Vehicles
Consumer 3D Printing
Cryptocurrencies
Smart Advisors
Complex-Event Processing
Data Science
Big Data
Prescriptive Analytics
In-Memory Database Management Systems
Neurobusiness
Content Analytics
Biochips

Affective Computing
Hybrid Cloud Computing
Smart Robots
Gamification
3D Bioprinting Systems
Augmented Reality
Volumetric and Holographic Displays
Machine-to-Machine Communication Services
Software-Defined Anything
Quantum Computing
Human Augmentation
Mobile Health Monitoring
Brain-Computer Interface
Quantified Self
Connected Home

Speech Recognition
Consumer Telematics
3D Scanners
Enterprise 3D Printing
Activity Streams
In-Memory Analytics
Gesture Control

Cloud Computing
NFC
Virtual Reality

Virtual Personal Assistants
Digital Security
Smart Workspace
Bioacoustic Sensing

As of July 2014

| Innovation Trigger | Peak of Inflated Expectations | Trough of Disillusionment | Slope of Enlightenment | Plateau of Productivity |

time

Plateau will be reached in:
○ less than 2 years   ◐ 2 to 5 years   ● 5 to 10 years   △ more than 10 years   ⊗ obsolete before plateau

Figure 1 – Gartner's Hype Cycle Report 2014

devices AR has developed in a common technology. [2] But the Gartner's 2014 Hype Cycle still lists AR as an emerging technology, which will reach its plateau in 5 to 10 years (See Fig.1).

AR applications usually show additive information on the display of a mobile device, which is integrated in the real view. In contrast to Virtual Reality applications the real world is enriched with further information, but not replaced by it. The additive information is shown in realtime, in 3D and offers interaction. One of the most famous examples certainly is *Google Glass*, where glasses replace the display, which creates a stronger impression of the augmented reality.

The technical requirements to receive additional virtual information are an AR browser like *Junaio*[3] or *Layer*[4], a linking system and a GPS or an other locating system. In spite of a channel or a layer in an AR Brows-

er it is also possible to design an 'independent' AR-app[5]. For a library app instead of GPS barcodes, QR-codes or the cover of a medium could serve as a visual tracking system using the camera of the mobile device. Besides the GPS option is not optimal for an indoor environment, because the tracking is not that accurate.

Until now the application of AR in libraries is rare[6]. One of the first European AR-applications in libraries was a project of the public libraries in Barcelona, which was presented by the librarian Rosa Molina Lázaro at BOBCATSSS 2012[7]. Their main goal was to reach younger users between 16 and 24 and win them as library users by directing them via QR-codes to the library website

2   For an AR field of application overview see Berryman, D. R. (2012). Augmented reality: a review. Medical Reference Services Quarterly, 31(2), (p. 212–218).

3   *Junaio* is the AR-browser of metaio GmbH: http://www. metaio.com/.

4   The company Layar offers layer.

5   See Schuldt, Karsten ; Wolf, Sabine (2013). Nur ein weiterer Hype oder eine Technologie vor dem Durchbruch? pp. 299–301.

6   This paper focuses on Europe, examples from the US are German Traces NYC http://www.germantracesnyc.org/ or ShelvAR http://www.shelvar.com/. For an overview see Spina, C. (2014): http://www.ala.org/acrl/publications/ keeping_up_with/ar and Hahn, J. (2012). Mobile Augmented reality applications for library services. New Library World. 9/10, pp. 429–438.

7   Rosa Molina Lazaro (2012): Augmented Reality as a Tool to Bring Young Users to the Public Libraries.

or to the profile on Facebook or the closest library. They were using Layer.

In Germany there exists an other example: The location based app "Ludwig II – Walking in the Footsteps of a Fairytale King" of the Bavarian State Library.[8] The app enriches over 140 locations in Bavaria and Europe with virtual information about Ludwig II. For instance it offers links to videos, an augmented reality real time simulation of Ludwig II's former Winter Garden in Munich or a 360 degree panorama view at Neuschwanstein Castle. While these features are visually very impressive there a not genuinely related to the library stock or data. Hence it is more an example for a location based historical app and not an example for a library app in a narrow sense. Furthermore there a lot of library apps available, which do not include AR-technology. For instance *MyLibrary, My Library Manager* or *Web Opac*. Those apps offer features like a reading organization option, the organization of different library accounts with a reminder service, Social Sharing options, a recommender service or even an event or library locator. While these features are very helpful, those apps do not operate with the library mediums and do not ad semantically relevant information to the library stock.

So in conclusion you can say, that AR-apps as well as library apps already exist. However the combination of both is quite rare. On the foundation of this finding the idea for an augmented reality for library was born.

Project "mylibrARy"

The project "mylibrARy" is founded by the German Federal Ministry of Economic Affairs and Energy (BMWI) and is a cooperation project between the University of Applied Sciences in Potsdam (FH Potsdam), a public library in Berlin and one of the leading AR-software companies metaio GmbH. Metaio creates the AR-browser *Junaio*, where different applications have their own *channels*.

The project has been started in June 2014 and at the FH Potsdam two part time academic researchers are involved while the metaio GmbH has two fulltime software developer funded within the project. The project will end in June 2016. The aim is to develop an AR-library-app for public as well as academic libraries all over Germany. We cooperate with a public library, the Egon-

Erwin-Kisch Library in Berlin-Lichtenberg and with the Library Network of Berlin and Brandenburg (VÖBB).

The project is divided in four work packages: Project management, conception, development and user studies. In general our part is to create the scientific input to build a conceptual framework for the technology on the one hand and on the other hand to evaluate the usability of the product. The conceptual part mainly consists of searching suitable interfaces, which can be integrated via API (Application programming interface). So far we implemented the local library catalog (*VÖBB*), the Movie database *Imbd* and for reviews the Website *Goodreads*. The application is for Android as well as IOS-systems.

Our methodological approach for the first user study was an online survey followed by a usability study[9], where we will perform interviews with a focus on the product attractiveness. For the look and feel test we are using the standardized questions of the free web tool "AttrakDiff"[10]. AttrakDiff is a measurement tool for "the pragmatic quality, the hedonic quality and the attractiveness of an interactive product".[11] The aim of the first phase of the user study is to make sure, that all features operate successful and the look and feel of the product is acceptable.

Online Survey

In the autumn of 2014 we conducted an open online survey. The survey was posted on our blog, our partner's websites, in several Facebook groups as well as on mailing lists for librarians and information specialists. So the attendees of the survey were mainly members of the LIS[12]-community. In the end within six weeks we had around 380 participants, which is a large amount especially regarding to the relatively small period of time. We decided to use the German software *Unipark* concerning security reasons, because all data remains on a local server and is deleted after the projects end and also because of the offered features. The handling is quite simple and they offer diverse export formats (Excel, SPSSS etc.) and an own reporting system for a structured publication. Mainly those are the reasons for the huge spread of this tool in the academic community.

8   http://www.bsb-muenchen.de/Ludwig-II-Auf-den-Spuren-des-Maerchenkoenigs.ludwig-app.0.html/.

9   See Richter, G. (2013): Methoden der Usability-Forschung, pp. 203–257.

10 See http://attrakdiff.de/.

11 http://attrakdiff.de/index-en.html#hintergrund.

12 Library- and Information Sciences

Question design

The following nine question were asked in the Online Survey via Unipark:

1 Library behaviour Questions
  1.1. Are you a library user?
  1.2. How often do you use libraries?
  1.3. Which types of media do you borrow?

2 Behavior towards technology
  2.1. How much of a technophile are you?
  2.2. Do you own a smartphone and are you using apps?

3 eatures of a library app
  3.1. "Imagine you are able to receive additive information to a library medium on your smartphone like reviews or an author interview. Or on your mobile device mediums with the same or similar content are displayed. These might be possible features of a library app. Which features do you prefer? Please rate the following features with 1 star for not important at all and 5 stars for very important."
    a) Social reading: Read and write reviews
    b) Sharing via Social media
    c) Recommender service
    d) Information about the library itself (Website, events etc.)
    e) Semantically similar mediums
    f) Rating of the library
    g) Information service within the library
    h) Management of the own library account (With reminder service)
    i) Reference to other type of medium with the same content (Film, Audio Book etc.)
  3.2. What features do you like to have a library app?

4 Personal information
  4.1. Sex
  4.2. Age

Results

Some of the questions were conditional, for instance if a participant gives a negative answer to question 1.1 the library-related questions (1.2 and 1.3) do not come up. The questions can be divided in four topical sections: 1. Library behavior questions, 2. Behavior towards technology, 3. Features of a library app and 4. Personal information.
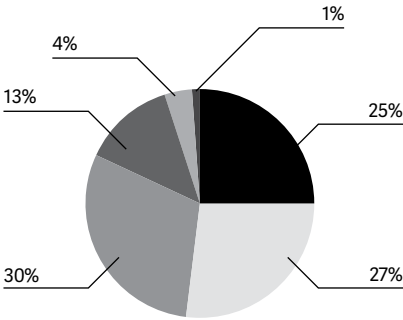
Figure 2 – Question 1.2 How often do you use libraries?

The majority of the attendees is female (78%) and the average age of the participants is 32,55.

Books	91%
CDs	55%
DVDs/Bluerays	53%
Electronic mediums	56%
Other	42%

Table 1 – Question 1.3 What type of mediums do you borrow?

Only around 1% of the participants claim to be no library user at all, which may refer to our focus group and also is related to the huge number of daily library users of 25 % (See Fig. 2). The group of monthly (30%) and weekly (27%) library users is almost even.

In Table 1 you can see the different types of mediums that the participants use. The major part of the borrowed mediums (91%) is still books, followed by CDs, DVDs/Bluerays and Electronic Mediums, with nearly the same spread.
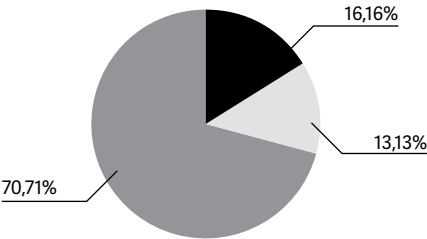
Figure 3 – Question 2.2 Do you own a smartphone and are you using apps?

In the third section of the survey at first the features of a library app were rated.

Here the favorite features were:
  a) Management of the own library account with an average of about 4,5 stars followed by
  b) Information service within the library,

c) Semantically similar mediums and

d) Reference to other type of medium with the same content with around 4 stars each.

Hence the features of a more library related app were preferred and not so much AR-related features in the first place.

The last question of the feature section was on open question regarding the favorite feature of such an app. The answers we clustered by relevance in nine sections: Medium, library information, navigation, library account, service, Gaming, Interfaces, Social (Media) and outside of the library. So the biggest clusters were related to the mediums, Library Information and the Library Account.
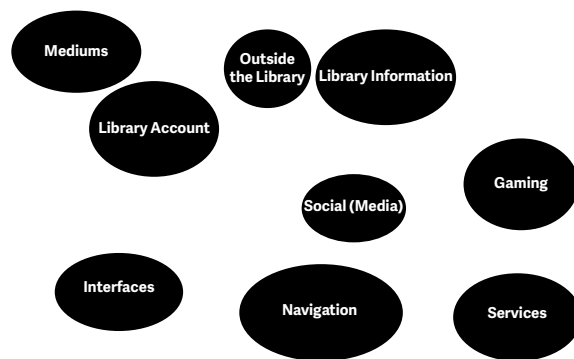
Figure 4 – Question 3.2 What features do you like to have a library app?

In the Medium-cluster most of the features were already mentioned in question 3.1 like "referring to semantically similar mediums". Some attendees would like to have the direct link to the full text in particular. Also in the clusters library information, navigation and Library Account quite not so many new aspects in the answers were given. Regarding the library account some users recommended a reminder service and a management tool for their books.

In the Services cluster some interesting services were proposed: a live ticker, which shows the latest library news or the mobile device as a library card with a paying option. Games, quizzes and batches were also common favorite features of a library app.

Proposed interfaces were Wikipedia, YouTube, bookstores or event databases. In the Social (Media) cluster one of the most innovative ideas was a Friend-finder app, which directs you to your friend, who are also in the library or to a person who is dealing with a similar subject.

Status quo of the app

At this point our app offers five basic features: Rating, Reviews, Trailer, Audiobook, OPAC, Share and Similar (See Fig. 6).
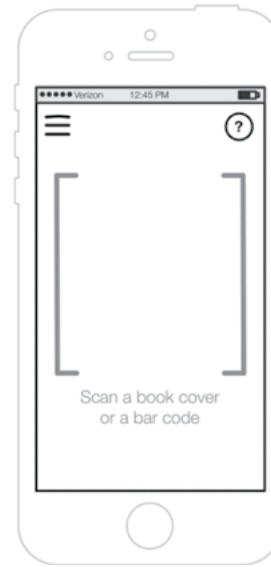
Figure 5   **Figure 6**

The app is able to operate with optical recognition using the cover or with the bar code (See Fig. 5). The scan of a QR-code as well as the recognition of the ISBN is possible. In a later version the operation with RFID-codes might also be feasible. But the actual devices despite for instance the IPhone 6 can't operate with RFID. The tracking via RFID makes a lot of sense, because in Berlin and Brandenburg all the public libraries use RFID. At first you have to select the MylibrARry channel, which you can see above the display image in Fig. 6. Now you are able to scan a medium. When the app recognizes the medium in the background it communicates with APIs, which were implemented earlier. Then the possible features regarding to the certain medium are shown. The other buttons remain grew. For instance if a review is found in Goodreads this button gets active.

Findings and Future

In conclusion we can assume so far that the users have a general interest in a library app. Especially in features, which relate to the library stock and data semantically and features that enrich the library as location with additional information. This local based information may relate to the history of the library, the building or

the area or simply gives directions within the library, for instance where to find the info desk or the art books section. Another favorite feature is to locate friends or people in the library who are currently working on the same subject. Referring to the library stock the app might give directions to semantically similar mediums or offers further information to the actual medium, like reviews, videos of the author, ratings or the Imdb-Website of the film. Another finding is, that AR is often related with a gaming aspect or special visual effects and not the typically associated with a library app.

As a result of this first Online Survey we will implement for instance Wikipedia pretty soon and we are trying to find a way to integrate the Friend-finder-option.

Furthermore next year a recommender service namely *BibTip*[13] will be integrated in the app. Regarding the gaming-character of the app we are planning a project with a big public library. There we will realize a local quiz with tasks and batches.

In general the challenge for us is to define the balance of an ambitious and innovative product and the simple handling for the local library, which means that there is no complicated backend, for which the library needs manpower or own technical support.

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13 BibTip already cooperates with several German libraries: http://www.bibtip.com/.

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06.2.3

LET'S TALK BUSINESS ON THE VALUE OF ENTERPRISE SOCIAL MEDIA

A study at Air France-KLM on the interaction of work practices and the use of Enterprise Social Media from an affordances perspective

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Abstract

Within this research the interaction between different work practices and the use of Enterprise Social Media (hereafter ESM) have been studied from an affordances perspective in order to understand the impact and consequences of these technologies on a longer term within organizations. The affordances perspective shows the things that people were not able to or which were difficult to do, before they were introduced to the technologies. When a technology affords knowledge workers to do their work or reach their goals, the knowledge workers change their behaviors and start using the technology to reach their goals. When technologies constraint workers to do their work, they will stop using the technologies.

Enterprise Social Media are web-based platforms which allow employees (i.e. knowledge workers) to post and edit messages for specific colleagues, to send messages across the whole organization and view messages and connections, all in one place (Leonardi, Huysman, & Steinfield, 2013). Enterprise social media are mostly implemented to support the knowledge management within an organization (Treem & Leonardi, 2012; Brzozowski, Sandholm & Hogg, 2009), as it is recognized that knowledge is one of our key assets within organizations because it is the basis of the competitive advantage of an organization (Argote & Ingram, 2000).

Thus, the work practices of humans and technologies are interacted and they influence each other. However, the state of literature on ESM and how it affords or constraints people to do their work and how the work practices and ESM technologies interact with each other is still nascent (Treem & Leonardi, 2012; Vaast & Kaganer E, 2013).

This research – which is executed as a case study at an international organization headquartered in The Netherlands – demonstrates how the success of an ESM platform for each group of people depends on the behavior of other groups of people and on the perceived affordances and constraints of the technology. Moreover, this study adds to literature by revealing a behavioral process on ESM usage, which comes from the perceived affordances and constraints of the open characteristic of ESM platforms. The practical relevance of this study lies within demonstrating the added value of e platform to the work of people and the influence of different work practices on the behavior at ESM.

Introduction

Enterprise social media are social media which are used for internal communication. It is a relatively new concept, but it is becoming more important (Leonardi, Huysman, & Steinfield, 2013; Treem & Leonardi, 2012). Enterprise Social Media are web-based platforms which allow employees (i.e. knowledge workers) to post and edit messages for specific colleagues, to send messages across the whole organization and view messages and connections, all in one place (Leonardi, Huysman, & Steinfield, 2013).

One way to look at Enterprise Social Media is from an affordance perspective, which shows the things that people were not able to or which were difficult to do, before they were introduced to the technologies. This can shed light on the consequences of using social media within organizations. Enterprise Social Media can have positive aspects and afford someone to do their work and thus realize their goal and it can have negative aspects and constraint someone to realize their goal. However, the state of literature on affordances and constraints of Enterprise Social Media and how the work practices and Enterprise Social Media technologies are interacted, is still nascend (Treem & Leonardi, 2012; Vaast & Kaganer E, 2013). Therefore, this study aims to answer the following research question:

How do different work practices of knowledge workers and the use of Enterprise Social Media interact with each other from an affordances perspective?

In this research a case study at Air France-KLM will be conducted, by studying the Enterprise social platform, named "ishare". Within this research, firstly the existing literature on Enterprise social media, their affordances

and constraints and work practices will be discussed. Secondly, the methods, which are used, for this research will be described, followed by the results of the research. Finally a conclusion and discussion will be given on the findings.

Literature review

An affordance perspective on technologies

When looking at literature concerning technology, according to Orlikowski (1992) the interaction between humans and technologies is overlooked. She argues that humans construct technologies and on the other hand humans use the technologies to accomplish their goal.

Leonardi (2011) extends this theory by defining the cause of interplays of humans and technologies, by introducing the imbrication model. The imbrication model suggests that whether people will change their routines or the technologies that they are working with, depends on previous imbrications. When people perceive that technologies constrain their ability to achieve their goals, they change the technologies which they are using and when the technologies afford the possibility to achieve new goals, people will change their routines (Leonardi, 2011). The affordances perspective focuses on the material features of technology, which allow people to do things, which they were not able to do before, or which were difficult to do before without the particular technology (Treem & Leonardi, 2012).

Defining Enterprise social media

Enterprise social media (hereafter ESM) are implemented in most organizations to support the knowledge management activities (Treem & Leonardi, 2012). ESM is defined by Leonardi et al. (2013) as:

> Web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing. (p.2)

Affordances and constrains of ESM

Several affordances and constraints have been discussed in literature, which are first of all the openness of communication (i.e. 'leaky pipe'), second the affordance of finding people and content of similar interests and get alerted to it and finally, the affordance of remaining accessibility of information, by which information can be re-viewd and re-read (Leonardi et al., 2013). However, these affordances also come with constraints of the technologies. For example, when all conversations are visible for everyone, people might experience an overload of information, which might constrain them from using the platform. Furthermore, when people only read the information of their interest, they might miss out on other critical or interesting information.

Work practices

It is important that ESM platforms add value for the employees in their jobs (Matthews et al., 2013; Davis, 1989; Oudijk, 2013). However, research stresses that employees of different departments or different countries, enact in different work practices in their jobs. Thus, they will experience different affordances and constrains of technologies within their work (Leonardi & Barley, 2008). Work practices are the things that people actually do (repeated and rehearsed action) rather than what they say they do (Schultze & Boland, 2000). According to Schultze & Boland (2000) looking at work practices on their own is not enough to understand the impact of technologies on a long term. Work practices need to be seen in the 'loop of reproduction' (Bourdieu, 1998). Schultz & Boland (2000) argue that the emphasis of practices lies not only on what people dot, but also on 'what doing it does'. It is important to consider the interaction between the field and the human thoughts, judgments and feelings in order to understand the practices and their interaction with technologies.

The state of literature on the interaction between work practices and ESM technologies is still nascent. This research is aimed to expand literature by studying the use of an ESM platform by knowledge workers with different work practices.

Method

A qualitative study is performed because of the nascent state of literature, to expand literature on the relation between ESM use and work practices of knowledge workers. The Commercial, Sales & Marketing division of Air France-KLM (stationed in Amstelveen, The Netherlands) has been using an ESM tool for eighteen months, called 'ishare'. Currently the tool counts almost 7.000 users. The ambition of the project group who initiated the tool was to *"unlock collective knowledge and con-*

tent at AFKL Commercial Marketing & Sales to create **an efficient, powerful** *and* **involved workforce**" (ishare, 2014). The employees of this division perform knowledge intensive work and they are geographically distributed. The following features are included within the tool (Jansen, 2014):

- timeline
- notifications
- working in (closed or open) groups
- structuring groups with widgets
- creating conversations (with a document, link or video)
- collaborating on a conversation with other co-authors
- creating a personal profile
- following colleagues, groups or conversations
- collaborating on conversations
- inviting external members
- one-to-one chat
- group chat
- send an notification to colleagues or groups
- thank someone for a conversation
- comment to a conversation
- create events
- personal workspace (to-do lists, reading stack)

Data collection and analysis

The researcher has been working for a period of seven months within Air France-KLM as a community manager for ishare in order to get a grip on the activities at the platform. For the in-depth interviews, 140 users were selected, who indicated in a previous survey that they were willing to participate in an interview in the future. The users need to have registered at least one year ago on ishare, to make sure that they are familiar with the platform. Interviews were hold with 20 employees from several departments worldwide in order to have a better insight into the activities and work of employees. The conducted interviews are fully transcribed and analyzed by a coding scheme, using the tool Atlas.ti. The coding process started with conducting open coding (Corbin & Strauss, 1990) by creating labels (first order concepts) and after that codes were created and organized into groups to create second order concepts. After open coding, axial codes were created to recognize important concepts and the relations between them (Corbin & Strauss, 1990). In order to find the relations, networks were created in Atlas.ti. by using Networkviews.

Validity and reliability

There have been discussions within literature on the validity and reliability of case study research (Gibbert, Ruigrok & Wicki, 2006). The internal validity (the causal relationships between variables and results) and construct validity (whether the research investigates what a researcher claims to investigate) of this research is enhanced by triangulation, as the researcher conducted interviews and worked as a community manager of ishare, which increases the validity of the conclusions (Gibbert et al., 2006; Yin, 1994). Reliability of the study is ensured because of transparency of the data collection. The interviews are being recorded and transcribed, which gives other investigators the opportunity to use the data and replicate the study (Gibbert et al., 2006).

Findings

ishare is introduced as a platform to connect and share knowledge with colleagues around the world and among different departments. All employees of Air France-KLM can get access to ishare, and people of external organizations can get limited access as well.

Affordances of openness of communication

This openness of communication with people among the whole organization brings several affordances for the work of employees, like transparency amongst the organization. Departments can put the information on ishare where they reach a big audience and it allows everyone to see it. A second affordance which is found, is efficiency. Communication flows faster because people do not have to wait for one person to answer or to ask one person 'whether he knows someone who owns a certain expertise'. A third affordance is the ability to easily find expertise by searching through profile information on profiles. The final affordance is the increase in timeliness of information. One interviewee – who supports call agents – mentioned that before she was receiving using ishare information too late or not at all. Important information for call agents, who talk directly to passengers, could be left out or she did not find an answer at all.

12: *"Yes and it is nice because sometimes they put a public conversation and if I know the answer, I answer of course also. My colleagues do the same thing. We receive answers not from the projectmanager but colleagues from another country."*

Constraints of open communication

Open communication on ishare can be a great affordance for work of employees when it comes to finding answers, information or expertise within the company. However, interviewees who work in projects are constrained by the openness of communication. Colleagues outside a specific projectgroup or department can see the content and see what is going on. Employees who work in projects have a lot of documents and information that needs to be shared (e.g. business cases, project -, communication-, financial- and risk plans). This information and documents, which are needed in projects, are highly subject to change. This constraints employees to share information, because the information that comes with these changes, are not useful for everyone to see and it is difficult to decide what information can be shared, what information cannot be shared and when to share information. Another constraint of the platform for project members is the sensitivity of information. Interviewees working on campaigns or projects are afraid that this information might be leaked to the competition or colleagues within the organization who are not allowed to see it. A final constraint of ishare that is mentioned when people work in projects is interjection by others. Other people than the people who are allowed to be involved in the conversation, can see it and respond or contribute to it. Interviewees said that they avoid this constraint by leaving the platform or by creating closed groups. In this way, the project team can discuss the topic, without interjection of other colleagues.

Constraints of closed communication

Project members experience constrains of the openness communication, but employees who support colleagues are constrained by the closed communication because they need to be able to search through information and find it timely to answer the questions of colleagues.

9: *"Yes, but sometimes you look for something but you don't have to be part of the group. The solution to be a part of a group, in order to find documents in the system. This is not the purpose, as far as I can see."*

The closeness of information constraints employees with a support function to do their work, as they need to be able to search through a lot of information to find timely answers. The ability to do their work depends on the behavior of the project members. If the support employees are not able to reach their goal, they leave the platform. Because of this reason and because of the initial goal of ishare, (to connect colleagues around the world, share best practices and knowledge, to find expertise

and content, to collaborate and innovate together), the following proposition is proposed (see fig. 1):
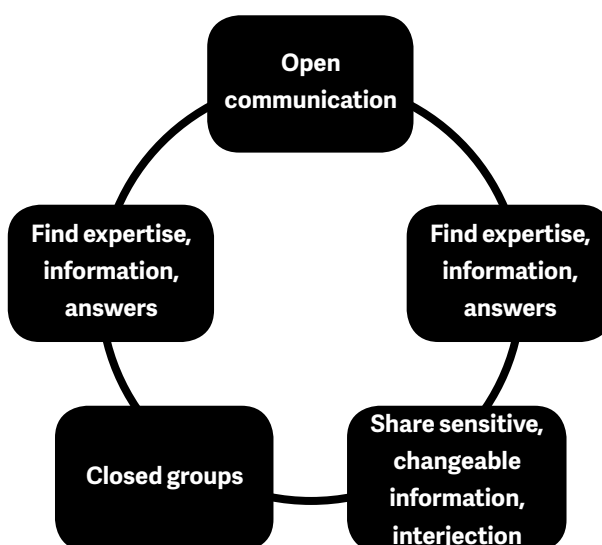
Figure 1 – Process of affordances and constraints of open communication for work practices within ESM

1: *It is important to highlight the affordances gained by openness of ESM tools, as this is one of the strengths of such a platform for organizations and certain work practices of knowledge workers.*

As a result of the interaction between the perceived affordances and constraints of ESM platforms by different work practice and because not all work practices experience the same affordances of such a platform, the following proposition is proposed:

2: *ESM platforms are not appropriate for all different kinds of work practices.*

From the process in figure 3 it becomes clear that both support and project members are socially dependent of each other and on the technology they are using. The following proposition is generated:

3: *The success of ESM platforms is dependent on the interaction between different work practices and the perceived affordances and constraints of ESM technologies.*

Conclusion and discussion

In this research the implications of using ESM within different work practices have been studied. It identifies that employees with different work practices experience different affordances and constraints of an ESM. In other words, it shows how the work practices and ESM technologies interact with each other. Moreover, this study adds to literature by revealing a behavioral process, which comes from perceived affordances and

constraints of the open characteristic of ESM platforms such as ishare.

Theoretical implications

This study has several theoretical implications. First of all, the interaction between different work practices and the implication for ESM usage is demonstrated. This interaction has implications for the usage patterns of different workers. Second, this study actually shows how some work practices are afforded by ESM (e.g. the affordance of open communication) and how other work practices are constrained by it (Leonardi, 2011). Finally, several affordances and constraints are added to the ESM literature. The timeliness of information and increase in efficiency of communication flows were not found as affordances yet. The constraint of postponing reading content because of remaining availability, has been found as well.

Practical implications

This research has some practical implications. First of all, it is highly important to emphasize open nature of the ishare, when you take the affordances and the initial goal of this project in to account. Second of all, this study shows that people with particular work practices (i.e. support) are afforded by the platform and employees who work mainly in project teams are, constrained. It is recommended to carefully consider the target audience, as people who work in project teams want to create closed content, which is not the main goal of ishare.

Limitations

This research is subject to several limitations. First of all, this study contains one case study at Air-France KLM and on only one division of the organization; Commercial, Sales & Marketing. Because only one case has been studied, the generalizability of the study is decreased. A second limitation of this study is the fact that this study could be conducted at only one division of Air-France KLM. Other divisions might use the platform differently, as they have different types of work and different work practices.

Future research

This study was of explorative nature, thus further research is needed. Three propositions have been proposed, which can be tested in future research. First of all, more research to the dependence and relations between work practices and the implications of these relations for the use of ESM is needed. Secondly future research could shed more light on different work practices and their use of ESM platforms within their work, as they have different patterns of use. Third of all, further research needs to shed more light on which work practices are mainly afforded by using ESM within their work and which work practices are constrained by ESM. By bringing the implications up to light, the consequences of using ESM and the value these platforms for organizations will become clearer.

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EXPLORING INFORMATION BEHAVIOR

06.3.1

EVALUATION OF MEDICAL INFORMATION QUALITY

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Abstract

The internet has become a significant source of health-related information in the last ten years. Quality of health-related information is often diverse and uncertain and on the internet environment it should be evaluated by a specific method. This could be viewed as an important part of health literacy skills of the 21st century. For this purpose the indicators of medical information quality are defined based on the dimension of reliability of information quality. The dimensions are derived from three-dimensional scheme by Anton Vedder and it can be applicable in the Czech internet environment. The indicators are: origin, sponsorship, purpose and intent, currency and date, citation and links, accuracy and completeness, clarity and truthfulness. These indicators were selected from established tools for evaluation of medical information quality that are used abroad, like HONCode, MedlinePlus or DISCERN. The indicators are set into the draft of methodics with the instructions for the evaluation of medical information quality on Czech websites. The methodics could be applicable not only in the Czech Republic, but also in other countries, if a socio-political context is similar to Czech. The methodics is divided into two parts: one for non-expert sources in common online environment designed for laymen and one extended version designed for experts. The version designed for expert is a little bit modified and except these indicators also includes criteria for critical evaluation of research papers and reviews. These criteria relate to questions of correct interpretation and collection of information in summaries, and questions on researched subjects, observation and intervention (whether it was done correctly or not), results (e.g. statistical test, effect size) and data interpretation in experimental papers. Both methodics for laymen and experts improves critical thinking and supports better decision making in issues related to health.

Introduction

According to Czech Statistical Office 2013 survey, 55 % of internet users searched for health-related information on the Czech websites (Czech Statistical Office, 2013). That's a significant increase in comparison with the year 2006, when the number was 23 %. These numbers go along with the increasing access to the internet of Czech households, from 27 % in 2006 to 67 % in 2013 (Veřejná databáze ČSÚ, 2014).

Internet as a medium is different from traditional media. It is easy for everyone to create and disseminate information whether in specific domain with or without particular knowledge. Information are presented in various ways and in different purpose, by and to people of diverse knowledge. This trend affect also health domain, where the quality of information is often questionable and low as former studies suggest this (Grewal, Williams, Alagaratnam, Neffendorf, & Soobrah, 2012; Keogh et al., 2014; López-Jornet & Camacho-Alonso, 2009; Pérez-López, 2004; Tavare, Alsafi, & Hamady, 2012). The information can even cause harm if it is untrue (Crocco, Villasis-Keever, & Jadad, 2002a; Crocco, Villasis-Keever, & Jadad, 2002b).

In fact, the quality of health information started to be studied in the mid-1990s. Number of new initiatives set the criteria of how to evaluate the quality of health information. Some of them worked as rating instruments, whose logos appeared on the websites following these quality criteria (Gagliardi & Jadad, 2002).

Theoretical framework

The theoretical framework is adapted from Anton Vedder's three dimensional scheme of quality of information. The dimensions are reliability, functionality and significance, and in this paper it is worked only with the reliability of the information. It deals with the internal quality of information. The other two dimensions deals with relevance of the information.

From Vedder's point of view reliability of information includes "content criteria" (evidence, logical and subject-matter criteria), which belong to experts, but which is here also evaluated by laymen, and "pedigree criteria", which relates to authoritativeness of the source or intermediary of the information (Vedder, 2008). In this paper

pedigree criteria is changed to criteria of form, which could be understood as superior to pedigree criteria.

Indicators and methodics

We define indicators of medical information quality and propose a draft of methodics for evaluation of information. Both is based on already established evaluating tools functioning abroad (HONcode: Principles – Quality and trustworthy health information, 1997; The DISCERN Instrument, 1997; MedlinePlus: Trusted health information to you, 2012; SPRY foundation, 2001), on a review study by Risk and Dzenowagis (2002) analyzing individual tools and indicators, and on the criteria found in book written by Cullen (2006). The methodics is applicable in the Czech internet environment.

Definitions of indicators

Origin – the originator of the information should be health professional or the whole organization consisting of team of professionals. Health professionals are educated in medicine and other health sciences and information spread by them are considered to be reliable.

Sponsorship – owner, provider, sponsor or partner may have commercial interests instead of health interests. It is important to try to find who is the sponsor and if the information doesn't talk in favor of the funder.

Purpose and intent – the primary intent of the website should be to educate people instead of selling products or offering health services to them. The information must be objective and independent. This indicator is related to sponsorship, because the non-visible owner or sponsor of the website could present information in objective and independent way, but talking again in favor of a sponsor, which could be commercial.

Currency and date – the information shouldn't be older than ten years. The information older than two years must an expert receive critically in the context of dynamics of discipline evolving. Evidence-based medicine is the core of medical practice and information should keep up with the most recent evidence. The limitation of the indicator is its application for retrospective studies and historical analyses in the field of health disciplines (eg. history of medicine).

Citation and links – the reliability of the information is underlined if it is provided by citations and links to expert sources. It shows the author's skill to work with expert sources and it also enables the user to assess the objectivity of the facts with the subsequent verification of the truthfulness.

Accuracy and completeness – information should be formulated accurately and completely. It must include every important aspect of the topic discussing.

Clarity – the way of formulation, sentence construction and usage of technical terms should reflect a target group of information receivers. Information for laymen and general public should be easily understandable, clear and readable, and should not content technical terms. Indicator can be evaluated subjectively, or objectively by cloze test, Nestlerová-Průcha-Pluskal method, degree of difficulty of the text by Mistrik, and others. The limitation of the indicator is a dimness of the definition of the indicator in many sources and also a subjectivity in its evaluation.

Truthfulness – medical information must not be false in order not to cause harm when it is used. According to Vedder a reliable information is not necessary truthful, people at certain times were justified to trust some information, which appeared to be wrong later. Truthful medical information is variable depending on time, place and circumstances, for which it is considered to be right. For this paper truthfulness is related to evidence-based medicine and it should correspond with the latest scientific knowledge. Due to possible epistemological and philosophical consequences, it is just an operational definition.

In the methodics for laymen the indicator of truthfulness is implemented implicitly. It is supposed that highly reliable information is approaching to truth as it is disseminated by health professionals. In the methodics for experts the evaluation of truthfulness would be practically realized by creating literature search in order to try to find as much evidence as possible.

It should be stated that the truthfulness of the information can not be determined conclusively, it can only be approximate.

Methodics for other than expert sources in common online environment

Criteria of form

1 Origin
   - Is the originator of the information expert in the field?
     - Is the author signed by the material?
     - Is there on the website author's profile stating his education and specialization? (If signed, the name may be clickable and link to his profile.)

- If the education is stated with the name of school, can you find out more information about the school?
- In what organization or where does the author work? What subject pais him or her?
  - Is the author an original source of the information or intermediary? (If original source, it is necessary that he or she is educated and specialized in the field that is a subject-matter. If intermediary, the specialization is not necessary, but he or she should cite and interpret the information properly.)
  - Is the originator of the information health organization?
    - Is it consisted of team of health professionals?
    - Can you explore section "About" (usually at the top or in the footer of the page) and read more? Are there names and profiles of authors stated?

2 Sponsorship
  - Is a sponsor, owner or provider of the website retrievable or deducible?
    - While evaluating sponsorship, different situations can occur: website is sponsored by commercial subject, the information may talk in favor of sponsor, but it may or may not be true; the website is sponsored by non-commercial subject, but the information also may or may not be true.
    - Can you explore section "About"? (Usually at the top or in the footer of the page.)
    - Is there any logo of a company or organization shown? Either directly stating its sponsorship or not.
    - Are there any partners stated?
  - Is there a contact stated?

3 Purpose and intent
  - Is it retrievable, in what purposes and intents did the website develop and in what intents runs now?
    - Is the intent of the website to educate and provide objective facts? (The intent of the website is not to sell products or to offer services.)
      - Different situations can occur: the intent of the website is to sell products or offer services, but the information may be true though.

4 Currency and date
  - Is there a date stated by the information?

- Isn't it older than 10 years?
- Is there a date of actualization of the website or information source? (Usually in the page footer.)

5 Citation and links
  - Are there any citation and links on expert sources present?

Content criteria

6 Accuracy and completeness
  - Does the information refer to effect of the product (drug) or service (medical help)?
    - Is it stated how the treatment is working?
    - Are the benefits of treatment stated?
    - Are the risks of the treatment or side effects of the drug stated?
    - Is there a target patient group stated?
  - Does the information refer to explanation or description of a disease or undesirable condition?
    - Are the symptoms of a disease stated?
    - Are the causations and risk factors of a disease stated?
    - Are the possible methods of treatment stated?
    - Is the risk group of patient who may suffer the disease stated?
  - Does the information refer to healthy nutrition or food ingredient?
    - Are the health benefits of a food or food ingredient stated?
    - Is the possible causation of health benefit stated?
    - Are the possible health risks of a food or nutrition method stated?
    - Is the possible causation of health risk stated?
  - Does the information refer to healthy lifestyle or circumstances causing health?
    - Is it stated why does the specific manner of healthy lifestyle help to achieve health?
    - Are the possible risks of specific manner of healthy lifestyle stated?
    - Are the different target groups eventually stated (in relation to age, sex, predisposition)?

7 Clarity
  - Is the text clear and easily readable?
    - Is the text absence of technical terms, which laymen can not understand?
    - Is the text formulated simply, comprehensibly and readably?

– If the information is intermediated, is it interpreted correctly?

A draft of methodics for experts

A little modified and extended methodics is intended for experts to evaluate mainly expert sources, like reviews, interventional and observational studies. The criteria for evaluation of experimental studies were created by combination of already existing criteria found on web and in medical literature (Centre for evidence-based medicine, n.d.; Dans, Dand, & Silvestre, 2008; Greenhalgh, 2000; Mittlböck, 2008; Support Unit for Research Evidence (SURE), 2013; UCL, 2011; Young & Solomon, 2009).

Methodics for expert sources in online environment

1. Origin
   - Is the originator of the information professional organization?
     – Is it governmental or nongovernmental subject?
     – Is it commercial or noncommercial subject?
     – Is it composed of team of health professionals?
   - Is the originator an expert in the field?
2. Sponsorship
   - Is a sponsor, owner or provider of the information source who are responsible for the functioning or funders of the research retrievable or deducible?
     – Can you explore section "About"? (Usually at the top of the page or in the footer.)
     – Is there any logo of a company or organization shown? Either directly stating its sponsorship or not.
   - Is there a contact stated?
3. Currency and date
   - Is there a date stated by the information or the date of the publication?
   - Is there a date or year of actualization of the information source stated?

- The information should not be older than two years.
  – Think about the information critically if it is older than two years. Newest evidence may have come.
4. Reference and links
   - By the posts considering health or disease, effects of drugs and other health products and services are there citation and links on expert sources of information stated?
     – Can you search the full-text?
5. Purpose and intent
   - Is it retrievable, in what purposes and intents did the website develop and in what intents runs now?
     – Is the intent of the website to educate and provide objective facts? (The intent of the website is not to sell products or to offer services.)
6. Completeness
   - Is the information complete (contain both positive and negative effect of product or medical action and are the possible side effect stated?
   - Are the limitation of the study stated?
7. Accuracy and formulation
   - Is the terminology of the field used correctly?
   - Is the information formulated accurately and clearly?
   - Is the information formulated in the way of objective and verifiable facts, not in the way of subjective assumptions?

Continue:
A. If it is a literature review
B. If an experiment is a part

A. If it is a literature review
8A Collection of information
   - Is it described how the selection of information sources was made?
   - Does it include recent information sources in the subject?
   - Are the studies that support results of the paper but also disprove the results taken into account?
   - Do the stated information sources have a maximum position in the hierarchy of evidence within the context of use and goals of the paper?
9A Interpretation

- Did the study take into account type of studied subjects, the size of studied groups and the length of the experiment in the original publication?
- Haven't the interpretation for human health been created on the basis of animal models?
- Was the correlation and causality distinguished?
- Have the both positive and negative effects been taken into account?

B. If an experiment is a part

8 B. Groups studied
- Are the characteristics of subjects described?
- Is it described how the subjects were chosen and how many were excluded?
- Has the randomization been done if the study design ordinarily requires it?
- Has the blinding been done if the study design ordinarily requires it?
- Was the sample large enough in the context of the study?
- Was the risk of selection bias reduced?

9B Observation and intervention
- Is the methodics of a study described enough?
- Are the specifics of exposure described?
- Was the observation / intervention carried out systematically in accordance with the guidelines of the field and according to standard protocols?
- In case of instruments and devices use, are they sufficiently described (producer, type, batch), and is the limit of detection and limit of setting defined?
- Were suitable methods for measuring exposure and outcome assessment or outcome of the intervention chosen?
- As part of the assessment pharmacotherapy or impact assessment of nutritional supplements and lifestyle determinant, was it compared with placebo / standard established treatment / or otherwise defined control groups?
- Were the confounding factors in different groups defined and was the risk of their occurrence reduced?

10B Results
- Are the methods of evaluation described (statistical tests etc.)?
- Was the appropriate method for the statistical analysis of data used?

- Is the effect size described enough? What is the rate?
  - Experimental event rate (EER), control event rate (CER), relative risk (RR), absolutive reduction risk (ARR), relative reduction risk (RRR), number needed to treat (NNT).
- What is the power of the study? Was the difference between intervention and control group expressed?
- How precise was the effect size? Was the confidence interval (CI) expressed?
- Were the appropriate methods for confounding factors assessment used?
- If study design needs it, was the odds ratio calculated?

11B Data interpretation
- Was the correlation and regression distinguished and were the assumptions about causality expressed?
- Was the null and alternative hypothesis for the statistical evaluation defined?
- Were the side effects stated?
- Was the study conducted according to original protocol?
  - Did the study not end sooner or later than it was originally planned?
  - Were the patients who withdraw/left the study or who did not comply the treatment included into the results? Helpful term could be "intention-to-treat." Was the analyze of activity performed? Were the patients analyzed in groups, in which they were divided?
- Was the data interpreted correctly?

Discussion

The expert methodics has some limitations in its application. As it is general, it is not suitable for specific topics or health disciplines, it is not suitable for diagnostic and screening tests and some type of qualitative studies. It also needs modificationfor evaluating papers of alternative therapies.

Conclusion

Internet and libraries provide large amount of medical information. The amount of medical knowledge is rapid-

ly increasing and for health professionals it is impossible to know everything from their field. The methodics here presented can help both laymen and professionals to evaluate medical information quality in order to make appropriate health decisions.

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06.3.2

EXPLORING THE METHODS AND PRACTISES OF PERSONAL DIGITAL INFORMATION ARCHIVING AMONG THE STUDENT POPULATION

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Abstract

The issue of personal archiving is one often raised in the context of the fast changing digital era. Even among the "informationally literate" personal digital archiving is more often simply a side-effect of generating content in the digital environment than a planned activity. The aim of this paper is to research the extent to which the student population employs the doctrines of digital curation, digital preservation and digital stewardship. It is presumed that this group is interesting for examining in this context because of the unique mixture of formal, mainly scholarly, and personal information that they govern in their day to day activities and in digital formats. Some of the information that this research will attempt to obtain concerns the actions individuals undertake to acquire, store and conserve digital objects, the formats they use and the practices they employ in the process. We will try to determine whether the migration of contents is practiced, where and how digital information is stored, as well as whether or not scholarly objects (such as those used for study) are handled differently than informal ones (such as those used for entertainment and other private purposes). Other questions that we seek to answer involve making digital copies of objects and the use of other media such as portable memory sticks, CDs, DVDs and Blue-Ray discs. Furthermore, how often do students revisit the contents once they've created them? Do they use digital archiving in the cloud? Do they create backups for the objects they have identified as important to preserve? The survey will be conducted on undergraduate and graduate information science students from the Universities of Osijek, Zagreb and Zadar.

An attempt will be made in this paper to identify if there exists any criteria for the selection of digital information that will remain preserved for the future other than pure chance. In the words of Sarah Kim "we are heading toward an increasingly individually-focused culture where each individual becomes a central unit of social action" (Kim, 2010, p. 47). This is why this paper argues it imperative to convey the importance of personal digital archiving within this population, which carries upon it the mark of the digital era. It is hoped that it will contribute to raising awareness about this question.

Introduction

Personal archiving is an important part of the concept of personal information management, which implies acquiring, organizing, using and preserving information for personal use. It is then no wonder that, since entering a new era characterized by a great amount of content generated on a daily basis, personal digital information (PDI) archiving has emerged as a topic vividly discussed. The intention of this paper is to provide a preliminary insight into the extent to which the students of information science differ in their PDI archiving habits, compared to other examinees of previous studies. There have been studies intent on examining students' habits and actions regarding the information they interact with in different circumstances, but none on a sample as is chosen in this study.

Regardless of the level of awareness, the urgency of preserving digital personal information is rarely recognized by individuals enough to induce a concrete and systematic care for it. Marshall (2007) claims this is a result of a still prevailing technological optimism, that is, the belief that the problems will resolve themselves in time, and with progress. However, to anyone remotely interested in the problem of PDI it is clear that the only way of preserving digital information is actively engaging in its preservation. Many studies and papers tried to tackle the problem of what those actions should be and how individuals should approach them. The process of PDI archiving is set in motion as soon as an individual has encountered information and decided to keep it for future use. As Bruce, Jones and Dumais (2004) assert, "Keeping acts are interventions by the individual". However, often "a leaving method will be preferred under the assumption that a person in question will be able to locate the information source again if a need arises", the same authors point out. Williams, Rowland & Leighton John (2009) noted a large number of keeping

methods, such as sending an e-mail with a URL to one-self or others, saving the entire Web page or printing it out, bookmarking it, or pasting a link into a separate document. Bookmarks and favourites were identified as the most common methods of keeping information. The authors also observed that often people will rely on re-accessing information by searching again for the desired Web information, entering URL from memory (using browser suggestions as help) and reaching it from a known point of access (i.e. a Web portal). This approach is known as leaving methods. Certain questions from that study revealed that most examinees overlooked the steps of transferring or deleting files they no longer needed despite being aware of the future complications it could induce in time (Williams, P., Rowlands, I., Dean, K. & Leighton John, J., 2008). The authors go on to conclude that the perceived value of a digital artefact will determine whether an individual will attempt to preserve it by creating a backup version and/or creating a hard copy of it. In a previously mentioned paper by Marshall (2007) the author detects that, in addition to skipping the step of creating backups of their documents and digital artefacts in general, people are also quite unfamiliar with formats available for saving them. She further hypothesizes that the tools for PDI archiving that are growing in number and availability in the current digital environment are the best strategy currently available for providing the favourable circumstances to successfully archive digital artefacts. These findings are compared to data collected from Croatian students of information science who participated in this study.

For students in general, PDI archiving intertwining the personal and formal spheres of digital lives presents a complex problem. They are often unaware of the amount of content they interact with and generate on a daily basis. This situation is not promising for the future accessibility and usability of different artefacts that could be of interest, to both the creator of the content and other potential interest groups. When one considers the PDI environment youth functions in, a problem of increasingly fragmented methods and applications used for archiving arises (Robinson, S. & Johnson, F., 2012, p.3). This fragmentation is visible not only in the multiple technologies and versatile gadgets accessible for generating and accessing different content, which in turn provide a wide variety of platforms for archiving options, but also in different strategies, multiple social networks, tools and cloud systems used, along with many other options an individual chooses from with each attempt at PDI archiving. The information is scattered over different platforms and units such as CDs and

USB memory sticks, social media sites such as Facebook and Flickr and in many variants, various file formats and so on (Korhonen, M., 2013. p.85). This is why Beagrie (2006, p. 12–13) argues that the only way for society and individuals to preserve what he calls digital knowledge useful and useable is to continuously update, maintain and access it, as well as put significant effort into long-term preservation.

The enormous amount of information has earned today's youth the nickname of Generation C (for content). And the extent of it continues to grow. A case study examining how graduate students manage digital scholarly articles found differences in practice over different subject disciplines and between genders, and also the aforementioned use of multiple approaches and management practices (Huvila, I., Eriksen, J., Häusner, E. & Jansson, I., 2014). All of the mentioned findings have been taken into account in the attempt to determine existing distinctions in practices of PDI archiving by information science students in Croatia.

Personal digital information archiving among the information science student population

Aim, purpose and methods of the study

This paper is based on the results of a survey conducted on a sample of 220 information science students from three different universities in Croatia: the University of Zagreb (the Department of information and communication sciences), the University of Zadar (the Department of information sciences) and the University of J. J. Strossmayer of Osijek (the Department of information sciences). This approach was chosen in an attempt to explore the practices and contributing factors of personal digital archiving among future information science experts, their level of awareness of this issue and the way their education influences their practices regarding the matter. Their practices and opinions were explored via an online questionnaire, in order to answer the following research questions: Are future information experts aware of the problems of personal digital archiving? What actions do they engage in trying to preserve their

digital artefacts? And finally, do they feel the amount of content weighing down on them?

Based on the previous research discussed earlier, in this study it is hypothesised that:

1. the level of education and awareness of the importance of information for today's world increases and
2. gender a) influences the level of awareness of the importance of personal digital archiving, b) induces more effort to be put into organizing personal digital artefacts and c) helps lower the feeling of information fatigue.

This paper aims to raise the questions of the imperatives in personal digital archiving. It is hoped it will bring about further research that will give better insight into the problem of this specific interest group, for who should be aware and prompt the explicit and tangible actions in this field if not the young information scientists belonging to "Generation C". The objectives of the conducted study concern the attitude these groups have towards the content they generate and how they endeavour to preserve their digital artefacts specifically.

Results and discussion

General information about respondents

Considering the sample chosen for this research it is not surprising that the number of female participants exceeds the number of male ones; 79,5% (175 participants) were female, while 20,5% (or 45 participants) were male. Most of them, 63,2% (139 participants) claim to have taken classes regarding information and data preservation in the course of their education. Data regarding their level of education and programme were also gathered (Table 1). The results were then compared to the questions concerning the level of awareness with respect to the care over personal digital artefacts, the effort put into it, and subsequently, the level of information fatigue felt; 47,3% (N=104) feel it, 20,5% (N=45) don't and 32,2% (N=71) don't think about it.

When asked whether they think taking care of digital documents in their personal collections was important, a great majority answered affirmatively, namely 94,5% (N=208) while 5% had no opinion on that subject (N=11). Only one person considered it unimportant, i.e., 0,5%. A similar situation occurred regarding the question of the effort put into organising, when a vast majority of 90,9% (N=200) again agreed that they strive to organise their digital belongings, while only 2.3% (N=5) of the sample claimed not to put any effort into it. The remaining 6,8% (N=5) neither confirmed nor denied any effort. This implies that the students of information sciences in Croatia are generally conscious of the impact their digital lives have on their digital collections and at least make attempts to keep them organised.

However, when it comes to managing their collections further down the line, it seems they fall behind a little. For example, only 44,5% (N=98) claim to delete documents they no longer need regularly, but the numbers go up 47,7% (N=105) when those who claim to do it "sometimes" are taken into account. Again, a much smaller percentage of 7,7% (N=17) claim not to ever take this action. This may, along with the fact that this is a hectic era of immeasurable amounts of digital contents, be part of the reason why number change gravely when it comes to information fatigue.

Migration and data management

Revisiting previously saved data and checking it regularly is one of the actions most often mentioned when it comes to specific activities attainable for prolonging the lives of artefacts constituting digital collections (Table 2). However, being very time-consuming, this crucial practice is often either completely overlooked or done insufficiently enough, without premeditation.

Department	Undergraduate level	Graduate level
Department of information sciences, Osijek	28,2% (N=62)	11,3% (N=25)
Department of information sciences, Zadar	6,8% (N=15)	13,2% (N=29)
Department of information and communication sciences, Zagreb	15,5% (N=34)	25,0% (N=55)

Table 1 – Participants by department affiliation

Further on, migrating materials from medias no longer used is equally unorganised and lacking a strategic approach (Table 3). Even among those who recognise its importance and practice it, it's apparent they only do it with materials they themselves find important. This, in turn, brings up the question of selection criteria. Also, who can claim with certainty that some information will not be considered important in the future?

Only one (0,5%) of the participants answered that she doesn't practice migration, as she said, "although I think I should". Others have claimed they can find anything they need online or that they probably already have it somewhere on their computers, so they don't see why they should migrate from old medias.

Another, perhaps more familiar method in digital information archiving is creating backup. Again, backup will mostly be created for information individuals estimate consider valuable enough to put in the effort (official documents), or they will just randomly choose "on the go" without applying any particular strategy (Table 4).

Organising practices

In order to gain insight into the ways information science students organise their collections, the participants were asked a series of multiple choice questions regarding the actions they take to organize documents, as shown in the Table 5.

Purportedly, most of the participants organised their documents in folders. Detailed actions are represented in the Table 5.1 below, expanded with comments implying alphabetic, enumerative, theme and date-related strategies. Only one person claimed to have used an indexing tool in document organisation, called "Where is it?"

Table 6 represents a comparison of actions practiced depending on the nature of the content. Others have answered that they don't download content from the Internet at all, but simply access it online when the need arises.

I regularly check all the data once saved	12,7% (N=28)
I regularly check the data once saved only if I find it important	32,3% (N=71)
I only check saved data when I need it.	53,6% (N=118)
Other	1,4% (N=3)

Table 2 – Digital data and collection management

I strive to migrate the content from old media	16.8% (N=37)
I only practice data migration with the most important information	54.5% (N=120)
I migrate information randomly, without any criteria	16,8% (N=37)
No, I don't consider it important	9,5% (N=21)
Other	2,3% (N=5)

Table 3 – The practices of migrating digital data

I backup all my content	15,5% (N=34)
I only backup official documents	26,8% (N=59)
I only backup my personal photos and videos	7,7% (N=17)
I create backup sometimes, randomly	25% (N=55)
No, I have no need for it	25% (N=55)

Table 4 – Backup

Organising in folders	94,5% (N=208)
Adding metadata	36,4% (N=80)
By separating formal from informal data	47,3% (N=104)
Using a tool	0,5% (N=1)
Other	N=0

Table 5 – General organising practices

Organising method	Percentage (frequency)
By date	22,7% (N=50)
By document type	54,5% (N=120)
By importance	77,3% (N=170)
Other	2,7% (N=6)

Table 5.1 – Organising in folders

Digital data management actions	What do you do with files you think you might need again?	Where do you file copyrighted content you downloaded from the Internet (music, films, books, etc.)?
I file them on my PC.	15,5% (N=34)	89,1% (N=196)
I make several copies and save them to different devices (e.g. an external hard-drive, another computer...)	35% (N=77)	16,4% (N=36)
I transfer them to a cloud (e.g. Dropbox)	31,8% (N=70)	5,9% (N=13)
I bookmark or pin it in my browser.	39,5% (N=87)	16,8% (N=37)
I email myself an attachment or the URL.	50% (N=110)	10% (N=22)
I save the URL to a file on my PC.	15,5% (N=34)	8,2% (N=18)
I print the hard copy.	20,9% (N=46)	N=0
I save them to another medium (CD, DVD, Blue-ray)	15,9% (N=35)	19,5% (N=43)
I copy the most important information to a separate file	19,5% (N=43)	N=0
I save the entire Website to my PC	9,1% (N=20)	N=0
Other	0,5% (N=1)	1,5% (N=3)

Table 6 – Digital data management: comparison

Social platforms

Table 7 represents answers to the question of which social platforms participants use for the storage and organisation of photos. Other suggested platforms included Tinypic, Ptičica, Picassa, Imgur, DeviantART and Fotozine.

25,5% (N=56) of participants claim to use social platforms in data organisation, 25,9% (N=57) only use it when informal information is in question, while as much as 48,6% (N=107). Organising practices in this environment are quite different from those previously discussed. Dif-

ferent options are available and utilised, as shown below. Other answers included "I don't organise pictures", "I send them to someone" and " I tag it with my surname (e.g. #surname)".

Formats

44,1% (N=97) of participants pay attention to formats used in data storage while 55,9% (N=123) don't. For text documents, the most frequently used format is pdf, photos are mostly saved as jpg documents, while mp3 and avi are most frequently used for long-term preservation of

Flickr	2,3% (N=5)
Tumblr	8,6% (N=19)
Facebook	59,1% (N=130)
Twitter	2,7% (N=6)
Instagram	14,1% (N=31)
Pinterest	5,5% (N=12)
None of the above	28,6% (N=63)
Other	5% (N=11)

Table 7 – Social platforms used in organising photos

Organising in folders	50,5% (N=111)
By tagging people	38,2% (N=84)
Using hashtags (#)	10% (N=22)
Adding descriptions and annotations	24,5% (N=54)
Other	10,9% (N=24)

Table 8 – Organising in social platforms

Format used	Percentage (frequency)
pdf	40,5% (N=89)
doc	35% (N=77)
odf	0,5% (N=1)
txt	13,6% (N=30)
html	3,6% (N=8)
rtf	2,3% (N=5)
Other	0,5% (N=1)

Table 9 – Textual documents

Format used	Percentage (frequency)
jpg	40% (N=88)
jpeg	27,7% (N=61)
Png	20,9% (N=46)
Bmp	5% (N=11)
Tiff	2,3% (N=5)
gif	0,5% (N=1)
Other	2,9% (N=6)

Table 10 – Photos and visual content

Format used	Percentage (frequency)
Mp3	41,8% (N=92)
Mp4	19,5% (N=43)
Wma	14,1% (N=31)
wav	6,8% (N=15)
Aiff	0,5% (N=1)
Au	N=0
Other	2,3% (N=5)

Table 11 – Audio content

Format used	Percentage (frequency)
avi	34,1% (N=75)
mpeg	33% (N=15)
dvd	10,5% (N=23)
divx	9,5% (N=21)
Wmv	6,8% (N=15)
Mkv	13,2% (N=29)
Other	1,8% (N=4)

Table 12 – Video content

audio and video content. Detailed answers are presented in tables 9 to 12.

Conclusion

The gathered data show no correlation that the effort put into organising digital information is in any correlation with the university attended, but it does seem that graduate students are more prone to attempts of organising it than undergraduate students and, interestingly, so are female compared to male participants. Students who have already taken classes affiliated to the subject of personal archiving and preservation are not only more likely to try to organise their materials, but also agree to a greater degree that this is an important

issue. The level of education, university or gender does not, however, influence the level of awareness on this matter. Data also implies that everybody, regardless of factors, feels the same amount of information fatigue. It has therefore been concluded that:

- the level of education and awareness of the importance of information for today's world raises
  a) the level of awareness of the importance of personal digital archiving,
  b) the effort put into organizing personal digital artefacts, and
  c) helps lower the feeling of information fatigue,

- while gender
  a) has no influence on the level of awareness,
  b) influences the amount of effort, put into organising personal digital information (female participants put in more effort), but
  c) doesn't influence the feeling of information fatigue.

Many other conclusions could be drawn from this data if not for the space limitation. Even so, this is only an outline of the personal archiving habits of Croatian information science students. It is recommended that a more extensive qualitative study be conducted on this subject.

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INFORMATION PROBLEM SOLVING BY STUDENTS FROM DIFFERENT FIELDS OF SCIENCE

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Abstract

Information seeking and searching is a complex cognitive process often used by students for resolving their academic tasks. In order to find relevant literature and sources for those tasks (e.g. seminar papers) they search the World Wide Web.

The purpose of this study is to identify the information problem solving model of students from different fields of science (social sciences vs. technical sciences vs. natural sciences). Also, the goal is to identify the information search techniques and strategies used by students as well as differences in their usage (depending on different subject fields) and obstacles they encounter.

In the context of information seeking and searching and information retrieval, library and information professionals have one of the major roles. They often do the task of information and literature research for seminar papers instead of students and are also responsible for educating students how to search relevant information on internet. This study also includes the library and information professionals, that is, their experience in student education and perception of user skills during information seeking and searching.

The assumption is that the model and search techniques and strategies of students studying natural and technical sciences differ from the model and search techniques and strategies of students studying social sciences. Specific techniques used in this research are: simulated problem solving task, video analysis, think aloud method, in-depth interview and content analysis. The final purpose of this study is to offer guidelines to library and information professionals for a better library instruction of users based on findings of this study.

Introduction and literature review

Recently, there has been an increase in the amount of information needed to be well organized and accessible to everyone. Many traditional professions (i.e. librarianship) and institutions have been given a new shape and meaning in contemporary society, and the main backbone of these professions and institutions is information. In this context, information specialists play an important role. Their job is to provide quality information and services, to adapt to changes and to use new information technologies. This claim is also confirmed by the author Brand-Gruwell (2005). In view of information technology, attention is mainly paid to the Internet and the wealth of information available online. In order to find relevant literature and sources for their academic tasks, students (users) invariably seek and search for information on the Internet. The process of information seeking and searching literature on the Internet is still not sufficiently explored area and deserves more detailed discussion and analysis. Bates (1996) also shares this opinion. The complexity of this process is discussed by many authors. Marchionini (1995) speaks about five strategies: browsing[1], analytical[2], empirical[3], known site[4] and similarity[5]. About this topic, Wilson (1999) highlights so-called problem solving model which includes: problem identification, defining the nature of the problem, finding answer to the problem using strategies and techniques and answering to the problem. Rowley and Farrow (2007) also distinguish between two types of searching: directed searching[6] and browsing[7].

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1 Intuitive scanning following leads by association without much planning ahead.
2 Explicit consideration of attributes of the information problem and of the search system.
3 Based on previous experience, using rules and tactics that were successful in the past.
4 Going directly to the place where the information is located.
5 Finding information based on a previous example that is similar to the current need.
6 Used by users when they know what they are looking for.
7 Used when the user has a less precise view of the information or documents that might be available and is not sure whether his or her requirements can be met or how they might be met.

Methodology and research design

The study was conducted at the University in Osijek in November 2014. Sample includes four students of third year undergraduate level, studying engineering, chemistry, information sciences and medicine[8]. Interviewed information specialists, also four of them, are employed in the respective libraries related to research of particular area of science. The selection criteria for the test sample are insufficiently explored area of information seeking and searching behaviour of students of different fields of science and curiosities and difficulties that occur. The assumption is that the model and search techniques and strategies of students studying natural and technical sciences differ from those of students studying social sciences. Assumption is also that students of various fields of science have different information needs considering that certain areas of science are advancing rapidly (e.g. Medicine and Chemistry) and demand more recent literature. Taking these assumptions into account, this research puts emphasis on the cognitive process that takes place when browsing the Internet. Method used to examine these assertions is a simulated task, which students resolved in the presence of the researcher. In the process of research, students were asked to verbalize their thoughts and actions while browsing the Internet which were recorded. Verbal report and videos were than analyzed according to Someren, Barnard and Sandberg (1994). Furthermore, in-depth interview was carried out with the information specialist. Interview included questions about possible education and finding aids that library provided students in order to facilitate the process of information seeking and searching and information retrieval of the Internet. The questions also related to the possible education of users while finding relevant literature and relevant electronic resources on the Internet, visibility of the content of library Web site (e.g. the catalog search and databases), existence of a variety of tools, instructions, pamphlets or leaflets intended for easier search and so on. After all, information specialists were asked to provide their views on the habits and search capabilities of their students. Interviews were processed using content analysis.

Analysis of simulated task

The research began by introducing the student of technical sciences, more precisely engineering, with the simulated task which was to find the relevant literature on the topic: deformation of the cross-section of different forms under the influence of stress. The student began his search by visiting the Web site of his faculty[9] and checking what literature is recommended to write the theme of this seminar paper. On reading list for the course he studies, student first found a surname and name of the author of one desired book which is closely related to his topic. Then, student used the author surname and name and searched the faculty library OPAC[10]. After this, student searched Google using keywords[11]. These strategies provided more information on the topic[12], so student visited the Web site "Scribd" (2014)[13] where he downloaded a free copy of the book from the given author for his essay. Since just one book was not enough to fulfill his information need, he continued searching the databases on the Web site of his faculty such as "Croatian scientific portal" (2014)[14], "Hrčak" (2014)[15] and "Project Gutenberg" (2014)[16].

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9   Faculty of civil engineering (http://Internet.gfos.unios.hr/portal/).

10   1. Strategy: Šimić, Vice. The library did not have the required literature.

11   1. Strategy: Cross sectional deformation; 2. Strategy: Cross sectional, stress; 3. Cross sectional OR stress

12   This includes different literature closely related to the topic of the seminar paper

13   Scribd (https://www.scribd.com/). The student conducted same author based search on this website. 1. Strategy: Šimić, Vice

14   Croatian scientific portal (http://www.znanstvenici.hr/). On the Web page of Croatian scientific portal the student conducted same author based search. It was the same author from previous search step. The search provided more information about the author (field of work, author biography)

15   Hrčak (http://hrcak.srce.hr/). On the Web page Hrčak student conducted keyword based search 1. Strategy: Cross sectional deformation; 2. Strategy: Cross sectional, stress; 3. Cross sectional OR stress

16   Project Gutenberg (https://www.gutenberg.org/). 1. Strategy: (keyword base search): Cross sectional deformation ; 2. Strategy: (keyword base search): Cross sectional, stress ; 3. Strategy: (keyword base search): Cross sectional OR stress

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8   Students studying different fields of science were given codes: ES(Engineering student), MS(Medicine student), CS(Chemistry student), ISS(Information Science student).

Furthermore, the student of natural sciences, more precisely chemistry, solved the problem task on the topic: determination of the charge and particle size with acoustic spectroscopy. The student also began the search by visiting the website of his Faculty[17] and started search with Google using keywords[18]. To further expand his research student searched databases[19] offered on the Web site of the Faculty. Most of the found literature was in a foreign language (mostly English) which did not represent any problem for the student.

Student of information sciences who dealt with simulated task on the topic: *information and user behavior when searching the Web with a focus on search strategies and techniques* started his search by searching the public library OPAC[20] and national library OPAC[21]. He

also used databases "Hrčak" (2014)[22] and "DOAJ" (2014)[23]. In the end he used the service "Ask a Librarian" and requested relevant Web sources and articles for the topic of his simulated task.

And finally, medicine student conducted a search on the topic: pancreatic hormones and drugs used to treat diabetes. First, student searched with Google using keywords[24]. Afterward he searched databases and other resources offered on the Web site of the faculty library[25].

In-depth interview analysis of information specialists

First question referred to possible user education, in this case students.

Information specialists (IS1, IS2, IS3, IS4)[26] agreed that most of academic libraries within the Osijek University have user education (e.g. how to search infor-

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17 Faculty of Food Technology (http://www.ptfos.unios.hr/). On the web site student looked for works by professor who teaches courses related to the topic of the simulated task.

18 1. Strategy: acoustic spectroscopy; 2. Strategy: acoustic spectroscopy particle charge ; 3. Strategy: acoustic spectroscopy OR particle charge ; 4. Strategy: general chemistry (the mentioned topic falls under the area of general chemistry)

19 Springer Link: 1. Strategy: (search based on words appearing in title): acoustic spectroscopy

 PubMed: 1. Strategy: (search based on words appearing in title): acoustic spectroscopy; 2. Strategy: (keyword based search): acoustic spectroscopy AND particle charge

20 1. Strategy (keywords based search): user behaviour AND search strategies and techniques; 2. Strategy: (keywords based search): user behaviour OR search strategies and techniques; 3. Strategy: (keywords based search): user behavior AND the Web; 4. Strategy: (keywords based search): information ; 5. Strategy: (keywords based search): information behaviour; 6. Strategy: (keywords based search): seeaking AND searching information

21 1. Strategy: (keywords based search): user behaviour AND search strategies and techniques; 2. Strategy: (keywords based search): user behaviour OR search strategies and techniques; 3. Strategy: (keywords based search): user behavior AND the Web; 4. Strategy: (keywords based search): information ; 5. Strategy: (keywords based search): information behaviour; 6. Strategy (keywords based search): seeaking AND searching information

22 1. Strategy: (keywords based search): searching information; 2. Strategy: (keywords based search): users behaviour; 3. Strategy: (keywords based search): users information behaviour; 4. Strategy: (keywords based search): information users; 5. Strategy: (keywords based search): users behaviour on Internet; 6. Strategy: (keywords based search): users on internet

23 Directory of Open Access Journals (http://doaj.org/). 1. Strategy: (keyword base search): searching web; 2. Strategy: (keyword base search): Information behaviour on web; 3. Strategy: (keyword base search): Information behaviour AND searching web

24 1. Strategy: pancreas diabetes; 2. Strategy: pancreatic hormone, drugs, diabetus

25 PubMed/Medline (http://Internet.ncbi.nlm.nih.gov/pubmed/). Perpetuum lab (http://perpetuum-lab.com.hr/). Ovid (http://ovidsp.tx.ovid.com/). PubMed/Medline: 1. Strategy: (keywords based search): pancreatic hormone ; 2. Strategy: (keywords based search):diabetus Perpetum lab: 1. Strategy: (keywords based search): pancreatic hormone ; 2. Strategy: (keywords based search):diabetus Ovid: 1. Strategy: (keywords based search): pancreatic hormone, diabetes,drugs

26 Information specialists of associated institutions are coded IS1–IS4

mation in library catalogs and databases). Education is offered in English and Croatian (IS2). Students can learn there how to search information in the library catalog by author, by title, by subjects and key words. Tasks are shown on concrete examples and after that students are given tasks which they must solve themselves. At the end of the education most of informational specialists (IS1 IS2 and IS3) give the students information guides where everything is shortly explained. Students are also shown different techniques which are helping them to upgrade their searching strategies and to understand how to come to a certain information source. Information specialists also pointed out that students often come with a specific topic, and then education is based on that topic example.

IS4 quotes that student learn about search strategies and techniques during a course called "Introduction to scientific work". This includes seminars and practice lessons which educate students how to search databases. This course is a primary source of education, and library is the second. Only one institution in our sample (IS3) is not educating students because it has no conditions due to the lack of equipment like computers and appropriate rooms. The rest of institutions (IS1, IS2, and IS4) are educating mostly in groups, but also individually. In most cases education takes place in computer labs in which students can freely search the Internet, and also Web sources which are provided. To conclude, situation is not ideal and according with that, one specialist (IS3) points out that he or she would gladly educate but in order to do that he or she must have necessary conditions.

Also information scientists (IS1, IS2 and IS4) agreed that the younger generations are better in searching the Internet than the older generation. Information scientist admitted that the older generations of students need more help while searching the Web.

Second question referred to the visibility of the content of library Web sites (e.g. the catalog search and databases). Analysis showed that most of libraries have online instructions for searching IS1, IS2 and IS3). Besides, one institution (IS1) on its Library Facebook page has three tutorials (on database search or on the use of library OPAC) for users which have been created by their own information specialists. In addition to a very good visibility of content on Web sites and even social networks, interview analysis shows that the libraries are very prompt in providing different tools for searching the Internet, such as educational leaflets and instructions for search in the very premises of the library, mostly besides computers and on bulletin boards (IS1, IS2, and IS3). One information specialist (IS3) said students get

a leaflet with instructions for searching and instructions for proper behavior in the library when they start studying. Only one information specialist, IS4, stated that the library does not have educational materials in printed form.

At the end of the interview, information professionals were asked to give insight and opinions about their students' information searching behaviour. Information specialists (IS1, IS2, IS3 and IS4) argued that students always begin their search with Google which may not be acceptable because of difficulty to identify relevant information. On the other hand, information scientists point out that libraries offer very relevant and reliable information sources and literature, which means that users do not need to think whether some literature is allowed and relevant (IS1, IS2, IS3, IS4). Typically they want (IS1, IS2, IS3, IS4) to emphasize to users that it is very important that the search of the relevant literature should start right from the pages of libraries and their reliable sources. Most of them (IS1, IS2, IS4) considered that materials that can be found in the online form are of great importance for students because such literature is more readily available and accessible. One expert (IS3) claimed that he does not have feedback on this issue because most students manage on their own while searching literature. It is commendable to point out that information specialists have repeatedly noticed that students often help each other in search of the relevant literature on the Internet. (IS1, IS2 and IS4)

Research results

Search results show that students while seeking and searching relevant literature on the Web rely primarily on Web sites and resources enabled by their faculty. The two out of four students started their search for literature exactly on the faculty Web site where they found the course reading list similar to the problem task. Then they (ES, IIS) searched faculty library OPAC and then offered Web sources such as databases related to their field of study, online articles and scientific portals. All students (MS, ISS, ES, and CS) were expanding their search, accessing databases and scientific portals available on the website of the faculty library, which was in fact to be expected because they are easily available. The most type of searches used were: author search (ES), and keyword search (MS, ISS, ES, CS). Similar type of searches were used in databases. The Google search is mostly a keyword search (ES, MS, and CS).

Given the activity and cognitive processes observed during simulated task, we can conclude that most frequently used search strategies are browsing, similarity search strategy and berrypicking. During the search students constantly changed their strategies. Students also applied general browsing, since they were not familiar with the topic assigned to them, and that type of browsing gave them an opportunity to better define their information need. Only technique they used was Boolean operators (AND, OR).

Based on the analysis of verbal reports and videos of simulated task we can notice how students use multiple strategies and search strategies in interaction.

Discussion and conclusion

Our findings regarding the Internet search behavior of science students revealed the great passivity of students. The passivity of students is expressed in the fact that they apparently tend to look for quickly available sources, for example the OPAC of corresponding faculty, which guarantees the high quality of the information. On the other hand they also search with Google using simple techniques such as enumerating one or more keywords taken from the titles of the simulated task. When browsing and searching, students put the emphasis on speed and time spent, and to sideline the very quality of the source, which is not satisfactory. While searching the Internet, the most used strategy was 'quick and dirty'. A 'quick and dirty' search is a signle search formulation, normally a Boolean combination of terms, to retrieve a few relevant items. Also, students search and take well-known network locations or sources and

where they can almost single-step to get results. This is precisely the reason why students do not engage in the use of advanced techniques and search strategies. Also, by reviewing techniques mostly used by students while seeking and searching relevant information and literature on the Internet, we can conclude that they do not use any advanced techniques and rely mostly on simply listing keywords where all search engines already have AND as a default operator. Although this operator does not have to be entered students still enter it, so the conclusion is that they do not really understand its usage. Operator OR is seldom used, while techniques such as truncation, usage of different spelling variations of words and/or synonyms, search by multiple fields and so on are never used.

So, the assumption that the model and search techniques and strategies of students studying natural and technical sciences differ from the model and search techniques and strategies of students studying social sciences is therefore rejected.

Also analysis showed that information specialists invest effort to properly educate students about the techniques and search strategies that would ultimately facilitate search and retrieval of information and relevant literature on the Internet. Nevertheless, students in our sample demonstrated poor search strategy and techniques. The recommendation would therefore be that information specialists should post tutorials about techniques and strategies of search on various social networks because students are extremely active on them. Also, recommendation is to enable visible online search instructions on the Internet with concrete examples both on the library Web site and by each computer in library.

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LIBRARIES — NETWORKS, CURRENT ISSUES & TRENDS

06.4.1

DO LIBRARY USERS KNOW WHAT THE UDC NUMBER IS USED FOR? THE USAGE OF UDC NUMBERS IN ONLINE CATALOGUES

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Abstract

Universal Decimal Classification (UDC) is a library classification based on the classification of science and is the most widely used classification in Croatian libraries. It is an integral part of a bibliographic record in the library catalogue and can be used for subject searching. Libraries use UDC for subject classification of the library collection and as a shelving system. This kind of shelving system is useful for organizing collection. The first contact users have with UDC classification is during shelf browsing of library collection. UDC number is clearly displayed on every shelf and every book as an integral part of its shelf mark.

The University of Zadar uses OPAC integrated system CROLIST catalogue in its libraries. One of the possibilities for searching the catalogue is searching by UDC numbers. An integral part of the catalogue is also a list of UDC numbers and its captions. These are useful for the users to see which number represents subject area they are interested in. Library users have the option to search through the UDC tables and its numbers which are assigned to them. It can also be used for their further searching for books, whether on catalogue or later on the shelves. Books which belong to the same class can be found by UDC numbers which are assigned to them.

The goal of this research is to analyze if users know that UDC numbers can help them to get more useful information during the exploration of the library catalogue. The participants of this study are students from the University of Zadar, who are also users of Zadar University library. This research will show whether students are aware of the existence of UDC numbers. It will also show if it serves its purpose as an information retrieval tool for more precise catalogue search. This research will also focus on investigating whether users would use UDC numbers if they were more familiar with its possibilities as a tool for organizing information. The main focuses of this research are library users and their attitudes and knowledge of the usage of UDC numbers in their search for information.

Previous studies showed that regular users did not use search by UDC numbers. The users can find relevant information more quickly by browsing and navigating through UDC numbers. Library users are usually not aware of the possibility of classification system in their catalogue search.

This paper will examine information behaviour of library users and their usage of UDC numbers when searching library catalogues. In addition, it emphasizes the fact that the knowledge of the classification of science can help students in finding information.

Introduction

Universal Decimal Classification (UDC) is the most widely used classification in Croatian libraries. Libraries use UDC for the classification of the library collection, as a shelving system and for the implementation in the catalogue as a source of information about the subject of specific library collection. Croatian libraries use integrated OPAC catalogues, one of which is CROLIST, which is used in the University library in Zadar. Library users are in constant contact with the library catalogue, either directly using it or with the help of the librarian who is using the catalogue for finding information. By using the library in open access, library users are in contact with signature marks which are assigned to books, signalling in the library is made according to the location of the library material, respectively, by UDC. The question is in which amount the average library user notices UDC numbers in the library or on books, is he or she noticing numbers during the catalogue searching? Respectively, does the knowledge of the classification of science and UDC numbers facilitate finding the needed library material in the catalogues? This paper will present the level of knowledge of using UDC classification in OPAC catalogues by analyzing the results of this research which was conducted by surveying the students of the University of Zadar.

Universal Decimal Classification

According to UDC Consortium, "the UDC is the world's foremost multilingual classification scheme for all fields of knowledge and a sophisticated indexing and retrieval tool. It is a highly flexible classification system for all kinds of information in any medium." (UDC Consortium) Mcllwaine (2004) states that UDC is originally designed as a tool for sorting comprehensive information in large card catalogues, unlike other classifications whose main function was organization on the shelves. UDC consists of a clear and logical theme organization and in its scheme it is capable of synchronization and simplification, that is, the classification is adjustable to different situations. It contains a clear and well defined structure and due to its possibility for synthesis, it is capable of expressing concept with great precision. In comparison with other classifications, it also precedes because of its independence in terms of language as it uses Arabic numerical designations which are widely comprehensible. Therefore, it is not based on natural language because language usage, as the main anchorage of the classification can lead to misinterpretation of the meaning. Systems which are not based on the natural language do not allow the user to see the structure of the entire subject area or to search the area hierarchically, to the top or to the bottom, that is, to use all the possibilities the classification offers. The classification is used as a basis for the organization of items on the shelves in the majority of libraries in the world, as well as in Croatia. The most common way of usage of UDC in Croatian libraries is during the organization of items on the shelves. It is also used as a system for arranging books according to the classification of science, which is determined according to the content area of the specific item. Many libraries use a simplified version of UDC number for the purposes of the organization of books on the shelves so there wouldn't be mistakes during searching complex notation on the shelves. Complex notations can be worked out during recording in the library catalogue, that is, in the cataloguing record. UDC usage for marking items allows the user to become aware of UDC classification as a tool for the classification of science. "In its role as a way of ordering books in a library, it needs to have a reasonably simple and concise notation. If it aims to cover all areas of knowledge, it needs to have a sensible arrangement of concepts in each discipline, even where the same entity is studied in more than one discipline." (Buxton, 2011, p.17) Mcllwaine (2004) states

that the usage of the classification as a help during the subject searching considerably improves search results and their precision and recall if the original notation is assigned during the subject analysis. It can also be used as a help function during the purification of search results or their broadening and it can show the user the structure of the subject he is interested in. "If we know one relevant book with the shelf mark xyz, we can go to xyz on the shelves or in the index and see if there are any more documents classed there." (Buxton, 1990, p.194) Successful subject information retrieval depends on well-structured subject language. "A subject language is used to depict what a document is about. The objective it serves is primarily those of the collocation of documents that have the same information content and the navigation of users through the bibliographic universe qua the universe of knowledge." (Svenonius, 2000, p.127) Collocation objective facilitates finding specific needed document through subject language, that is, "gauged by the twin measures of precision and recall" (Svenonius, 2000, p.127). Classification subject language is based on connecting verbal expressions with sign systems. Subjects are laid out systematically in the classification schemes, i.e. by scientific field and then by the theme and for navigating among hierarchical organization of the classification alphabetical indexes are needed (Svenonius, p. 200). "Documentary classifications are the oldest and the most important tool for knowledge organization in libraries and library catalogues seem to be the natural environment to observe the use of classification in information retrieval (IR)." (Slavić, 2006, p.151)

Information retrieval in OPAC catalogues

The usage of UDC numbers as a tool for subject approach has numerous possibilities because of its characteristics such as: it is a universal classification which covers overall human knowledge, it is under constant revision, new needed areas are created and for its synthetic structure it allows punctuality in describing documents, unlike other classifications which are allowing to describe a broader term (Buxton, 1990). UDC represents an ideal classification for the usage in OPAC for its possibilities of searching by narrowing the notation. Mcllwaine (2004) states that most libraries ignore this possibility of classification when choosing a system, she pointed out that is necessary to explain the users in detail in what way to use the classification in the catalogue, and the problem

appears when libraries don't inform their users enough about the different advantages of different approaches during information retrieval. It is necessary to make understandable and concise instructions for the classification use during searching. Instructions have to be accentuated in order to be visible to users. According to Slavic, subject searching can be seen as research and is similar to a learning process. (Slavić, 2006, p.150) Library catalogue should be perceived as an educational tool. The user needs to be able to learn during searching the catalogue. User interface is often stated as an important feature of subject searching, libraries have to offer their users quality and distinct graphical interface, which should contain classification scheme which supports its searching, i.e, its narrowing and broadening. Buxton (1990) suggests solutions of problems which appear during the implementation of the searching by UDC numbers in the catalogue. Firstly, UDC numbers should be split with spaces so simple classification numbers could be searchable independently. Further, he suggests the replacement of punctuation mark with letters and better consistency in creating similar UDC numbers. Usage of hierarchical characteristics of UDC schemes enables clear content description, that is, UDC is helping during the narrowing or broadening relations concepts, which resolves the problem of many information retrieval systems and that is the impossibility of answering on the broad query of the user or its narrowing (Buxton, 1990, p. 114–115). These suggestions are still not implemented in catalogues.

OPAC of the University library in Zadar: CROLIST

University library in Zadar is using integrating library system CROLIST, developed and maintained by Croatian company Unibis. Integrated library system CROLIST is used in large number of Croatian libraries since 1996 (Unibis, 2014). Interface of the library catalogue CROLIST legs behind the modern third generation OPAC's in terms of its retrieval possibilities. FRBRized catalogue VERO, which belongs to the third generation of library catalogues is implemented in the union catalogue, but it's not implemented in all libraries. Simple search offers catalogue searching by: keyword, author browse, words from title and language, subject browse, UDC, ISBN, ISSN, ISMN and identifier. It is also possible to limit the search by: language, bibliographic level, type of record, form of contents and year of publication. The cat-

alogue also offers the possibility to limit the number of records per screen (20, 40, and 100). The catalogue has an option of advanced search, which is confusing for average users because they don't understand the meaning of specific library terms offered as an option for catalogue searching. Help function and examples in simple search is available at the bottom of the library interface but are non-transparent and not clearly explained to the user. Clearer instructions and examples are listed on a separate page of the catalogue, but they are visually not appealing to users and this is not properly explained on the library interface. Example for catalogue searching by UDC number indicates that one must write number of the UDC class which we want to search. By writing the UDC number, the catalogue is giving the user the answer in which it delivers a list of catalogued items which are classified by that certain number. In order to successfully search the catalogue by UDC numbers, the user must know the exact notation mark of his area of interest and has to be well-grounded with the classification scheme in order to use this possibility of catalogue searching. If the user writes a wrong number in the search box, i.e., if there is no item corresponding to that number, the user gets the information from the catalogue that there was an error in searching. Only when the user makes that error, the catalogue offers him UDC scheme as an alternative for browsing by subject. UDC scheme consists of the list of all notations and captions of particular classes of UDC classification in the catalogue, that is, it shows the classification of library materials. Other way of getting to this list of UDC scheme is if we search the empty field of the search box. The catalogue shows an error, but it also gives the possibility of browsing the UDC scheme. UDC scheme in the catalogue offers the possibility of navigating and browsing and searching by captions but not by UDC numbers itself. The only numbers which can be searched in this scheme are the subgroups of the described field, which don't have defined meaning. The area in which a certain number belongs is represented only by its position in the scheme and some numbers are truncated. Every item in the bibliographic record has assigned complex UDC numbers and its complexity depends on how a certain library devotes to the classification. In the bibliographic record UDC numbers are represented by numbers which can be searched, i.e. there is a link on the UDC class to which a certain number belongs. Complex notation can't be searched in the catalogue, which is not user-oriented.

The goal and purpose of the research

The goal of this research is to question to what extent are students, as users of University library familiar with UDC and the possibilities of the library catalogue during searching. The purpose of this research is to show whether users would use UDC numbers as a tool for subject catalogue search if they were more familiar with the possibilities of knowing the classification of science, that is, if they would use this possibility if they knew they would get the required literature with the help of UDC numbers.

Methodology

Research methodology is based on studying the literature from the field of information retrieval and usage of UDC in the purpose of searching OPAC catalogue. The research method was an online survey and the research sample represents students. The aim was to question the knowledge of students considering the possibilities of online catalogue searching with the help of UDC.

Research

The survey was conducted in the period from 20th November to 2nd December 2014. It was designed for students of the University of Zadar as primary users of the library and its online catalogue. It was conducted online and set on the Facebook group of the University of Zadar and was also sent to students by e-mail. The survey consists of 10 questions (from which 3 questions are general questions about the course of study of respondents, their year of study and gender). The survey was completed by 79 respondents; 76 respondents filled out the survey properly. Respondents consist of population of 85% female and 15% male persons. 89% of responded positively on the question about using the University library. Target group of the respondents were users of online library catalogues. The respondents who don't use the library catalogue didn't have to fulfil the entire survey. From the sample of 76 respondents, 67% of them answered that they are using the library catalogue. It is interesting that 2 respondents answered that they are not using the University library but they are using the catalogue. The respondents who are not using the catalogue outlined the reasons. Most of them

get their answers directly from librarians or stated that library doesn't have resources they need. Questioned about which search options they are likely to use when searching the catalogue, most users responded: by key words, by title and then by the author. When asked about their familiarity with UDC classification, contrary to expectations, 51% of respondents (from a total of 51) answered that they are familiar with the term UDC and 25% answered that they searched the catalogue by UDC. When it comes to the usefulness of the scheme display of UDC in CROLIST catalogue, most respondents (67%) are familiar with that option in the catalogue. As for searching the catalogue by a certain area of science, only 8% (i.e. 3 respondents) had negative answers, that is, 94% of respondents see the benefit in the display of meaning of UDC numbers. The respondents answered that they would search also by UDC numbers if they knew their exact meaning, that is, 75% of them would search the catalogue by UDC. The last question in the survey referred to the library use, that is, habits and behaviour of users were questioned. It shows that those who said they do not search the catalogue, and who responded to the entire survey, also resolve their queries and search for books directly with the librarians. The people who use the library catalogue said that they know where the books are but they also ask librarians for help. We can conclude from the responses that quite a number of users also use the instruction on the library shelves, that is, UDC number and its caption as help when searching the literature on the shelves.

This short research showed that some users who search the catalogue are not aware of the possibilities of searching by UDC numbers, but it gives the librarians the idea that they should highlight the meanings of UDC numbers in its catalogues and the libraries itself so users could understand it better and use it more. The respondents, users of the catalogue answered positively on the potential usage of meanings for the purpose of searching so the librarians should use that potential for the education of users about the possibilities that UDC classification offers.

Conclusion

Universal Decimal Classification is one of the oldest classifications which are in use today. Simple usage, hierarchical structure and synthetic feature allow the user creation of complex record in which a given subject is easily described. Study of the literature of subject and classification area reveals a part of the field which is of-

ten neglected, and that is the usage of the classification for retrieval needs. There are examples that show that UDC can be used as a tool for searching OPAC catalogue. Universality and hierarchical structure of UDC system offers numerous possibilities of combining the search and better narrowing and expanding of the research itself. By using UDC, the user is able to get to the new information, which maybe hadn't been searching and it can be useful in his further work. Also, searching UDC structure offers numerous possibilities for the library to determine classification numbers of its materials better and so inserting UDC numbers in integrated library catalogues helps users in finding the answer on the set query. Users, who are introduced with UDC on the library shelves, depend on the clarity of library signalization on the shelves. It is possible to teach users parts of UDC and simplicity of usage during the reading of signature marks on the books. In this way, the library user can search the library independently and reveal the required information or some new, interesting finding. The previous research showed that UDC, as the information retrieval tool goes often unused, although it implies the numerous possibilities of this kind of searching but the average user is not aware of this possibilities of search-

ing OPAC catalogue. This short research also confirmed that. Users of the online catalogue are not aware of the possibilities which UDC offers for the purpose of searching the catalogue. Literature also often points out the importance of the graphic interface of OPACs, as well as an easy access to all the possibilities of catalogue searching. The conducted research started with the assumption that larger number of students don't know what UDC number is. But, on the contrary, respondents mainly knew what UDC is and used it in catalogue searching. The research showed that a large number of users are familiar with the possibility of CROLIST catalogue in which UDC scheme is shown. But, most of users don't search catalogue UDC numbers. We can only assume that these users found out this information by putting a wrong query or searching the catalogue thoroughly and systematically. Answers to this question imply that users of the catalogue are not informed enough of the possibilities of searching that the catalogue offers which also leave some room for the improvement of search instructions which are located on the catalogue interface. In order to improve quality of search of the catalogue it is necessary to teach the users and to show them all the possibilities that catalogue search by UDC offers.

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06.4.2

IFLA – BE A PART OF INTERNATIONAL PROFESSIONAL NETWORK

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Abstract

International Federation of Library Associations – IFLA is an independent, international, non-governmental, non-profit organization with over 1500 member associations and institutions in approximately 150 countries. Its aims are to

- promote high standards of provision and delivery of library and information services
- encourage widespread understanding of the value of good library and information services
- represent the interests of IFLA members throughout the world

There's President, Governing Board, Officers, Divisions... Sounds a bit like EU, doesn't it? a remote, stiff organization with no interface to everyday work or even LIS studies? So wrong! IFLA might be mighty big, but the actual work is done in smaller groups, by actual people. Like me. Like you in the future, maybe.

Sections and Special Interest Groups carry out the strategies and core values IFLA, of which **freedom of access to information and freedom of expression** are the most important. There is a Section or Group for (practically) everything, from preserving rare manuscripts to latest IT innovations, from environmental sustainability to LGBT.

Section Libraries for Children and Young Adults

- organizes sessions in IFLA conference and separate satellite conferences
- publishes guidelines, statements, articles etc.
- encourages librarians and interested people to share experiences, ask for advice, participate in discussion at Facebook, mailing list etc.
- carries out 2 worldwide projects for literacy promoting and improving the knowledge of library professionals:
- The World through Picture Books
- Sister Libraries program

What is it for you?

IFLA offers students and young professionals a great opportunity to be involved in international network. You can join the conferences or send a proposal to present your study/case (call of papers were announced in January), take part of discussions on our Facebook page, participate in our project and programs, all in all become an active member of the library community.

You will benefit of having international network of similar minded professionals, a possibility to take actions in issues you find important. And we at Section Libraries for Children and Young Adults welcome each and every new active person.

IFLA

The massive organization consists of members, which can be libraries, organizations or individuals. The headquarters, situated in the Hague operates as facilitating the work and offering support to members and audience. Operative leadership is carried on by the President, my fellow Finn Sinikka Sipilä at the moment. IFLA headquarters works on the key initiatives, which are

- Digital Content Programme: Driving access to content, and digital resources, for informed library users and communities
- International Librarianship Leadership Development Programme: capacity building to raise the voice of the profession nationally, regionally and internationally
- Outreach for Advocacy and Advancement of the Library and Information sector: connecting, collaborating, representing strategically
- Cultural Heritage Disaster Reconstruction Programme: Culture is a basic need, a community thrives through its cultural heritage, it dies without it

To accomplish these initiatives, IFLA publishes standards, statements, guidelines, articles and publications

concerning libraries, information and freedom of access of information. Along the most recent statements are Lyon declaration (http://www.lyondeclaration.org/) and IFLA trend report (http://trends.ifla.org/) which aims at reviewing the changing outlines of library present state and development.

IFLA is divide into smaller divisions and they are divided into Sections. A lot of practical work is done by Sections, groups of members (both organizations and individuals) who share the same interests. You can see the number and names of Sections at IFLA website. I am representing Section Libraries for Children and Young Adults. I'm a member of Section Standing Committee, Info Coordinator and also Coordinator of Sister Libraries program.

Section Libraries for Children and Young Adults

The Section Libraries for Children and Young Adults (later on text Section CYA) has 22 members. It has two annual meetings, one in IFLA WLIC (World Library and Information Congress) and the other one during the spring. The work is conducted by a Chair, helped by secretary. Info coordinator takes care of the communication issues. Being a member of a Section is a position of trust, so no fees or salary but an interesting viewing point of relevant issues and a possibility to make a difference and be an active part of library community. Everything the Section decides and suggests, should be valid all throughout the globe, both in developing countries as well as western countries. The Section's work can be divided into 4 categories: organizing sessions and satellite meetings, publishing, facilitating library professional's networking and carrying out projects.

Conferences: sessions, satellite meetings

At the massive IFLA WLIC annual conference every section organizes sessions about relevant issues. CYA has a meeting (divided in 2 sessions) plus 2–4 sessions. They are all free and open, so a good way to get a glimpse on the work is to come see the meeting as an observer. Two next conferences will be a bit far: 2015 conference will be held in Cape Town, South Africa. The theme is "Dynamic Libraries: Access, Development and Transformation". 2016 conference is going to take place in Columbus, Ohio, US. This is my speculating only, but probably 2017 con-

ference will be held in Europe again. The Section meets in March 2015 to have a midyear meeting in Romania.

In Cape Town next year, Section CYA will organize 4 sessions:

- Session about the ongoing projects and celebrating the 60th anniversary of the Section
- An off-site session away from Conference center, at a library
- Session about library partnerships and collaborating possibilities
- Session about African libraries

Also the sessions are open for everyone. The documents from the IFLA Conference are stored in IFLA Library, from where they can be read and uploaded later.

Networking and publishing

We encourage library and information professionals to take part in discussion about library services for children and young adults. The Section has a facebook page, mailing lit and also web pages on IFLA website. Just recently we changed our Newsletter to be a collection of themed online articles, the newest articles are about creating content together with young library clients. You can see the articles on the web pages. Next call for articles will be in May 2015, when the theme will be **non-fiction**. If your thesis, internship or project work would suit to the collection of articles, send your proposal to Info Coordinator (me for the time being). Just follow our FB and mailing list for deadlines. Interesting articles, research results etc. concerning library services for children and young adults can be published on our web pages also during the year. Contact Section Chair and Info Coordinator for more details.

Everyone is welcomed to post on Section facebook page or add a question, call for papers or other library related news on the mailing list. Also feel free to subscribe the mailing list! a place for internship, topic for thesis or other valuable information may be as close as Facebook.

On the IFLA website there is an array of statements, guidelines and standards. At the moment we are working on updating guidelines for library services for children (0–13 years) and Online safety guideline. Follow the communication channels about the proceeding of these statements.

Practical work: projects

IFLA encourages Sections to engage in practical projects, to improve the knowledge and networking of library professionals worldwide. Section CYA have had

projects like *Books for All: An international project for children's libraries in developing countries* or (before the time of intelligent search bots) a collection of research abstracts. At the moment there is one ongoing project, one program and one set of ideas for the next project. The difference between project and program is funding: initial funding for a project comes from IFLA. After some years the project is either completed or it becomes a self-sustainable programme. Outside funding is also allowed, as it it the case with our program.

The World through Picture Books -project

Initiated in 2011, the project has 2 parts: a published/online catalog of good quality picture books from different countries and 2 moving collection of the books. The catalog's 2nd edition will be published in December. The book collections are situated in France and Japan, and they are free for loan for libraries or other institutions.

Sister Libraries Program

The Sister Libraries program aims at strengthening international exchange and networking of library professionals and also young library audiences. The project had its final IFLA funding year 2013, 2014–2015 we received a fund from Norwegian trade union Fagforbundet. At the moment, I am working on finding sustainability of the project from year 2015. The program

is free and open for all, you don't need to be a member of IFLA to participate.

Plans for a new project

Both of the programs, especially Picture books are aimed at youngest children. There is a constant wish to create something to support the work of librarian who works with young adults and teenagers. Therefore, a new project is under planning.

Your possibilities

We are looking for new innovative people to take part of the conversation about library services for children and young adults. Whether posting something on Facebook or sending a proposal to conference, we value your involvement. You don't need to be a member if IFLA to be involved, only if you feel like participating the work of Sections. Fresh ideas, questions and active discussions benefit the whole library community. For you, as student and new professional it will give precious international experience and networks and contacts. Even before entering work life you can become an active professional. Just send me or anyone else in Section email about your hopes, questions or take part of the public conversation.

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WHAT IS YOUR STORY? LIBRARY LABS AND ORAL HISTORY: INNOVATIVE, COLLECTIVE AND CIVIC PROJECTS

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Abstract

Libraries are working on creating living archives and adding non-academic testimonies in the libraries' collections. The technical possibilities related to digital innovations (Klaebe, 2007), as well as an interest for communities and their representation in cultural institutions in connection with the emergence of local or participatory democracies, promote these projects. For this participation to the construction of an oral history, libraries develop labs dedicated to innovative memory projects, where new forms of transmission are experimented by the library (Taranto, 2009), and where the public, in a collective project, discovers new forms of learning and recognition (Alam, 2012). This is particularly obvious with the labs of the New York Public Library, which mobilize people either in the handling of digital tools to collect or annotate oral histories of their neighborhood, or in the narrative itself. Three projects are currently under way to collect an oral history of the Greenwich Village, Harlem, and Bronx neighborhoods.

Our research consists in investigating in both cases the motivation of the public to contribute to these projects. We will focus on the articulation between individual and collective motivation, on the engagement and the political dynamics as motivational factors (Holley, 2010), and on the role of libraries for a sustainable participation in innovative projects.

Introduction

In 2012, the library of Greenwich Village (one of the 85 branches of the New York Public Library, NYPL) had the idea to collect the memory its neighborhood to create an archive of oral history on Greenwich Village. They were helped in this project by a specialist in oral history for collecting the stories, and by the NYPL Lab for giving online access to the videos and open them to annotation. Three kind of participation were possible: being interviewer, interviewing the storyteller, annotating the story once put online. But why would people participate? What would lead them to be interviewer, interviewee or annotators in this project? Understanding the motivational factors is important on one hand to increase the participation of the public in collaborative project, and on another hand to discuss the political aspect of this kind of projects, that are changing the idea of knowledge, engagement, and community. The method used in this study is a literature review. Sources consulted ranges from library and information science journals, but also from history science or social sciences journals.

A specific case:

To study the motivation in such a project is complex because three dynamics enter account: the motivation to tell its story in a video which will be displayed online,

then the motivation to interview somebody whom we know or not, and finally that to annotate, to add tags, description, of the interviews once they were publishing on-line. This case takes away to us enough cases of common oral archives where the previous three situations exist but under different forms. The interviewer is generally a researcher, an archivist, a historian or a sociologist. His/her motivation is bound to its researches. The interviewee was chosen individually, as woman, worker, immigrant, survivor… and if he/she has some motivation to be interviewed, the interview is still coming from an outside request. In our case, each of the participants chose to participate in a project, proposed by the library, but was not chosen individually. Finally, the annotation is done by the researcher himself, or by another researcher using the same document for different objectives. It is thus without big surprise, that we notice that rare are articles dedicated to the oral archives or to the oral history which inform us about the dynamics of motivation. On the other hand, without great surprise also, it is in articles dedicated to the participation, and in particular to the projects of crowdsourcing, that the factors of motivation are most studied.

Motivation:

Ryan and Deci (2000) fundamentally changed the researches on the motivation with the qualification term

of intrinsic or extrinsic. We speak about intrinsic motivation when this one is completely relative to the pleasure or to the satisfaction of the active individual: ex "I participate in the project of oral history because I like telling my story". The extrinsic motivation is relative to a circumstance outside the action itself: ex: "I participate in the project of oral history because the on-line publication of my story will give me visibility ". If this distinction between both motivations is fundamental, it is not enough for encircling the range of the factors of motivation. Numerous authors thus tried to refine the motivational factors. For Brabham, we can categorize the motivations in two categories: rational motivation (based on the social standards) and motivation by the affect (Brabham, 2012). He so lists the range of the motivations to participate in platforms of profit-crowdsourcing as following: "earn money, advance his/her career, be recognized by his/her peers, meet new people and socialize, contribute to a collaborative effort, have fun, learn of new skills and knowledge, give itself challenges with complex tasks, to express himself." (Brabham, 2012, p.315). Except the first factor, financial, which does not go into the oral history project of the NYPL, every other factor of motivation can be used to understand the motivation of the participants to this project. The interviewers like the annotators learn new skills and challenges with complex tasks give themselves (video, guide of interview, to take in hand an interface of annotation). The interviewers and the interviewees meet new people and socialize. The interviewees express themselves. All are contributing to a collective effort.

We lose however with this categorization the distinction between intrinsic and extrinsic. For Alam and Campbell, four types of motivations coexist: "egoism, altruism, collectivism and principalism". (Alam & Campbell, 2012, p 3, faisant référence à Batson et al. 2002). Alam and Campbell so draw up a model of motivational factors containing two main entrances: the intrinsic motivation among which the personal motivation, community / social motivations, the leisure or pleasure and the extrinsic motivation among which the attribution, the recognition and the gains, the indirect returns and the advocacy[1]. (Alam & Campbell, 2012, p 4–9). They also show that the intrinsic and extrinsic factors are combined. In our study case, we can completely conceive such an interpenetration of intrinsic and extrinsic factors, individualistic or collectivist. Telling his/her story is being seen and listened, but it's also giving a view on the community and the neighborhood. Making the interviews is an active participation to a collective project, but it's also occupying free time. Annotating is to like classifying, but also wanting to help and to be useful, etc...

Motivation: identity and recognition

This articulation between individual and collective motivation is visible in the construction of identity through participation. For Trevor Owens, the identity is built in participatory project with the possibility of finding in the action a meaning in the objective, a meaning in the very action and finally a meaning in terms of membership (Owens, 2012).

The social function is also part of the individual construction. As Zollers notes, in the crowdsourcing project, the social function is obvious in the importance of the audience, in the character of visibility which we obtain by adding tags (Zollers, on 2007), or in our case by telling its story. For the one who is interviewed: "it seems to us that the witness looks especially for a peaceful place of certificate, listening and recognition of itself; recorded or filmed, it is the track of its existence or of his work which he hopes to transmit..." (Descamps, 2006).

So, motivation to take part to this project is a combination between individual and collective factors that lead both to build its own identity. Actually, the identity in the Oral history project thus builds itself by the facts of building a directory of local stories (collective objective), of being active in this objective (individual situation) and finally of bringing to the foreground its membership in this local community (individual and collective).

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1   For example, advocacy is one of the purpose of the project of oral history about the role of librarians during disasters: "By providing eye-witness accounts of the range of traditional and nontraditional roles that librarians have played, the LRDP aimed to demonstrate the value of library and librarian involvement in local, state, and federal disaster and emergency planning and response initiatives." (Featherstone at al., 2008)

Motivation: from community to engagement

To participate in such a project favors the feeling of membership in a community, but is also creative or revealing of this community, which preexists or begins existing in the project. So, for Zollers, in a participative project of note, tags allow to exceed the sociocultural hierarchies been imperative by classifications recognized as standards. Tags allow to recreate societies, communities around certain keywords.(Zollers, 2007).

The fact is as well as the projects of history oral allow the visibility of communities which were either abandoned by the circuits of academic publications, or who were not in possibility to produce by themselves archives on their community. "Certainly an obvious (but not intrinsic) use of oral history project is that they often involve recording life histories among all socioeconomics level of population. In the past only the well-to-do documented their lives. They not only had a sense of their own importance but also they had the leisure and staff support to write." (Yow, 2005, p.11). So, the project of oral history has an important function of communities' empowerment. That is why to participate in such a project is often for the participants a real commitment in favor of their culture and of their community. For Roberge the act to make the oral history is a cultural and community stake: "for lack of archiving to spread better, let us create projects of local and regional collection and let us multiply the initiatives of development of the result of these collections. We shall so contribute to maintain living being the culture from here." (Roberge, 2002, p 23)

This advocacy is revealing that the political aspects of these contributions are also sources of motivation. So for Zollers, the motivation in tagger in a project of crowdsourcing expresses himself in expression of the opinion, the performance (way of showing itself, of being known or recognize) and activism (defend positions or take a stand) (Zollers, on 2007). In our project of oral history, the participants take part in a collective project, claim their membership (be part of) to the community of the district and finally are made the defenders of a community and take a stand with her. It is the case in Greenwich Village, where it is a question of reminding the memory of a neighborhood which knew a rich cultural and artistic life. It is the case in Harlem, neighborhood in a way of gentrification which the inhabitants feel losing their neighborhood for the benefit of new inhabitants being of a different cultural and an ethno racial community.

The political role of such a project and on the rebound of the library is then obvious. When "from 1981 till 1984, the Institute from Quebec of research on the culture launches a big popular competition of survey through the province of Quebec (…) the innovative idea [was] to make participate the population in the creation of a collective collection and an inheritance to be protected, while democratizing the collection." (Roberge, 2002, p 21–22), this is the democratic ideal of life in common that is mobilized in these participative and memorial projects.

Role of the library

We shall not thus wonder that the library, this cultural institution with political and democratic vocation, a true public place (Gaus and Weech, 2008) be interested with such participative oral history projects. As wrote it Brantley about self-publication: "This does not reshape the commercial publishing world, but it does something more vital: It ensures a voice for the commonweal. By connecting local authors with the world, public libraries unite the world with their communities" (Brantley, 2014). Oral history has the same challenge. In the very particular case of Harlem, the library had the idea to make interview older inhabitants by new inhabitants, assuming that the community could build up itself, claim to be around a collective project, as a territorial membership in this neighborhood, rather than in a sociocultural or temporal membership in it. For Alan and Campbell, " the heritage domain faces the challenge of reassessing its role in society to stay relevant and to continue to have a significant social impact". (Holley, 2009, quoted by Alam & Campbell, 2012, p 1).

If the political purpose of the library is clear, it has also to focus on pratical actions and in particular on its capacity to motivate the participants. Moirez et al. proposes that the library actions on the motivation in a crowdsourcing project be think as three moments (Moirez et al., 2013): first one as the recruitment, a way to motivate people to come on the platform, second as the membership, a way to motivate people to contribute by proposing various modes of appropriation (technics, subjects, authentication), and finally third as the animation, a way to motivate people to contribute regularly and over time. The communication is thus a fundamental stage of these projects and a real advertising campaign containing at the same time phases of information and events must be organized.

Besides, numerous authors note the importance of the work to be supplied on the interfaces as factor of motivation, what in our study case fits for the phase annotation of the project. For Brabham in particular, "several participants mentioned that the project Web

site seemed at first to be visually attractive, easy to use, and at no cost to participate" (Brabham, 2012, p 323). The article of Brabham on the platform Threadless focuses on 5 factors of motivation, and among them the addiction, which highlights the narrow relation between the participant and the organization of the platform (Brabham, 2010, p.1127) and allows a contribution on the long term (Brabham, 2010, p1138). Moirez et al. et suggest to create crowdsourcing interfaces with organizational functions ("integration in the site referent, authentication, distribution of roles, possibility of selecting the themes, quality control"), interface functions: ("intuition and simplicity, gamification, statistics, support") and finally social functions: ("forum, messaging, scores, awards") (Moirez et al., 2013).

Finally, for Brabham "These organizations must move away from agonistic, deliberative democratic modes, and must conceive of public crowdsourcing ventures as more than simply online replicas of traditional public participation methods; these organizations will need to allow the crowd to truly support the problem-solving mission of a crowdsourcing venture for the public good, to generate in the crowd a sense of duty and love _ and even addiction _ to such a project" (Brabham, 2010, p 1124). In other words, the participants are not guests of the library on a project, but are participating in the same level than the library to a collective project, meeting individuals and organizations dedicated to the same political project to live together constantly renewed.

Conclusion

The factors of motivation in this project are thus varied, combinable, complex. Because there is an individual part, we cannot skip of an individual study, by questionnaire or interviews, of the participant's motivation. Because there is a part bound to the collective, to the social standards, we cannot skip of a fine study of this context and in our case to differentiate between what takes place in the oral history project in Greenwich Village and what takes place in the same project in Harlem or in the Bronx. This research project is there thus only for its first stage, and the second stage already begun with the launch of a survey in Greenwich Village.

Then this literature review shows us that for libraries interested in such projects, the question of motivation of the public lead us to question communication, technics, but also speech on the place and the role of the library in the project. Finally, this literature review allows us to insist on the factors of motivations other than individualistic, way of showing that there is no participative project which is not eminently political. To participate is to take part in the life of its community and is to make an act of political commitment. Thinking to the library as a place to make this political exercise is changing the institutional image of the library. Maybe this is the best we can hope: having a library that would be the place where the community creates itself, stands and acts.

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LIBRARIES — BETTER COLLECTIONS & SERVICES

06.5.1

BIBLIOTHERAPY FOR DISADVANTAGED YOUTH. PARTICIPATION, SHARING AND SELF-KNOWLEDGE IN NON-VIRTUAL ENVIRONMENT

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Abstract

The bibliotherapeutic intervention in secondary school environment can be used to promote psychological well-being, to srenghten self-knowledge, and to develop social and emotional skills. From the 1950's there are more and more international research reviews about this topic, but in Hungary, unfortunately, we have just very few experimental or case studies supporting the use of bibliotherapy – and it is true for all of the target groups. Nowadays there are some changing initiatives. The presentation introduces some Hungarian best practices of bibliotherapy programs aimed at disadvantaged youth from various types of schools, focusing on the main outcomes, challenges and opportunities.

Our professional team (librarians, teachers, psychologists) started bibliotherapy programs in three types of secondary schools (vocational school, technical college, grammar school for gifted children) using bibliotherapy to moderate socio-emotional risks & distress, to develop EQ & positive self-image, to facilitate self-responsibility in self-help activities as empowerment, and to foster positive life-change (more opportunities in career and personal life).

According to the participants' feedback they appreciated the support of our non-virtual, deeply personal and interactive environment during group works which were useful for a deeper understanding of theirselves (weaknesses and strenghts, lacks) and Others, and they realised also the importance of the development of problem-solving, communication & social skills (empathy, tolerance) for their future success.

"The right story at the right moment is an arrow to the heart. It can find and catch what is hiding inside the reader (or the listener), the secret hurt or anger or need that lies waiting, aching to be brought to the surface."
–Bruce Colville

The term of bibliotherapy referes to a special readers guidance to help the reader learn about and cope with social or emotional struggles and developmental needs through directed reading, no matter whether it is offered in clinical or non-clinical environment (e.g. in psychiatry or psychotherapy, or in schools, libraries, social, and correctional institutes). Bibliotherapy is based on classic psychotherapy principles of identification, inspiration and insight which leads to motivation for positive change. This can help readers gain insight into themselves by connecting with characters and values written in poems, short stories and novels. Their reading is followed up with some group discussion when they can share their ideas and feelings with the help of free associations, and the expression of their own subjective response to the text shaped by their identity and life-experience (Holland, 1968). The therapeutical process goes ahead through stages like recognising, feeling, thinking and universalisation. The aim of the therapy is to elicit change in the attitudes and behavior of the readers to enhance their problem-solving skills, and hence increase their resourcefulness. It aims to show readers that they are not alone because the others have the same concerns or problems (Harvey, 2010). The main goal of the therapeutical process is not the healing as a medical issue, but the life-change and the development itself (Yalom, 1995).

Regarding the link between library services and bibliotherapy, it is important to distinguish bibliotherapeutical work from the general readers' advisory. From the 1950's on, since the group therapy models proliferate, bibliotherapy was used as a frame of theme-appropriate readings to help participants deal with their problematic issues. From that time the number of international research reviews about developmental bibliotherapy aimed at youth and adolescents is increasing. Bibliotherapy for youth is strongly connected to the topic of youth services in libraries, and it is very close to the preventive social work as well.

The bibliotherapeutic intervention aimed at youth can be used to promote psychological well-being, to srenghten self-knowledge and to develop social and emotional skills (Pardeck, 1994). The target group of

youth can be divided in many different and special subgroups like, for instance, pupils in secondary schools suffering from social disadvantages. This distinction implicates some special focuses during our bibliotherapeutical work.

Hungarian experts are in 65 years of belatedness comparing to the international publications on youth bibliotherapy. Unfortunately, we have just very few experimental or case studies supporting the use of bibliotherapy in general, not just in connection with youth target groups. Nowadays there are some changing initiatives: while bibliotherapy is well-known among librarians from the 1980's, the first methodological papers on bibliotherapy for parents, prisoners, youth etc. started to be published in the Hungarian national librarian periodical titled *Library Observer*.

Bibliotherapy many times is made by professionals from various fields. The Hungarian programs presented here were offered by a cooperating team of librarians, teachers and psychologists (Ildikó Sóron, Tünde Tegzes, Geraldine Ruszthy, Zsuzsanna Kovács, Borbála Zsidai, Judit Béres). We started bibliotherapy programs in three types of secondary schools (vocational school, technical college, grammar school for gifted children), and we published our main findings in a methodological paper (Béres et al., 2014). This paper focuses on the available Hungarian practice of bibliotherapy for youth, with implications for the reduction of socio-emotional risks and distress of disadvantaged pupils. This work links bibliotherapy with intervention programs, and covers everything from selecting materials, staffing to readers advisory, and planning activities. Particular attention is given to how bibliotherapy can facilitate readers to find solutions to personal problems, develop life skills and enhanced self-image.

Youth suffering from social disadvantages are facing many kinds of problems related to their poor environment, they usually don't have ideal conditions supporting their healthy development neither emotionally nor from the physical or economical part. In many cases their parents are uneducated and unemployed, often very poor, many times culturally and socially peripherical people. The lack of a normal childcare, physical and emotional holding is symptomatic in the everyday life of these families, and their childen are suffering from distress, depression, heavy problems of attachment and loss, negligence, violence, abuse etc.

The most important pedagogical aim of schools working with disadvantaged youth is the compensation of disadvantages and the empowerment of them for a more successful social integration. Bibliotherapy

is one of those cross-curricular extra activities which can join schools' pedagogical program for supporting disadvantaged youth.

During the process of the bibliotherapeutical work participants are conditioned to cope with the prospect of their social disadvantages through a psichoanalytically oriented group therapy based on reading, talking and creative activities. Comparing to the goals of bibliotherapy for youth in general, in this special case bibliotherapy focuses on the development of participants' EQ (emotional quotient) and positive self-image, aims to empower them with the facilitation of self-responsibility in self-help activities, and fosters positive life-change with the achievement of more opportunities, and the realisation of personal strenghts and weaknesses from the viewpoint of a future career and a successful personal life.

At the beginning of our group works pupils filled out some personality tests related to their motivation, self-image, and the level of distress. This work leads to a deeper understanding of pupils' personality and the actual problems of their everyday life which has a key importance when the bibliotherapist plans the focuse of the therapeutical process, chooses the aims and adeguate readings.

Because of the pedagogical needs of the target groups, the effectiveness of bibliotherapy aiming at children and youth usually derives from the combination of receptive and active bibliotherapy (Doll, 1978). Receptive means working through the reading, reception and discussion of various authors' texts, meanwhile creative activities (e.g. situation plays, designing, painting, collage, playing on instruments, theatre etc.) foster the self-expression and sharing emotions, ideas (McCulliss – Chamberlain, 2013: 30–31). In our Hungarian programs we also used various active techniques like creative writing, collage, designing and drama, and receptive techniques (reading and discussion of poetry, short stories, parts of novels).

The selection of readings suitable for bibliotheraputical work are based on how the certain text contains values the therapy is focusing on. The good text fosters common thinking and discussion about certain topic, guides its reader to a deeper understanding of him- or herself, it is capable to develop directly his or her self-knowledge, social and emotional skills.

When considering books many articles deal with selection criteria. Goddard (2011) suggests to deal with some potentials hidden in the text related to the followings:

1   motivating and challenging experiences;
2   suitability to age, ability, and maturity;

3 elicits response;

4 range of literacy structures;

5 proper use of language;

6 broadens understanding of diversity;

7 develops sensitivity and understanding.

From the viewpoint of readers' guidance and development, we distinguish higher level and lower level therapeutical aims. In the case of our target group higher level aims are the development of EQ, self-knowledge, problem solving skills, the improvement of positive self-image and adaptability, and the solution of distress which are indispensable for a successful and productive life. Lower level aims are the promotion of reading books, and the improvement of communication, thinking and aesthetical skills. During the half year long therapy (which is the minimum lenght for an efficient work) the group work usually run for one – one-and-half hours, when the leader starts reading and stops at intervals to discuss the text, including personal response. The following table (Table 1) summarises some examples for topics, texts and applied techniques. The points from 1 to 5 refer to pupils' opinion about the applied texts, and evaluate the therapeutical effectiveness.

Topic	Text	Acitive techniques	Reception, pupils opinion	Effectiveness
holding and caring in human relationships, patience, values	János Pilinszky: Secrets of our religion (Advent)	write 5 characreistics as you see yourself + 5 as Others see you	t	5
self-confidence, giftedness, emotional resources, courage, empowerment	The wings of Lotilko (Tunguz tale)	Ágnes Ágai's adolescent poems, write a similar poem about yourself	4	5
responsability, sense of duty	La Fontaine: The cricket and the ant	puzzle; Dixit play cards	5	5
dreams, plans for the future, carrier planning	Frigyes Karinthy: Meeting with a young man	write recommendations for the 8–9 years younger yourself	4	5
pop icons, youth subcultures and trends, positive self-image	Krisztina Tóth: The soul is megabody	write a similar advertisement about yourself as Virág Erdős' Liar tale	5	5
aims, fighting, insistence, trust	Dino Buzzati: The man who wanted to recover	puzzle, collage	3	5
family relationships, image of the father-mother, personal development	István Örkény: Naples	situation plays	5	5
adolescence, teenagers and adults, primary attachments	Nick Hornby: About a boy	Dixit cards	3	4
adolescence, separation, detachment	Erzsébet Tóth: Sleeping boy	puzzle	3	5
otherness, disabilities, happiness, values	Bohumil Hrabal: Diamond eyes	free associations, mindmap	4	5
personal development, self-knowledge	Géza Gárdonyi: My story	collage	5	5
self-image, respect of others, love	István Örkény: Have you seen her?	write a similar advertisement	3	4
friendship, proving, change	Sylvia Plath: Inintiation	association cards, Tik-tak Bumm	5	5
happiness, carrier, successful life, self criticism	Sándor Márai: Herbarium	Johari Window	4	5
love, partnerships, sharing	Dániel Varró: Heart dessert	write a love poem in sms	5	5

Table 1

The bibliotherapist has to follow what readers learned or gained from reading the books. Regarding the main results and outcomes of our group works, we can divide them in two parts. In the opinion of group leaders:

- The aesthetic value of the applicated text doesn't correlate directly with the therapeutical effectiveness: many times high quality classical literature was not too effective, or participants didn't like the most effective texts' style and content (they prefered contemporary poems, fictions and tales)
- There is a need for a differentiation according to the age: the mixed groups and the age gap between participants can make hard the work together (big differences between pupils aged 15–18 in assertivity and realisation of personal behavioural patterns)
- There is a need for a differentiation according to the intellectual skills: pupils from vocational school and technical college need easier texts, while gifted pupils from grammar school can cope with more complex meaning-making processes because of their better verbalisation and thinking skills.
- Students in Hungarian schools are not socialized for non-formal, interactive and reflective learning: it is hard to express themselves and share their own feelings, ideas or judgements.

The major benefits of our bibliotherapy can be described by participants' feedback as they appreciated the support of our non-virtual, deeply personal and interactive environment where we all were interested in their personal opinions and feelings. They realised that the information society floods them with social media and virtual commons, and they felt the lack of real human interactions, reflections, and good problem solving models. It is not surprising: in their everyday life virtuality is the leading field of human interactions, people can become whatever and whenever they want. They can join and leave virtual commons with one click and push escape button in case of a conflict. In this deeply technicized environment it is hard to find real human solutions and answers, hard to learn competent attachment and real problem solving, empathy and tolerance, hard to select and follow real and relevant social values.

The group leader bibliotherapists have got feedback questionnaires from participant pupils who reflected to the most important therapeutical effects supporting their personal change and development. In their opinion:

- The group supported them with the "sense of universality" (they felt they are not alone suffering from disadvantages, and learnt how others can solve similar problems, and had opportunity to share strong feelings, personal readings and arguments)
- The group supported the deeper understanding of Others' different ways of thinking, their motivations and reasons behind their communication, verbal and non-verbal reflections (the group works as a mirror and as a puffer).
- The group supported the deeper understanding of theirselves (weaknesses and strenghts, lacks) and fostered the realisation of the needed development of problem-solving, communication & social skills (empathy, tolerance) for future success.
- They mentioned as a positive effect the emotional "holding" of the group, the private and supportive environment which is lacking in their families and primary attachments (it is a "corrective emotional experience").

Improving students' social and emotional skills their independent exploration, and personal experience of sharing is so important than therapists' guidance. Students have to be introduced to the practical knowledge of their future success through interactive works. To improve students' self expression, their writing abilities and oral communication skills is also a very high priority. With the help of the exercises mentioned before students would become well-trained in self-knowledge techniques, in EQ and in critical thinking. On the other hand students have to be led along their associations and meaning-making processes in a very democratic way, the therapist aims to discover their self experiences in a private, warm, non-directive professional frame. It is sad to say that many times these basic conditions are not given neither in schools nor in families.

As outlined previously, our bibliotherapy programs affected a number of emotional and cognitive changes in the readers. The emotional changes can be described as the development of empathy, positive attitudes and self-image, tolerance, respect, and acceptance of Others, through a directed examination of moral values and socially accepted behavior. The most important cognitive changes can be described as giving insight into human behavior and motives, understanding of different perspectives and universality of problems, increasing capacity for self-evaluation, and showing choices and alternative solutions in problem solving.

Summarizing I would say that there is a strong need for bibliotherapy programs in schools and public libraries, as students and teachers positive feedbacks prove it. The supportive, interactive and reflective interpersonal learning and the private therapeutical environment is one of the main success criteria of the mass acquisition

of developmental bibliotherapy which could offer solutions for personal problems not solved by formal and frontal pedagogical work.

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06.5.2

BIBLIOTHERAPY WITH WOMEN PRISONERS

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Abstract

The problem of crime and prison is becoming an increasingly question, and the effects of this lot of discipline and speciality had started to deal with this theme, in order to give assistance to preventing and windup of crime. The root of the current essay is modelled by a professional experience, what I got hold of in Law Enforcemnet Institut of Baranya County, where as an expectant librarian I lead on therapy for the women prisoners.

Participants were five women, who had different ages, self-identified, cultural background and criminal offences

Bibliotherapy has got many targets: healing of psychical problems, expansion of personality, developement of self-knowledge, social talents, empathy and tolerance, construction of community and recreation. The principle of bibliotherapy is that reading could help in, can help the reader begin to investigate and explore aspects of themselves, to listen to their peers, to increase their ability to communicate ideas and feelings to men of authority who they thought would never listen to them, and to engage in dialogue in a democratic agent where all ideas are valid. Furthermore I tried to develope their self-confidence, self-respect and self-kkowledge too, because today the places of women is a very significant theme in the world of politics, work and in the society too.

A review of the literature about the different types of bibliotherapeutic books, about the way these texts are used, as well as about the levels of contact with the therapist will be presented. The reflection will thereafter focus on scientifically validated texts dealing with female problems.

My conviction is, this method has an increasingly justification in space of profession and social. In my essay I tried to set out and present what role could the bibliotherapy have in the services of library on strength of my experiences and non-fiction, and what positive effects could the bibliotherapy have, in my case in an exspecially and closed clime, like the prison.

Introduction

The term paper topic is Bibliotherapy with women prisoners. The aim of the present study through some experiences of an occupation series continued with woman prisoners in the Law Enforcement Institute of Baranya County to introduce the bibliotherapy carrying out product development view law relating to prisons the opportunities of applying in institution environment, bars and morals. International practice, that the bibliotherapy carrying out product development method the librarians, educators and mental-hygienic specialists apply it the mostly.

The concept of bibliotherapy in mirror of prison

The basic mental-hygienic role of the reading well-known, the readings may procure to finding of the intellectual and emotional balance, and to conservation them for the reader. The basic idea is, that the reading may offer the reader help from an exterior visual angle to see his problems, shows an example or a counterexample onto certain situations. All this from the visual of the prisoners of the angle of resocialization feature carrying an important and serious potential indisputably.

The bibliotherapy is an loosly structured therapy method, which works with narrativums. The primary therapeutic aim is the general personality development. Between the secondary aims owes for example the reading the development of his popularisation, the vernacular education, and the increase of the education and the

aesthetic sense. The bibliotherapy may be good device for the central elements of the self-image and the identity clarifying, that may provide important informations for the occupation leader and/or the prison psychologist to additional work to be made with the prisoners. We do not make a work analysis with the participants, we are not looking for fixed meanings, but just the listed accross onto influenced individual interpretations, concerned they we are curious about these reasons.

The adaptation of bibliotherapy in the prison

In the modern prisons the emphasis – instead of the exclusion – is put onto the convicts fitting in into a society, therefor in these institutes they are struggling along to organize group activities like sport, education, library, which ones may have a therapeutic and developing effects.

The lifting of the bibliotherapy int o the prisonporgrammes is based on the recognition, that in the social defeat of convict may be a keyfactor his backwardness, concerned his perception, perceptional ability in his personality. What could be hope from a method like this, that with the help of bibliotherapy we could to repair in the part or on totally absent skills and on abilities. We may can't make a miracle with these people, because the evolved personality is hardly changeable, we believe in it, that the emphases of the personality structure can be rearranged, what is good enough to the individual may be normal (not deviant) his conduct, and to the aims which can be socially accepted to the forming of the trend of future. I mean we mediate values, behavioural sample and a view in the course of the therapeutic process towards the prisoners, with which they may become capable that way let them make changes in their own fate getting to release in a positive direction. Mostly it depends on them, whether they can avail of this opportunity.

Cultural programmes at the prisoners

In the Law Enforcement Institute of Baranya County currently for the female convicts on the religious practices and the bibliotherapy kept by me there is not an other recreational, developing or creative occupations. It is stated in the background of this that the educators are overburdened, their obligatory and daily work sits up onto programs no neither their time, neither their place.

In the institute of Pécs the majority of the prisoners have romany extraction and heavy to find the suitable motivational strength that they should be persuaded to reading. In the background of the participation on the programmes may consist more reasons. The prisoners are motivating the consciousness, that they may get to know new persons, and they could communicating informally. Apart from this important factor is the search of the new experiences and that chance, that the could step out the strictly circumscribed opportunities of the cells.

Foreign country examples

In Hungary appeared fewer published experiences in my topic. Because of this before I would continue onto the analysis of my own results, I would like to present some foreign country example. The American initiation use the literature to let turn the convist to the right way. CLTL (Changing Lives Through Literature) a program works since 1991, and it is taken over in increasingly more states this alternative opportunity, in which one instructors, judges and listeners buy a part equally.

There is a separate female programme in Dartmout, in Nevada State, the experiences of which divided it the groupleader, Kelly DeSouza. Beside the talks, to the everyday life time is devoted to necessary tasks, like grammatical and autobiographical, application writing practices.

I consider this american example can be adapted for one to be observed and well, in terms of the correction of Hungarian prison conditions and the suppression of the delinquency. For this need would be so committed supporters onto background (instructors, librarians, social workers, educators, judges), who undertake the difficulties arising during the program and the responsibility, and the convicts are able to turn towards it objectively, with empathy.

The edifications of bibliotherapy in Pécs

I worked in the Law Enforcement Institute of Baranya County in Pécs as a volunteer through three mounths.

I made the group therapy in ten times, closed small groups. In the primary therapeutic aims of the program was included the development of the self-knowledge, the patience and it opposite of each other the development of tolerance, the development of the communicational skill, the problem-solving ability and the creative thinking.

And let me map it, what kind of difficulties they have to face up to, how the prison affects the making ends meet of their womanhood. To this I received help from the Institute, from the commander and educators too. I leaded the therapeutic groupwork totally alone, prison psychologist did not take a part in my work altogether as opposed to the previous ones.

In pedagogic and bibliotherapic questions my university instructor, Judit Béres Dr. provided a continuous consultation opportunity and counsel to me.

In the look of the expected results guided me that assumption, talking about the literature provides an opportunity for the high-standard talks, what has got developer, motivator effects for the prisoners with lower education too. In the participant may realized, that in connection with the same topic a number of different opinion exists, what could strengthen the tolerance to the different points of view. The participant could confront with it, that their reactions tell of their own personality, ideology and valure ordering. Later, when I got to know the learning, behaviour and reading problems, social and cognitive ready deficiencies of the prisoners, I realised that the general aims of bibliotherapy could setting, and my methods of therapy is right.

The bibliotherapy is good method for that let us talk with the young persons about the lesser or greater problems and questions of the life. Entering on this road it is possible to arouse their curiosity, they may secure new informations and they can see alternative solutions for different situations. The participants considerable part are functionally illiterate. Therefore I had to rethink the devices.

The bibliotherapist has to know the subcultural, unwritten rules, because keeping these before an eye we can affect on the convicts. One of the heaviest things were the findings of the common sound. But with some humour and common field of interest I attained it, the woman were disposed towards me more openly.

My person could have come up as a problem, because I had to reckon with it as female head of departement, that possibly jealousy, or I may give rise to envy, rivalization in the female convicts.

The other very important factor defining the prisoners behaving on group occupations was the participants' potential and initial passivity. This behavioural form influenced exterior factors, like the daily conflicts with the other convicts, the deficiency of the coffee and a cigarette, the jailers' behaviour. At the same time one well chosen with a question I could managed to tip the participants out of the dismissive behaviour and arouse interest in them.

Comparison of the group

Four persons took a part in this group. The crimes what committed by them were theft, robbery, nuisance and killing. Between the convicts were represented the teenage years, the twenty, forty, and fifty year ages equally.

The treatment of a latter crime meant a big challenge to me. I consider the fact of the homicide one of the most serious crimes anyway as civil one. The punishment of this moves between exceptionally divisive and extreme frameworks though. But I had to be neutral one, because the judgement would not have helped in the therapy.

I would like to characterize the participant women shortly:

Zs. was 16, she didn't have a personality altogether growing yet. Because of this she was exceptionally vague and discursive. The reason of her most problems his mother the disordered contact of truth.

A was 26. she had cleptomania. She had two children. She tried to recover from her illness and she had to digest the children's deficiency.

I. was 52. From among the participants one, who are accused of homicide. The lady aroused soon sympathy in me. She saw her consequences as his plot clearly and treated her situation with sober insight. She was deeply religious (like A. too). She said: "I took away an other man's life. I receive perpetual one presumably, but all the same, how many years I would be sentenced... I can replace that life with nothing."

V. was 40, gipsy women, into a prison avoided with the charge of a murder. She was heavy natured women, her mood vacillated easily and quickly. She had four children, and went through more crisis situations in the past years (abuse, divorce, abortion).

The works what I used to in the first group were poems, novels and lyrics. We started working after the fourth occasion with lyrics. The first and most important normative principle, let the selected texts be suitable for the discussion of specific situation, problems of the target group. We lend our other basic principle because of the art therapy: primarily not aesthetic, but we mediate therapeutic values. In this connection a rap text

may supply a good basis at least like a literary work of art, what having a classic, aesthetic value, if the given text is suitable for activating the participants anyway.

The works what I used to in my group were poems and novels. They were susceptible to the literature, what made possible a more personal talks. The personal contrasts and the power fight arose as an aggravating factor at the same time between the group members. My primer aim was the group's members learn to hear it through and to accept the opinion of others and let their thoughts dare to be shared with each other. Furthermore to wake them up to the fact that they are not alone with their problems, like missing the children or family, sexual fantasies or fall in love inside the prison.

For summary can be related, the occupations fulfilled the hopes bound to them. The bibliotherapy proved to be a good method for the woman prisoner's personality development and to the promotion of resocialization. But there are a lot of potential factor, what is an additional designer and an analyst work is needed pull over after itself.

Arises as a problem, wether the therapeutic time long enough. After a few weekly occupation, returning into the original environment how much could preserved the accomplished change.

In Pécs there is not female prison. Here the woman are just waiting for their final judgement. Because of the insecurity keeping them interested wasw heavy on a long distance. And the confidence was not so deep, than by the youth.

Although ten weeks does not long enough that we could change the juvenile's fixed behaviours and mentality. But on the grounds of the behaviour and feedbacks of the participants seems the set aims managed to attain an effect adequately. The prisoners reprimanded each other many times, let the other one be heard through, they were pestered much more rarely each other. From among the worded aims a lot came true: the development of the tolerance and empathy, the rising of the interest, the development of the communication.

Questionable, how the new outlooks recognised by the occupations affects to the participants' personality. To the change is necessary the participants volition of developing and their openness for towards the novelties.

Naturally neither the bibliotherapy, nor some else social- and art therapies may not mean an overall solution on all of them emerging problem, but they come as an additional therapy.

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06.5.3

FROM IDEA TO REALIZATION: PROJECT HARRY POTTER WEEK

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Abstract

Libraries have always had the potential to support creative activities, and various events bring together people, ideas, institutions and stuff. Also, librarians identify strongly with their users, understand institutional culture and show willingness to collaborate with people within and outside of the institution. After the appearance of the first library department for young people in Croatia, Croatian public libraries have started to implement a variety of activities for young people in various forms, in attempt to overcome the gap and the lack of content for children and young adults. This paper will present how organizing of a student's project encouraged cooperation between students, professors and librarians and gathered in one place children, youth and adults. During the May of year 2014 Zadar Public Library was accommodating project titled "Harry Potter Week". It was designed and organized by students of the Department of Information Sciences from University of Zadar, in collaboration with professors of the Department and librarians from Zadar Public Library. Every day of the week had different activity connected to Harry Potter – either books or movies. Manifestation was free for library users and everyone else who was interested in it. There were Harry Potter workshops, such as "How to make an owl" and creative writing workshop, and book and movie quizzes in which participants could win one of the Harry Potter books by choice. Different games were customized on Harry Potter topics, such as HP Pictionary, Magic Chess, (improvised) Quidditch etc. The main reason why Harry Potter was chosen for this project is because he became one of the world's most famous literary characters of all time and was suited to attract participants from different age group, regardless of whether they read the book or not. This way we wanted to attract people to participate in library activities through Harry Potter books, and we have succeeded in that intention. The whole week was highly covered by the media and had a very good response from participants. Very important aspect of this project was organization and realization of collaboration between students, professors, librarians, publishers, schools and kindergartens. Every activity was run by students and volunteers and there was no budget for the project. Also, all materials were sponsored or the work was done by volunteers. During this project realization, energy and collaboration was inspirational and its great success encouraged organizers to make Harry Potter Week a yearly manifestation.

Introduction

Libraries have always been very supportive of variety of activities that take place on their premises. According to Techman (2014), "public library events and opportunities bring together people, ideas and stuff." Inquisitive librarians can be great role models for those students who need help exploring content and the idea of what's possible to learn (Techman, 2014)." Librarians can also selectively introduce culture to their user group, for instance, via storytimes for children, readings, curation of gallery space, and many other activities that make them partners in creating a social narrative (Harris, Mayo, Prince, & Tooey, 2013)." Speaking of participation of libraries with students, library has a history of offering space for artistic expression and protecting intellectual freedom, and it can contribute to the institution's community through events, displays, and exhibits in more ways than departments, colleges, and other on-campus venues (Goldsmith & Fonseca, 2008). Children's services in public libraries over the last decade have been developed under the influence of modern knowledge in the field of librarianship and other social sciences, particularly pedagogy, psychology and communications. Also, *Guidelines for library services for young adults*, published in 1996, had big influence on field of children's librarianship. They encouraged creation of special programs, services and departments for youth in public libraries and enabled greater attention to this group (Čičko, Križanić Delač & Stričević, 2006). Youth, as users of public library, form a specific group that has different needs than children and other users do. The

main condition for creating programs and services in public libraries for this population is to understand their specificities, differences, reading interests and different information needs, including intensive development of technology that reflects youth access to information and their interest in reading (Jelušić & Stričević, 2010).

Because of all of the above, it is very important to organize events in library that would draw attention of the users and engage them in library activities, such as the workshops, projects, social games etc.

Zadar Public library as a place for cultural events

Mission of the Zadar Public library is to bring information, knowledge and culture to the inhabitants of the city of Zadar and Zadar County, and to respond to the needs and requirements of users in order to encourage reading and contribute to education and enrichment of the cultural life of every individual in the community. From the mission arise basic goals of actions of the Zadar Public library, among which stands out goal that the library should be recognized as the cultural center of the city. Library is both in her actions and communication – open to all non-profit organizations, and collaboration with the civil society in public is seen as part of the responsibilities of the institution, thus facilitating access to sponsors and donors (Pavičić, Alfirević & Aleksić, 2006). Given all these circumstances, Zadar Public library is open for new proposals, implementation of new services etc.

Harry Potter Week

"Witches, wizards, sorcery, and spells have long been staples of the category of children's literature in which characters use magical powers in the struggle between good and evil (Carney & DeMitchell, 2005)." Harry Potter books are among the most famous and most successful books in area of fantasy genre (Carney & DeMitchell, 2005). Many institutions organize various manifestations and events on this topic which reflects its popularity. One example is University of Alberta in Edmonton, which was the only Canadian stop on the Harry Potter exhibit tour, named "*Harry Potter's World: Renaissance Science, Magic, and Medicine*" and developed by staff at the National Library of Medicine (NLM) in the United States. During the exhibit's six-week stay, the university

library became a much more popular place not just for students and staff of the university but for the greater community as well (Chatterley, 2012).

Just like Scott library and the Zadar Public library became a part of Harry Potter's wizarding world for one week. During the period from 19th to 24th May of year 2014, library held the project titled "*Harry Potter Week*" that was organized by students of the Department of Information Sciences from University of Zadar, in collaboration with professors of the Department and librarians from Zadar Public library. In this period numerous workshops, quizzes and games took place in library, and each event was covered by the media.

Design of the project

By its definition, the project is temporary venture that creates a unique product, service or result. It can result in a product that can be a component of another entity, the ability to provide a service and result, such as an outcome or document (Vodič kroz znanje o upravljanju projektima, 2011). The project Harry Potter Week consists of 4 phases:

1   First phase of the project refers to its design. The first idea was to make a project related to the famous fictional places from books and literature, such as *Shire, Neverland, Narnia, Hogwarts* etc., but after talking to advisor, it became obvious that something like that would be too difficult to make. So we decided to start with something more simple and related to only one book, which is *Harry Potter*. After that we started shaping idea of the project.

2   After the initial phase, next step was finding partners for the project. They were found in the Zadar Public library. Librarians accepted project proposal and it took us two months to organize everything: choose the date of the project, find and decide where certain activities would be held, which activities we would organize, who were our audience etc. After successful design and timetable of the project, we started to contact possible sponsors to help us with specific tasks, e.g. printing of leaflets, games and other materials for activities, finding prizes for quizzes etc.

3   In third phase, finding sponsors, we contacted publishing house Algoritam, who agreed to be our sponsor and provided free books from Harry Potter series to the winners of quizzes. Also, they agreed to lower the price of books of the fantasy genre (including Harry Potter) by 20%. We also contacted printing and copy center Grafos, who agreed to be our sponsor and to make posters and other

materials needed for the project, free of charge. Other sponsors/partners of the project were Department of the Information Sciences and Zadar Public library.

4 The last phase included final preparations, such as making questions for games and quizzes and creating decorations for Children's Department of Zadar Public library, such as flying keys, the Mirror of Erised, a poster with interesting facts, letters from Hogwarts etc. After everything was ready, we finally informed the public about it.

Course of the project

On Monday 19th of May, the first day of the manifestation, a workshop "How to make an owl" was held at the Children's Department of the Zadar Public library. The participants were pupils of the private primary school "*Nova*" and children of the kindergarten "*Loptica*", including one student from the Department of Croatian language from the University of Zadar. At the workshop, participants were reading chapters from the first Harry Potter book, "*Harry Potter and the Philosopher's stone*", in which Hedwig, his owl pet was mentioned so that children would know why they were making owls, and not some other animals. Owls were made of empty toilet paper rolls and collage paper in white, brown, silver and gold colors. In the afternoon hours, the first sequel of the Harry Potter movie series were shown on the premises of the Mediatheque.

On Tuesday 20th of May, the second day, a book quiz was held in the library Multimedia Hall. Questions from the quiz were related to Harry Potter books. There were qualifications before the quiz in order to select four lucky participants that would take part in quiz and win one of Harry Potter books. Books were provided by one of the main sponsors – Algoritam publishing house. The victory was convincingly taken by student Matea Ćuk, who was brilliant at the quiz. The quiz was followed by social game Harry Potter pictionary, with specifically designed playing cards that contained terms from the books. Cards were divided into categories and within them terms that participants were supposed to draw, were listed. The game was attended by preschoolers and pupils of the elementary school, who really enjoyed it, as it was seen few days later, when participants asked when they can play the game again.

On Wednesday 21st of May, the third day of the project, the movie quiz was held in the library Multimedia Hall. This time questions were related to the movie and actors who embodied many familiar characters from the book. It also had pre-qualifications, and the winner was

also awarded with book from Harry Potter series. The winner was 15-year-old Matea Kaleb, who had chosen the last part of the series – *Harry Potter and the Deathly Hallows*. Wizard's chess took place in the back yard of the library after the quiz, but since it wasn't listed on the promotional poster, the response was much weaker.

On Thursday 22nd of May, in the morning the writing workshop was held in Children's department of the library. Participants were given two characters, two locations and two spells from the Harry Potter books, on which they wrote short stories. Their works were later exhibited on the main board of the Children's Department, which was decorated in Harry Potter style for the whole week. In the afternoon, the second part of the movie – *Harry Potter and the Chamber of Secrets* was shown and the next day, the third part was shown, also in Mediatheque. Friday was the only day that didn't have any activities, except for the screening of the movie.

Saturday was the last day of the project, when an improvised Quidditch, a famous sport from Harry Potter books was presented in the library Multimedia Hall. Participants were of all ages – from children in kindergarten and primary and high school pupils to university students. It had such a great response that the broom more was needed, since we had only twelve of them, and Quidditch is made up of seven players – three Chasers, two Beaters, one Keeper and one Seeker, and therefore requires fourteen brooms. Three matches were played among Slytherin and Gryffindor teams, in which Slytherin team convincingly took victory. Although participants wanted to play one more game, it couldn't be possible due to the limited working hours of the library. It is also important to note that municipal company Čistoća borrowed their brooms so that participants could play noted game.

As for the promotion of the project, it was announced on: Facebook, Zadar Public Library website, Algoritam publishing house website and in the media. Apart from selling Harry Potter books for prices that were reduced by 20%, Algoritam also offered other science fiction and fantasy books for lower prices. During the Harry Potter Week, the entire Children's Department was arranged in the atmosphere of Harry Potter books. Each corner of the department had a broom (that was obtained from the before mentioned municipal company), library shelves were decorated with movie posters and huge handmade poster with interesting facts related to books was hanging on the main board. A handmade Mirror of Erised was placed near the board and was written all over with wishes of users. There were also flying keys that were hanging above books.

Instead of conclusion

Collaboration with sponsors/partners for this project was successful. Librarians and teachers helped in the design and implementation of the project and the response in public to events within the Harry Potter Week was excellent. The plan is to continue with the same event, this time in March 2015. We are planning to make more collaboration with schools, kindergartens and other institutions if possible, but also to do more activities, other than Quidditch, Wizard's chess, quizzes and Pictionary. We hope that we will get even more sponsors than before, including Algoritam and the others that have already collaborated with us, and that larger sponsorship will give us more possibilities for some new activities we already have in plan. Also, we will give our best to transform Children's Department of the Zadar Public library to Harry Potter's wizarding world once again, and to attract even greater audience than the before.

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LIBRARIES — USERS & FUTURE CHALLENGES

06.6.1

CHALLENGE ACCEPTED! FACING THE DEMOGRAPHIC CHANGE

*What does Demographic
Change Mean to Libraries?*

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Abstract

Demographic change is everywhere. The concept has a lot of meanings and therefore demographic change means something different to different people. Students of the Berlin School of Library and Information Science of the Humboldt University have started a book project to show the strategies of solving the challenges and problems that come with demographic change in Germany. Librarians where asked to present their solutions for a proceeding demographic change in their institutions. Creative thinking while prototyping new ideas came across during the project. Flexibility, new ways of distributing books, communication with other institutions (e.g. schools, retirement facilities, kindergartens, universities) around the library are the keywords while creating practical solutions. As a result the German publication titled 'Challenge accepted! Libraries facing the demographic change' was published as a publication of Berlin LIS school's student book projects. Within the book there are already international views on the topic but an extension will be required. The project was presented at the 2014 IFLA conference in Lyon and arose a lot of interest. Therefore we were interested in the international perception of demographic change. What does demographic change mean for librarians in other countries?

Method

We are going to start an international survey asking librarians around the world to present ideas and solutions on how to deal with demographic change in their countries. In doing so we hope to get further information on their definition of demographic change and their national, regional or individual projects.

Conclusion

Our paper will give a final conclusion or evaluation about how different countries are facing demographic change. We suppose that there will be different trends in different countries or regions that are determined by culture, geography and the political situation. Depending on the participation and results we are thinking about extending our publication from a national to an international perspective.

Demographic change is everywhere and a continuous growing topic for libraries and information institutions. Our aim is to give an overview about demographic change, to identify the process, presenting German and international problem solving strategies and to get in touch with new approaches through the discussion of our paper at the BOBCATSSS conference.

Introduction

For twelve years, the Humboldt University of Berlin offers a project seminar with the aim to publish a book on a current, innovative topic that has a substantial meaning to the library and information community (IBI, 2014). In 2013, the German government (www.demografische-chance.de) as well as German libraries and other information institutions exclaimed the year of demographic change and should thus be considered as our topic.

Students were involved from the beginning to the end and gained significant experience in the fields of project management, publication processes as well as other numerous operations. We were able to publish the book "Challenge accepted! Bibliotheken stellen sich der Heraus-forderung des Demografischen Wandels" (engl. trans.: Challenge accepted! Libraries facing the demographic change) which includes contributions from both professional librarians and library and information scientists. To promote the book we gave among other activities a poster presentation at the IFLA conference in Lyon 2014 (IBI, 2014). The international audience in particular showed a great deal of interest and the request for a translation arose. This gave us the impetus to expand the project and give it a more transnational focus.

Purpose

The Oxford Online Dictionary defines demography as "[t]he study of statistics such as births, deaths, income, or the incidence of disease, which illustrate the changing structure of human populations." (Demography, n.d.).

We chose the topic mainly for two reasons. Generally we realize that demographic change is a topic that has become more and more important in recent years. In Germany there are a lot of projects and activities that deal with demographic change as a challenge of the future. Fur-thermore we know that the term "demographic change" or demographic shift has different mea-nings in different countries and regions. For this reason we are very interested not only in the projects itself but also how demographic changes are received all over the world.

Method

For our presentation we chose to conduct an email survey. To do so, we contacted librarians and information scientists all over the world. We asked them:

Are there any (public, private or mixed) national, provincial or local projects that deal with the topic of demographic change in libraries in your country?

As an additional question we wanted to know: What kind of demographic change is the one that is most recognized in your country?

With these questions we attempted to get to know the projects but further a first impression of which changes in society might have been the reason to initiate those projects (e.g. just political reasons or the feeling of a real need to initiate projects on demographic change).

The survey started in November 2014 and ended one month later. The results of the survey were not as we would have expected them. The response rate was a little lower than anticipated and there were only few or no results in countries that we thought would have many more projects going on (such as Finland). Therefore, we slightly changed our strategy. Using the information we could gather from the responses that we received we started our own research on the topic as well and combined the results of the survey with our own research on the topic.

Altogether we received 18 responses to our survey. Reactions came from all over the world and via numerous means of communication. We had reactions to direct email contact that we com-posed with the help of information from the book project as well as our own research and also responses via the IFLA-L mailing list.

From the contacted LIS-facilities that are organized in the iSchool system, German cultural institutions abroad (Goethe-Institute) and contact data of the book project we could derive useful information but mostly for developed countries such as the USA or countries in Europe. To get a broader view looking at countries in Asia, Africa or South America is of great importance. Indeed we found numerous projects for libraries to deal with demographic changes.

Altogether we found 35 projects of which we want to present some.

Survey

Europe

Structurally weak or economically less developed regions can be a result of aging and shrinking populations. Libraries have to deal with this challenge as most of them are public institutions and as such depend on public money. Structurally weak regions often do not have a proper supply of information such as that which libraries offer. Consequently, other means of distributing literature must be put in place. In Westbury-sub-Mendip (Westbury-sub-Mendip, n.d.) the local government initiated a program that should solve two challenges of less populated areas at once. On the one hand less money is available for literature distribution which on the other hand direct-ly leads to a lack of proper information supply for the population. With the help of the "Adopt a Kiosk" (BT, n.d.) program of the British Telecom old phone boxes can be purchased at a very low price of £ 1 and be converted into art galleries, grocery stores and, nonetheless, book ex-change stations. The project started in 2009. The first phone box in the village carries 150 books and DVDs that can be taken out of the box in exchange for another book or DVD. Since the project's imitation started, it has become well known in the UK and the book exchange stations received donations not only from the local population but also from other parts of the UK and even directly from authors.

Demographic changes can be triggered by increasing personal mobility. The need for more flexibility in our lives also leads to different literature consumption behavior. To meet the de-mand of traditional library services the Dutch airport Schiphol introduced an airport library (Airport library, n.d.). Opened in 2010 it had more than one million visitors. With its approxi-mately 1250 books it is rather small. Books cannot be taken out of the library rooms but there is a reading area that also provides access to the music collection. The library is

supposed to bring Dutch culture to travelers and further supply people who would not have access to libraries on their journey with literature. The project is financed by the Dutch Ministry of Education and supported by a large number of Dutch public libraries.

Difficult geographical conditions can be a challenge for libraries as well. In Norway, a concen-tration of in-habitants in larger cities can be recognized; fewer people choose to live in rural areas (O'Leary, 2010, pp. 6–7). One possibility to offer a library access is to use natural resources as a linking way, in this case fjords or small is-lands. The idea of a book boat came up in 1959. Started as a basic library service for rural areas with no connection to libraries, the purpose of the floating library changed over the years as new technologies made it much easier to access information. Since 1963 the book boat "Epos" serves Norway. It runs between three counties along the west coast during the winter time (Broteng Christiansen, 2012). The current task developed to promote the joy of books and reading to children as well as making libraries more attractive (Jarke, 2011). Additionally, the floating library offers a changing cultural program, e.g. authors entertain-ing children. There are close cooperation's with schools and kindergartens as well (Broteng Christiansen, 2012).

Every year the state budget brings up the question whether the floating library will receive enough funds to ensure the library remains in service. Until now with the help of dedicated librarians as well as a successful petition, there was still a way to keep the book boat (Bre-vik, 2007). Unfortunately it seems that in 2015 the county Sogn og Fjordane will enjoy the project for the last time, because of the abridged state budget (Bergan, 2014).

North America

Changing demographics sometimes involve changes in the ethnic mixture of a society. The Spectrum Scholar-ship Program for students, library workers or college graduates from an underrepresented (American Indian/ Alaska Native, Asian, Black/African American or Afri-can Canadian, Hispanic/Latino and Native Hawaiian/Other Pacific Islander) group provides an possibility to receive financial and professional support to earn a master`s degree. This shall promote diversity in libraries and infor-mation science facilities (American Library Association, n.d.). The American Library Association (ALA, www.ala. org) established this program that aims at fulfilling the need of ethnic librarians in the US in 1997. Its mission is to improve service at a local level through developing a representative workforce in libraries that reflects the ethnic mixture of the communities they serve.

The Program supports aspirants through scholar-ships, fund-raising, recruitment, mentoring, leadership and professional development. Altogether the scholar-ship offers a 6500$ package of which 5000$ can be spent on expenses associated with the master`s degree. Appli-cations are accepted from October to March each year.

Another project on diversity in the US is We Need Diverse Books (We need diverse books, n.d.). The cam-paign was created to address the lack of diverse, non-ma-jority narratives in children`s literature. Those who are involved in the campaign recognize all diverse experi-ences, including LGBTQIA, people of color, gender di-versity, people with disabilities, and ethnic, cultural, and religious minorities. To achieve their goal they address publishers, authors, distributors, book-sellers, librarians, educators, parents and students. Within the campaign there are several projects, such as promoting diverse books at schools, a diversity festival for children or an educational kit to help teachers dealing with the topic of diversity in society. The campaign is financed by do-nations and diverse book sells. On top of that a lot of volunteers keep the campaign running. The overall aim is to avoid discrimination in society, starting at a very early educational stage.

South America

As a Teacher Luis Soriano recognized the effects of read-ing and education, especially in rural areas of a country with a high crime rate and problems with constant Gue-rilla attacks can have. He is a primary school teacher in La Gloria and visits villages in northern Columbia nearly every weekend. With his two donkeys he provides books and reads stories to children. With the help of a radio show Soriano had the chance to introduce his book ser-vice to a broader audience. This led to book donations from all over Columbia. Additionally, the national gov-ernment as well as the library community started to no-tice the donkey library. After a while, with the help of donations Soriano was able to build a library in his home town. Furthermore, he became the subject of interna-tional documentaries and children books (Hoberg, 2014). In Soriano`s case donkeys were a cost effective way out for a badly paid teacher – cheap reliable, no need for any fuel and the ability to go almost anywhere (Reel, 2005).

"Biblioburro" is Soriano's contribution to society and only made possible because of his volunteer work. Through stories about other cultures, different cities as well as rights and duties, children should be offered a better education. In the end, children shall be enabled to say no to war and violence which is one contribution to end the violence in Colombia in the future (Hoberg, 2014).

Asia

Culture and religion have a great effect on society and sometimes libraries can be overwhelmed when this structure is changing. As a nation with a strong bond to tradition, India is facing a change in social and gender equalities. In the last two years, the injustice and violence against women especially has gained brighter international attention. This increasingly results in a public discussion of women's rights (How India treats its women, 2012).

This concerns libraries as well, as the example of the Aligarh Muslim University (AMU) shows. Women were banned from the university library and it was recommended to them to use the library of the women college, a smaller less provided for library. Limited space, four times more boys than girls generates an unsafe surrounding for female students. In addition to that, the prin-ciple of the AMU argues that present of attractive women could negatively affect the discipline of male library users. At the moment women can only order books online, but are not allowed to en-ter the library building and have a look at the library stocks ("India court library ban on women", 2014). Unlike a couple of years ago, this issue is publicly discussed now and the library is faces requirements from different positions. Opponents call for a library as a place free of discrimination and guaranteed equal rights (Agha, 2014).

Africa

Most African countries have high birth rates that have an effect on the average age of the population. While European libraries have to deal with an aging population, African libraries have to adapt to younger users. In addition, librarian infrastructure is much different in Africa than in other parts of the world. Mobile library services play an important role. ACP (Africa Caribbean Pacific Islands) Street Libraries is a project by the Fraunhofer Institute in Portugal. The aim of the project is to create an easy access to digitized material for young library users in Ghana, Mozambique, Liberia and Cameroun. To do so, they upgrade the already existing system of street libraries (Frauenhofer Institut Portugal, n.d.) by creating websites for free or cost-effective online access and a mobile phone app (Street Library, n.d.). Established in 2012, there are numerous partners involved. Among them are Microsoft and the European Union. The overall aim is to improve young readers access to literature in rural African areas as well as using the potential of online librarian solutions to keep the street library system cost-effective. In the long run, upward social mobility for the young generation shall be made possible. The project has a capital stock of 500 000€ and within 30 months websites, app and mobile phone library services shall be implemented in the existing street library system.

Australia

The Clunes Booktown in Australia demonstrates that abandoned villages have the potential to counteract depopulation. People rediscover this village as a film set, followed by the opening of a campus of a well known college. This had the effect of an increasing population of either retirees or weekenders. At the beginning, there was one small bookshop opened on weekends only. Volunteers were trained in book retail and shops began to prosper. Through this success it was possible to open and run more permanent bookshops. After some time, infrastructure was expan-ded and new facilities were built up. Shops and historical buildings were rebuilt, train stations were re-opened and a library was constructed, as well. Furthermore the opening of a museum and the expansion of the tourism industry were fostered. In May 2007, the first Clunes Booktown festival took place. It was carried out with the help of 300 volunteers and attracted 18.000 visitors. The project is funded by the government and donations (Brady, 2014). In 2012, it be-came a part of the International Organization of Booktowns (IOB, www.booktown.net/story.asp), which promotes international cooperation and events.

Conclusion and outlook

Demographic changes are a phenomenon all over the world. Increasing personal and social mobility, changes in wealth and health, ethnic mixture, gender affairs as well as environmental changes trigger challenges for public institutions. Libraries are always a mirror of the society they serve. That is why libraries and the facilities around them are always integrated in processes that deal with demographic shifts. The projects presented in this paper show the variety of activities and efforts to deal with those changes around the world. Of course, this paper can only be a short insight into the topic.

The different projects in different countries indicate that in different regions of the world demo-graphic shifts are seen with other eyes than in Europe. Depending on the way society changes, libraries and affiliated institutions try to actively adapt to the new situation.

From our research, we got the impression that there are some trends for regions with similar challenges. Most countries in Africa are focusing on education for children and there are even programs for librarians. Offering

books and education are important topics in some South Ame-rican countries as well. In Asia, as a continent with different developed nations, libraries focus on matters like rural and impoverished areas, ethnic and gender equality as well as using the con-tinuously growing potential of new technology.

Foremost in North America or Europe, projects that label themselves as projects on "demographic change" can be found. In Africa, South America or Asia many projects on demographic shifts can be found as well. The difference seems to be that many projects do not label themselves as projects on demographic changes.

We assume that is why we did not get many responses from Asian or African countries or re-sponding that they were not aware of any specific projects that deal with demographic changes.

In conclusion, demographic shifts appear to be an important topic that is not paid enough atten-tion to at the moment. The low response rate to the survey as well as the fact that some answers just stated that in certain countries there are no specific projects on demograph-ic changes seem to support that assumption. However, many projects deal with changing demographics with-out be-ing labeled as such. In our opinion that indicates a rising importance of the topic in the future.

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196
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197

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06.6.2

FUNCTIONS OF UNIVERSITY LIBRARIES IN THE THIRD MISSION OF UNIVERSITIES

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Abstract

Nowadays it is widely known that most of the universities have three missions: education, research, and the third mission is, for example, services for students, teachers and people living in the neighbourhood, as well as supporting culture management, economy and social development.

In this paper and in my presentation I try to describe the position of university libraries in the system. The third mission incorporates several possibilities and challenges for the libraries. This is very important because the information market, culture and universities have changed a lot in the last few years. All of them have new users, customers but have old functions as well. Therefore all of them need new knowledge and skills. If they do not have that, they are going to be left by old users and they will not win other new users.

To sum up: I will discuss the three missions through Hungarian examples in this paper: finding new users and customers for these mission, finding potential functions of the university libraries and the skills needed for the libraries and from librarians. The author tries to answer the question: where is the place of the information-service system in the new higher education system (in teaching, research and the third mission).

Background

One of the most important culture reproduction systems of society is education, which has to be in a central position for every culture since knowledge has to be passed on new generations.

We can sum up the functions of the education in the following points:

- reproduction of the culture
- shaping the identity of individuals
- reproduction, shaping and conserving the structure of society
- promoting operations and growth of economy
- legitimating the current political system

Culture, howsoever it is defined, incorporates in itself the experience and norms that help a given society to survive. It contains the elements of knowledge that define a community as a whole, or members of it, as well as its systems, subsystems. Knowledge is the anthropological constant factor of any society, because every human being's action is based on some kind of knowledge. (Stehr 1992)

However, from the information management perspective, these definitions can be tinged. A dominant part of culture is knowledge that means science and everyday knowledge as well. However, from the perspective of the information management, these definitions are nuances. A dominant part of the culture of knowledge, which is the science of unknown and need to exercise daily living skills also entails.

If this chain of thought is examined from an information management point of view – where there are three plus one levels of values and the values of three + one levels of existence instead of "ladders or stairs" – the values often represent levels of data, information and knowledge striping pyramid: at the bottom of the data, the peak of knowledge.

These levels are the following ones:

- Data, which has no meaning or text-correlation in itself and it comes to being in huge amounts
- Defining the full meaning of information is very hard, so I would only like to name two important features of this term: it covers interpreted data and it aims to disperse uncertainty (Horváth 1999)
- Knowledge is the synthesis of different information, however, this does not mean that several pieces of information are added up, since skills of decision-making or competence is part of knowledge as well. (Bőgel, 199)
- Wisdom: beyond the knowledge level. I think the culture is also included in this category.

The universities all over the world have changed for two decades. The changes have got six major ways: 1. new relationship between lifelong learning and higher education, 2. internationalisation of education and research, 3. cooperation between the higher education and industry, 4 the knowledge is produced inside the academic world, 5. new expectations, 6. the reorganisation of knowledge (Virkus 2004)

Institutions – colleges or universities – that are not the only supporting places of education and training, but

they also provide other services, but they are present in the teaching and research duality hierarchy. Consequently, the education-related research (sometimes independent research) universities, in principle, more strikingly displayed than in colleges, because these two forms of training capture this should be a major difference

Besides the traditional academic functions stands the so called 'third mission'. There is a sign of economy-social-culture expatiations. The third mission includes all of the non-academic things of universities. This means partner relations for institutionalized relationship, such as generated by the activities of intellectual property transfer, utilization, and informing policy making contribution, and any impact that affects the local economic, social and cultural life.

Basically, universities of Hungary educate and do research. This is supported by the structure of the source institutions: education, more than half of the total expenditure, research for a decade finds entrepreneurial activity 1–2% of spend devoted to international relations and the amount is less than 1% of the budget. That situation was before the economic crisis, thereafter it became worse. However, the trend from the EU, or other region is that the 'third mission' is constantly growing. This is because a society always needs new services, thus many governments recognize that knowledge and innovation of education are very important components of economic growth, social development, and job creation.

Non-educational services can be grouped in the following way:

1 Services directly related to education like libraries
2 Administrative services, registrars departments, doctorate offices
3 Mobility services helping the universities' own students and the foreign students as well
4 Social services, for example, student hostels
5 Services related to preserving physical and mental health like sports facilities
6 Practice-oriented courses, for example concentrating on career planning, job interviews.
7 Services that help universities to have good financial background. E.g. monitoring application opportunities.
8 Other, additional services: communication, competitor monitoring, information gathering and analysis

Libraries can be important factors in two of these services. These institutions provide information for the institutions of higher education. They can have very important role in the first – services directly related to education – and the eighth segment – other, additional services like collecting information and monitoring the media.

Apart from these, it should be emphasized that libraries must deal with the problems raised by the digital world where information-expansion has been accelerated and the new demands of the younger generations regarding the newest technological innovations as well.

University libraries have the following important tasks:

- Servicing education and research in the right proportion. Being up to date regarding the university's syllabus.
- Broad-spectrum contact.
- Purchasing and creating databases, and creating services, actual usage of the latter's knowledge of the institution's assets,
- Management of bachelor, master thesis and PhD dissertations.
- Creating databases of publications.
- Creating new information access tools.
- Giving certifications in order to obtain degrees.
- Digitalizing the stock of the libraries.
- Managing the 'knowledge' of the universities.

Questions, and methods

In the 21st century, when the paper-based reading is more and more neglected, the following question is automatically raised: What should the information specialists of universities and university libraries do? Do we need them anymore?

One of the answers for them (the librarians) is to take part actively in the renewal process of universities, to turn these institutions into centres of information and to make themselves into managers of information.

In my opinion, in order to make these knowledge repositories work more effective the following is needed:

- Active support from the management of the universities.
- Adequate material and human infrastructure (i.e. suitable building, suitable experts and the most opportune programs)
- Continuously developed relations in order to make these organizations linked to the institution (e.g. university library)
- Exploring the wealth of academic knowledge, which is consisted of two levels:
  1 Mobilizing the former wealth of knowledge (digitization)
  2 Managing the wealth of knowledge generated by the university. (clarification of copyright is-

sues, providing certain and clear financing background, sales)

I would like to conclude my abstract with questions. Are the Hungarian institutions of higher education able to deal with the challenges of the modern world? Are they able to make up new financing models? Are they able to renew themselves and their organizational culture?

I'll examine some practises of the university libraries in Hungary, focusing on the biggest, so called 'research universities'. Examination of the direct and indirect processes is going to be very interesting and useful as well. I should examine the third mission activity of some universities from Hungary and from other countries so I can compare them with each other.

The innovation and knowledge transfer model of the start-up enterprises

Especially after the economy crisis the new, potential strong enterprises become more and more important. From a lot of EU tenders they are supported. I would like to scan knowledge-transfer model of these enterprises. A start-up enterprise needs a lot of things for the start. First of all a good idea, which is marketable. How do they find it? What are the ways of innovation?

In my paper I am focusing the new enterprises from 2011 in Budapest. I will scan how to use the knowledge and the information for their innovation. I would like to draw a model about these processes.

Do the new enterprises use anything from the universities or libraries? What kind of conditions do these tenders include? Can institutes of higher education or library system control the information flow system consciously? This question is important from two perspectives: on one hand from the perspective of merchantability of the institute, on the other hand from the aspect of knowledge coming into existence.

My data and information derive from some start-up centres. These centres help new enterprises. Do these centres and companies serve as new customers of libraries?

The financial crisis in 2009 destroyed a lot of private companies and enterprises. From 2010–2011 some "incubator projects" have started, which aimed to help the new start-up enterprises. They had got some money, so it could be submitted for example place and contacts. But they haven't shared the main secret of success, new knowledge or innovation. Where can the start-ups find these things? They own the basic idea, but it isn't enough. They need information about the business environment. I would like to find the system in these transfers.

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06.6.3

TALKIN' 'BOUT THEIR GENERATION

Ways in which public libraries can serve and be served by the baby boomer generation

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Abstract

The baby boomer generation (those born between 1946–1964) is reaching retirement age in unprecedented numbers. As they retire, public libraries have the opportunity to play a significant role in their continuing educational and social lives. This paper explores ways public libraries are currently meeting the needs of the baby boomer generation, as well as opportunities to improve and expand the services to this group by using user-generated content and the establishment of participatory cultures that facilitate programs of lifelong learning for all generations of public library users. Ways in which older adults can benefit from sharing their lifelong experiences through public library programs are also explored. The unprecedented skills and experience of adults nearing or in retirement can result in a rich resource of user-generated content to be mined by public libraries for the use of the communities they serve. Public libraries can benefit greatly by retirees involvement as volunteers or through their service on advisory boards. This paper illustrates ways in which older adults are currently aiding their public libraries, as well as explores additional avenues for this relationship. The methodology will be a literature review of articles published on this subject in the United States, Australia and Europe and the examination of selected case studies that may contribute to a list of best practices that can be applied universally.

Who are the Baby Boomers?

The baby boomer generation is the largest generation in world history. While the term is generally associated with those born in the United States, the baby boomer generation is made up of anyone born between 1946 and 1964. As a whole, baby boomers are healthier, wealthier, and better educated than any previous generation. As the baby boomer generation ages, institutions that provide social services, including libraries, will need to adapt to better meet their changing needs. In the United States the first baby boomer turned sixty-five in 2011. The United States Census estimates that by 2019 over twenty percent of the United States population will be over the age of sixty-five, and by 2056 the population of those over age sixty-five will be larger than those under the age of eighteen.[1] This is not unique to the United States alone. In New Zealand, it is estimated that by 2051 twenty-four percent of the country's population will be over sixty-five.[2] In the majority of countries within the European Union it is projected that nearly ten percent of adults will be over the age of eighty by 2060.[3] In Western Europe, nearly half of the population will be over the age of fifty by 2030.[4]

Throughout developed countries increased life expectancy and better health care are changing the perceptions of "old age." The process of aging has become less linear than in previous generations. The "golden years" of retirement enjoyed by previous generations are less popular among baby boomers. In a 2011 survey conducted by the AARP, formerly known as the American Association of Retired Persons, the number of baby boomers wanting to remain in the workforce was nearly equal to those wanting to retire, each at just over forty percent.[5] Baby boomers are choosing to remain active participants in their careers and education throughout the course of their lives.[6] Many baby boomers are choosing to reduce hours, work part-time, or volunteer rather

1   U.S. Census Report. (2014). The Baby Boom Cohort in the United States: 2012 to 2060: Population Estimates and Projections.

2   Butcher, W., & Street, P. (2009). Lifelong Learning With Older Adults. Aplis, 22(2), 64–70.

3   Population Europe. (2012). From Baby Boom to Grandparent Boom.

4   Harper, S. (2006) Mature societies: planning for our future selves. Daedalus, 135(1), 20–31.

5   AARP. (2011). Baby Boomers Envision What's Next?

6   Flint, Suzanne. (2013, July 18). Boomers to Seniors: Library Models for Serving and Engaging Older Adults [Video file].

than partake in traditional retirement.[7] *Transforming Life After 50*, a training initiative aimed at providing resources for libraries to better meet the needs of older adults, estimates that baby boomers will have nearly thirty active years after the age of fifty.

Boomer Needs within Libraries

Overview

Libraries must ensure that they are meeting the needs of this new generation of older adults. As more baby boomers leave the work force for retirement, libraries have the opportunity to become a cultural and educational force in their lives. Current library programs that are tailored to an outdated perception of senior citizens will not meet either the needs or the desires of the baby boomer generation. Public libraries will need to provide services that address the health needs of baby boomers, provide technology support, and encourage social and community development through diverse programming.

Health Needs

While baby boomers are living longer and healthier lives than any prior generation, libraries need to be cognizant that they will be serving an increasingly aging demographic. To that end, physical accommodations need to be implemented to ensure that older adults are able to utilize their library, regardless of physical limitations. Some are fairly easy to implement, such as ensuring that signs in the library are clearly legible, keeping a wheelchair available in the library, and providing chairs or stools throughout the library.[8] Other accommodations, such as creating an area within the library especially for older adults, or hiring a senior services librarian, require greater planning,[9] but can be a valuable tool in making older adults feel valued at their library. These days, many libraries provide everything from the library catalog to the program calendar electronically. Public libraries, therefore, need to be attentive to the diminished vision

that affects many older adults and provide computer options to accommodate them.[10]

Libraries also can provide resources for baby boomers to educate them on their health needs. Baby boomers indicate a desire to take an active role in their health,[11] and public libraries can be a crucial tool in meeting this need. Increasingly, information on health care is being made available through the Internet, rather than in print. [12] Libraries can be a resource for older adults to learn how to navigate online sites that contain this information, as well as offer workshops on subjects like health insurance coverage.

Technology Support

Baby boomers generally tend to be confident with technology,[13] though it is important for libraries to recognize that not all older adults may be comfortable using computers. Because so much of day-to-day life now takes place on-screen, programming focused on assisting older adults with using computers would be beneficial. Even older adults who are familiar with computer use would find training on new technology advantageous. Many adults fear that they will not stay up to date with new technological tools and trends after retirement. [14] Having computers available for use in the library is a resource for older adults who may not be able to afford one for home use. Providing technological resources for baby boomers offers social benefits as well: older adults can use Facebook, for instance, to connect with friends or can learn how to Skype with family members who do not live nearby. In addition to the social benefits, becoming technologically literate increases an older adult's ability to be self-reliant.[15] Many important institutions, like banks and hospitals, offer online accounts that allow customers and patients to manage their information

7   Williamson, K., Bannister, M., & Makin, L. (2006) 'Wanting it now': baby boomers and the public library of the future. Australian Library Journal, 55(1), 54–72.

8   RUSA. (2008). Guidelines for Library and Information Services to Older Adults.

9   Decker, E. (2010). Baby Boomers and the United States public library system. Library Hi Tech, 28(4), 605–616.

10 Ibid.

11 Williamson, K. (2009). Creating The New Village Green: The Impact Of The Retirement Of The Baby Boomers On The Public Library. Aplis, 22(2), 83–88.

12 Decker, E. (2010). Baby Boomers and the United States public library system. Library Hi Tech, 28(4), 605–616.

13 Williamson, K. (2009). Creating The New Village Green: The Impact Of The Retirement Of The Baby Boomers On The Public Library. Aplis, 22(2), 83–88.

14 Williamson, K., Bannister, M., & Makin, L. (2006) 'Wanting it now': baby boomers and the public library of the future. Australian Library Journal, 55(1), 54–72.

15 Decker, E. (2010). Baby Boomers and the United States public library system. Library Hi Tech, 28(4), 605–616.

securely. Providing services catered to technology for older adults will help meet this need.

Social and Community Development

Libraries are considered to be a "third place," [16] a place for social engagement that is neither work nor home. As baby boomers spend less (or no) time at their place of work, libraries have the opportunity to take on more of an active role in the social life of older adults, assuring that older adults remain active socially after retirement. One way libraries can encourage this is by creating a physical space within the library exclusively for older adults, similar to a teen or children's section. This space would be reserved for older adults to use as a reading room during their library visits, as well as a place to hold older adult-oriented programming. Encouraging the use of the room for social purposes, such as programming, in addition to quiet reading will help promote it as a place for social activity.

Older adult programming has increased since the 1980s, [17] and it is important for that trend to continue. Currently many libraries do not indicate a distinction between older adults and all adults in their programming and marketing. While this has the benefit of keeping baby boomers involved with a wider community, it can prevent some older adults from participating. The baby boomer generation is incredibly diverse, so it is important for libraries to ensure that they are creating programming targeted towards the older adults in their area. One way to do this is to include baby boomers in the creation and development of programming.[18] Programs that support the ongoing learning and development of older adults are most beneficial, ranging from book clubs to creative activities to computer classes.

Model Library Programs and Services

There are currently a number of programs and services in existence targeting older adults that can be used as models for future programming. The Old Bridge Public Library in New Jersey created a Senior Space within its library. [19] This physical space is designed exclusively for the use of older adults. The Senior Space is tailored to the needs of older adults, located adjacent to the library's large print book collection and providing ample seating, as well as a "bookstore" that organizes library items in merchandised shelving. Programs for older adults, such as crafts or computer games, take place in the Senior Space.

Another successful program is the Book Sleuthing at Seinäjoki City Library-Provincial Library in Finland.[20] The Book Sleuthing program meets with different library groups once a year. During the meetings, older adults discuss different books ranging from picture books to nonfiction, as well as activities that are available at the library.

The Christchurch City Libraries in New Zealand have created three learning centers for community use. [21] These learning centers have a library specialist available who is knowledgeable about technology to provide assistance with the multimedia equipment or in the computer lab. The learning centers are available for all ages, but have specialized programs for older adults, such as beginning computer classes. The learning centers' adult programs are aimed at engaging older adults intellectually.

The Connect Care program at Queens Public Library Branches in New York partners with the Joseph P. Addabbo Family Health Center and the Albert Einstein College of Medicine to provide its patrons with health education.[22] Connect Care provides educational seminars on insurance information, provides free health screenings, and helps patrons make medical appointments. This

16 Rothstein, P., & Schull, D. (2010). Boomers and Beyond: Reconsidering the Role of Libraries. Chicago: American Library Association.

17 Perry, C. (2014). Information Services to Older Adults: Initial Findings from a Survey of Suburban Libraries. Library Quarterly, 84(3), 348–386.

18 Bennett-Kapusniak, R.k. (2013). Older Adults and the Public Library: The Impact of the Boomer Generation. Public Library Quarterly, 32(3), 204–222.

19 Kleiman, A. M. (2008). Senior Spaces: The Library Place for Baby Boomers, Older Adults & Their Families. IFLA Conference Proceedings, 1–6.

20 Hiekkilä, M. (2009). Gathered at the Round Table: Small-group Book Sleuthing for Seniors. Scandinavian Public Library Quaterly, 42(4), 12–13.

21 Butcher, W., & Street, P. (2009). Lifelong Learning With Older Adults. Aplis, 22(2), 64–70.

22 Queens Library. (2014). ConnectCare.

is another program that is not exclusively targeted towards baby boomers, but is sure to benefit older adults.

These programs address the needs of older adults within their communities. The variety of the content of these programs indicate the importance of creating programming tailored towards individual communities, rather than utilizing a one-size-fits-all approach. Because the baby boomer generation is not homogenous, it is important for libraries to be aware of the demographics of older adults in their communities in order to create programming that will best meet their needs. Including baby boomers in the creation of library programming is a way to ensure this is accomplished.

Volunteer Programs

Baby boomers are changing the idea of a volunteer's role within libraries. While there is still a place for traditional volunteer tasks, such as book shelving, many baby boomers want to utilize their professional skills in their volunteer work. These skilled volunteers are able to assist libraries with everything from fundraising to graphic design; such volunteering provides a good way for older adults to stay engaged with younger generations. In Lancaster Public Library in Pennsylvania, for example, older adult volunteers worked with staff and teen volunteers to create a teen center at their library.

[23] Older adults can also play active roles in creating programs targeted toward their age group. Their insights and opinions will help libraries ensure that they are creating programming that will benefit the older adults in their communities.

Conclusion

As baby boomers age they will both contribute to and benefit from library services. Libraries need to create and deliver services targeted to this educated and generally active demographic. Baby boomers in turn bring their professional skill sets to libraries through volunteer work. Adapting to better meet the needs of aging baby boomers will benefit libraries as it encourages the social development and community involvement of the baby boomer generation. As baby boomers are the first generation to experience this extended post-retirement age, creating programs and services tailored to these older adults will enable libraries to better meet the needs of future generations.

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23 Fiene, J., Ankney, D., Hannigan, J., & Vandergrift, K.E. (2008). An Unlikely Alliance of Young Adults and Senior Citizens, Lancaster Public Library, Lancaster Pennsylvania. Voices of Youth Advocates, 31(1), 24–27.

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06.6.4

WHICH CARTOON CHARACTER REMINDS YOU TO THE LIBRARIAN?

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Abstract

Among the main success factors of today's libraries the level of services can be as important as the picture that it can suggest to the users who often identify the whole system with the perceived image of the librarian they meet while using the services. The number of students intend to study librarianship has continuously been decreasing in the last few years. Several studies tried to identify the main factors behind the phenomenon, but no LIS research was conducted on the career motivations in this field. The students choose a future career usually in the last 1–2 years of their secondary school studies. That's why we targeted this generation to inquire about their views on librarianship.

We asked 335 senior secondary school students about which cartoon character reminds them to a librarian and why. We wanted them to obliquely tell us their views on librarians. We analyzed their answers according to the chosen characters' gender, profession and the role in the cartoon (positive or negative attitudes can be attributed to them). We also analyzed their comments if they refer to internal or external features of the figure.

The majority chose positive, male characters and considered internal features explaining their choice. The original profession of the figures are usually not librarian. The girls' opinion about the profession is much more positive than their male counterparts'. Those who described their interests with humanities regarded the professionals more critical than those who are primarily interested in hard science.

The most often mentioned features are cleverness, wisdom and great abilities. According to the answers to open questions the librarians are also kind and helpful, they like books and reading and openness to new knowledge. Among external features the traditional "wearing glasses" motif also often appeared. The professional use of information technology, or search skills did not appear at all.

The most often mentioned character is Dr. Bubo the heroic doctor who often gets into troubles but solves problems ingeniously. The next is the Owl from Winnie-the-Pooh who reminds the students to the librarian with his big collection of books and pedant behavior. Surprisingly just three real librarians appeared in the answers: the ones from the Harry Potter, the Monster University and the Franklin series.

The students basically attribute positive features to the librarian but it seems that their views are mainly based on very traditional attitudes. It would be desirable to think over the marketing strategies of the universities and develop new ways of suggesting that librarianship is a much more innovative field that students expect.

Introduction

The number of students intend to study LIS in one of the Hungarian universities has dramatically and continuously decreasing in the last few years. While 511 students started LIS studies in 2006, this number fell to 113 to 2013 in our country. (Lengyelné 2013) Between 2003 and 2007 there was a strong intense among library decision makers to make the profession more attractive and prestigious. (Tóth 2007) Several steps were taken on a strategic level to reach this goal but regarding the number of applicants to LIS education doesn't suggest that it was a success story.

Few years ago we posed the question how we are able to give skills and competences to LIS students that make their qualification relevant outside of the libraries' realm. Now we ask how libraries will be able to fill their vacancies with the low number of students completing their studies in the LIS field. On the one hand it is comfortable for our students who – as we experienced in the last few years – can select from job offers, on the other it seems dangerous on the long term for the profession that seemingly LIS schools can't attract the best students from secondary schools.

This problem led us to start a questionnaire survey among senior secondary school students on the popu-

larity of LIS studies and on the attractiveness of the profession. We conducted this study five secondary schools in the city of Pécs. In this paper we present the results of one bunch of questions of this research inquiring about the general view of the librarian by asking them which is the cartoon figure that the librarian reminds them to. We did think that this way of inquiring about their views on librarians makes possible to explore some hidden – or at last less conscious – patterns of their ideas. The idea of this question originated from Olzoeva (1998) who asked Russian students about which flower and which hero from Tolstoy's War and peace reminds them to the librarian.

With the other parts of the questionnaire we asked them about their general motivations for choosing a field for study, their impressions about the library profession and their a priori ideas of the LIS education of University of Pécs. We intended to collect data on the perceived image of the librarianship and also let them think over the possibility of studying librarianship before choosing a university and a subject. The project resulted success only as a research and not as a marketing tool. (We must admit not having more applicants last year and none of them reported stimulated by our questionnaire.)

Method

A questionnaire was made available between February and March 2014 in five secondary schools in Pécs. 398 questionnaires were filled in and returned, but only 320 of the respondents answered the question of the cartoon characters. It is a relatively high response rate that suggests that our main idea about designing such a "tricky question" proved successful. The question was quite simple: which cartoon character reminds them to a librarian and why. We analysed the answers according to the chosen characters' gender, profession and the role in the cartoon (positive or negative attitudes can be attributed to them). Some respondents commented their answer and so let us see a more sophisticated view on their ideas and impressions on the librarians.

Results

Demographic variables
In this paper we are presenting the demographic composition only of the respondents of the cartoon questions. Most of them are women (62%). Almost half of them

(47%) attend the same institution (PTE Babits Mihály High School). The average age is 18 years. As we asked the senior students it is not surprising that the youngest respondent was 17, while the oldest was 20 years old. We asked them about their primary interest (humanities, hard science, both or none of the listed). 44% reported that he or she is primarily interested in the humanities, 30% in hard science, 17% interested in both, while 9% answered not having clear interest.

Regarding their motivations toward further education our informants seem to be very committed. 90% stated that they intended to continue their studies in a university or a college and 45% of them had concrete ideas about the preferred institution. That's why we could say that suggesting them study LIS in the last moment before handling in their application to higher education didn't seem successful.

Characters
The main focus of this paper is to analyse the answers to the questions on cartoon characters. The question was entirely open so we didn't influence them with previously listed figures. Some respondents couldn't handle that after serious questions why they needed to think over such lightweight topic. Some commented that this question was ridiculous therefore they didn't want to answer that at all.

The most often mentioned figure is Dr. Bubo (43 mentions), the main character of a Hungarian cartoon "Kérem a következőt!" (Next please!). The film is about a doctor (an owl) who often gets into troubles but solves problems ingeniously. Dr. Bubo is the cleverest among the animals in the forest and in case of problems animals often turn to him for solution. (IMDb)

The second most often mentioned character was the Owl (34) from the Winnie-the-Pooh (IMDb). He owns a huge collection of books. The animals' attitudes toward him is more or less the same as to Dr. Bubo, although Owl's pedant behaviour means a small difference. While Dr. Bubo is aware of his role among the animals and therefore he is very self-confident – like a good doctor, Owl is much more shy and moderate.

The third figure was Brainy Smurf (14) from the Belgian Smurfs series (IMDb). His role is not as clear in the cartoon as Dr Bubo's or Owl's. Brainy Smurf is much more an eager beaver that makes him antipathetic among the Smurfs. The forth – with 13 mentions – was Winnie-the-Pooh, who is sympathetic on the one hand but uneasy on the other. There was a tie for the fifth place: Donald Duck, Maya the Bee and Papa Smurf each got 9-9 "votes" from our respondents.

These characters mean only the 41% of the answers. Among the remaining characters we can find Dexter, Garfield, Gargamel (The Smurfs), Goofy, Hulk, Jabba, The Little Mermaid, Piglet, Micky Mouse, Mort (Family Guy), Mufasa (Lion King), the grandma from Little Red Riding Hood, R2D2, Shrek, Snoopy, Spiderman, Superman, Roz (Monsters Inc.), Ursula (Kérem a következőt), Vilma (Scooby-Doo), Fred Flinstone. Surprisingly just three real librarian characters appeared in the answers: the ones from the Harry Potter, the Monster University and the Franklin series.

Features

There are very different characters who appeared in the answers and there are also very different features that our respondents attributes to them. We also need to take a look at the comments left by secondary school students explaining their answers. We wanted to know if the respondents considered primarily internal or external features. We were curious about if internal or external features describe the archetypical librarian. Most of the respondents (59%) considered internal features, only 27% externals and 14% both.

We grouped the same answers and tried to discover the general attitudes toward the profession. The most often mentioned characteristics were smart, wise and knowledgeable – 58 respondents explained their choice with these traits. 25 students wrote that he or she selected the character because it was kind and helpful just like the librarian. 23 mentioned that the figure had many books and loved reading. The most important external characteristic was the "wearing glasses" (21 responses). This motif can't miss from any study on the views on librarians. The most often mentioned negative features were the bored and lifeless (14).

Discussion

Summarising the answers we could find some surprising results. First of all we took a look at the characters' gender and found that 74% of them were men. They were mainly positive – and also in many cases heroic – characters of the cartoons. Moreover we can say that the mentioned characters were intellectual leaders of their community (E.g. Papa Smurf, Owl or Dr Bubo). The community can always count on their reliability and intellectual abilities. It was surprising because the archetypical librarian is a boring, conservative woman who wears glasses and rigorous regarding rules. We don't state that it means a change in the general librarian image. Per-

haps the selection of female characters was not wide enough that would allow a well-sophisticated choice for the informants. Anyway there were less negative remark that we previously expected that suggests that the librarian is a strange, but accepted and more or less prestigious figure in the society who has a lot of positive characteristics that makes him or her respectable. It was also clear that our respondents' views were mainly based on very traditional attitudes. For example IT skills or great information search abilities didn't appear at all.

We analysed the answers according to gender and primary interest. Figure 1. shows the differences between men and women regarding attributed positive or
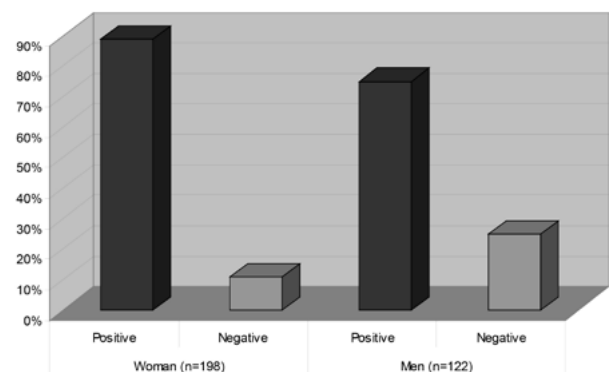
Figure 1.

negative characteristics. Girls are less critical than their male counterparts. Among the boys' comments we could more often found spontaneous roughness that targeted the librarians or the researchers. Violating the norms is quite normal in this generation especially among boys and especially when anonymity is ensured, after all it seems that the difference is significant.

Regarding differences by primary interest the result were much more surprising. Those having stronger commitment toward the humanities proved to be more critical than their counterparts interested in hard sciences.
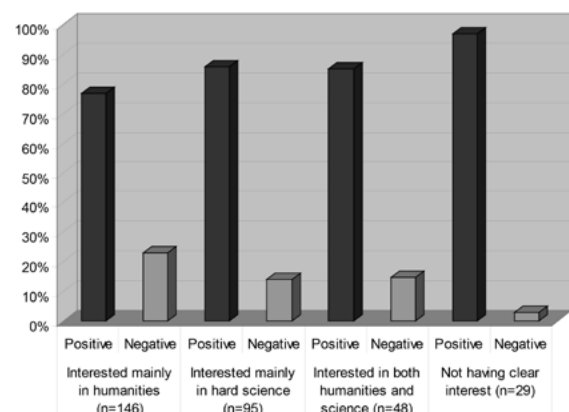
Figure 2.

(See Figure 2.) Library and information science is moving from the humanities to the more exact realm of information science. Maybe the more positive attitudes by students interested in hard sciences can be attributed to the perceived tendencies. The appearance of information technology in the LIS curricula can also result more positive attitudes.

Conclusion

The positive attitudes toward librarians is quite visible according to the secondary school students' responses. Surprisingly most of the mentioned characters were heroic intellectual leaders of their community. We can presume that these choices were made according to the limited number of well-known characters and the main motivation behind them was the consideration of one or two external or internal features (loving books, cleverness, wearing glasses etc.). Presumably the respondents didn't consider the whole character with its role in the society. Girls and science-oriented students are a little bit more positive with library profession. Regarding the secondary school students' opinions it is clear that we should reshape the image of librarians among secondary school students in particular and in the whole society in general. The responding students seem to have a quite traditional image that neglects the professions' new ways.

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- Kérem a következőt!
  http://www.imdb.com/title/tt0168343/
- Smurfs http://www.imdb.com/title/tt0081933/
- The Many Adventures of Winnie the Pooh
  http://www.imdb.com/title/tt0076363/

07
PARTICIPATION

07.1

KEYNOTE STRONG LIBRARIES, STRONG SOCIETIES

Sinikka Sipilä

"Libraries have impact on society by fostering equal opportunities to lifelong learning and education, research and innovation, culture and recreation for all."

Sinikka Sipilä is current IFLA president (2013–2015) with her presidential theme being Strong Libraries, Strong Societies. How can libraries participate on the development of today's civil society?

Ms Sipilä completed her Master's degree in Social Sciences at the University of Tampere, she has been working for the Finnish Library Association (FLA) as a Secretary General since 1997 and also was on the Board of FLA in 1996–1997.

She has been a member of FLA Governing from 2007 and the Member of the Standing Committee of Management of Library Associations Section (MLAS) in 2003–2011 and served as the Chair of MLAS from 2007–2009.

Ms. Sipilä worked as a librarian and project coordinator at the SOMAFCO Education Center for South African refugees at Mazimbu, Tanzania in 1991–1992. She has also worked on several other projects and actively promotes international corporation.

Annotation

I firmly believe that libraries have impact on society by fostering equal opportunities to lifelong learning and education, research and innovation, culture and recreation for all. I would like to define strong libraries as ones that have adequate capacity to meet the information needs of their user communities. I believe that strong societies consist of informed citizens who actively participate in the life of their community and society. Crucial for strong libraries and strong societies is the democratic ideal – freedom of access to information for all. I chose this theme partly due to the experiences we have in Finland of the positive impact of libraries on our society. I have also worked at a library of the ANC refugee centre SOMAFCO in Tanzania in 1990's and seen the power of knowledge to people living in exile when using the library of the centre.

INFORMATION FOR EVERYONE

07.2.1

DEVELOPING LIBRARY LITERACY SKILLS OF DEAF PUPILS IN HUNGARY

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Abstract

Propose

The library should take the role of ensuring equal opportunities for deaf people. That's way the aim of this study is to analyze how the seven special schools for the deaf in Hungary can impart library literacy skills for their students. I analyzed what extent they taught library use for their students where is the problem in the process. I searched how teachers gained competences could be taken into practice in the everyday life of deaf pupils. Therefore the lack of this skills (beside the discrimination) is the particular cause of the failure of deaf employees later in the labor market.

Design/methodology/approach

I analyzed the websites of the schools for the deaf and downloaded all relevant information about the curricula concerning library use. I also sent out questionnaires for individuals and conducted telephone interviews with teachers and students responsible for library-related study programs.

Findings

The results show that library use is incorporated in each deaf schools' curricula. Although the library related lessons are revealed their effectiveness needs some development. Deaf students usually stick in a relatively low level of information process (e.g. picking up information). Therefore they are lagging behind their peers not having such disabilities. Their opportunities in the labor market are much narrower regardless of their real competencies. Developing new ways for imparting information literacy skills could open new opportunities in the labor market. Today it seems teachers are not fully aware of the importance of information skills therefore the change of their attitude would also be promising in the near future

My connection with the deafs

I have already been learning sign language since 4 years. One of the most important part of the sign language course is learning about the deaf culture. My teacher talked about the deaf culture a lot because she is deaf too. When I got to know this topic deeper and deeper and realized this little hungarian deaf society (about 60000 people) has many values but lots of problem as well.

Before my sign language studies I did not know or hear anything about deaf culture. In one hand I was very lucky I did not have any prejudice. In other hand there is a hidden disadvantage in this case: unfortunatelly a large number of hearing people do not know about them either at all. This is because of invisibility of deafness. When you walk on the street you can not show me a deaf person like you show a person with wheel chair or crutches. Everything on the deafs is seemingly normal. The first occasion you face with deafness when you try to communicate with a deaf person. It occurs often the communication will be failed because the hearing peo- ple do not know any tricks or possibilities so as to ease the dialogue. In fact this is not about the lack of the readiness to help but lack of information. This means somebody has to attract the attention of the hearing citizens and teachers for the deaf and brief them to gain greater understanding of the deaf culture[1] and prevent the discrimination.

This study is about the Hungarian deaf people. I do not deal with hard-of-hearing people. This is an important detail because the they can hear something so their education, their way of living is totally different. The culture of deaf community must not split from the curtain nation's culture and language. So I can talk about just the deafs who live in Hungary and about the sign language that use in Hungary.

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1   "Because deafness is a low incidence disabilty, there is not widespread understanding of its educational implications, even among special educators. This lack of knowledge and skills in our education system contribute to the already substantial barrier to deaf students in receiving appropiate educational service."Johnson, H. et al (2012)

The medical, the educational and the cultural or social approaches of deafness

Medical approach

The degree of of hearing loss is counted by the freguency and just one out of two or both ears are involved. The measurement based on freguency: mild (21–41 dB); moderate (41–60 dB); severe (61–90 dB) and profound (61–90 dB). Deafness can be hereditary (nerve damage), acquired (consequencies of an infected illness, because of noise). One of the way that the very young deaf child (almost baby) get cochlear implant. This is an electronic device that is provided a sense of sound to the person who "wears"[2] it.

The doctors and even the parents who have deaf child think deafness is an illness that has to fix somehow. This discription is altogether called by medical related approach altogether.

Pedagogy for the deaf

That kind of name pedagogy we use in Hungary is totally different like abroad called "szurdopedagogia". This field of science abroad call it pedagogy for the deaf.

The Hungarian pedagogy for the deaf is dealing with tuition of hard of hearing people, the deafs and helping the way of their life. The pedagogy for the deaf differentiate when happened the hearing loss: before the language development (prelingual deafness) or after (postlingual deafness).

The prelingual deafs have the hardest situation from all. In the worst case they do not learn any language till they are teen-age. The consequences of the damage or totally loss of hearing are disorder of the speech and the communication. These people have disorders in the way of learning language as well. The children became deaf in his early years he can lose the relation with his mother and with those are surrounding him. If the parents do not learn the sign language or try any other communication way their children will grow up in an environment with few external stimulus. This may cause psychologi-

cal problems.[3] The problems will be bigger if the parents cannot except their deaf child.

There comes now the postlingual deafness but their situation is not well too. Though they know their mothertongue so their relationship with the family is much better the problem will come in the school. Probably they have started the speech development as soon as possible they will have a lot of blights in school. The the saddest is they will not get to know what does it mean being deaf in a social way.

The deaf child who was born in a deaf family he has been learning the sign language but he gets to know about participating the life of the minority culture. But e have to know 98% of the deaf children was born in hearing family. That's way is very important to inform widely the Hungarian society, talking about the deafness, deaf culture and the further information about the medical, pedagogical and cultural way of possibilities after the loss of hearing. The best chance would be the sign language to the deaf children in those hearing family The Hungarian community who teach the deafs thought if the deaf child learns sign language in his early years he will not be motivated to learn speaking. The problem was that the teachers do not know the tuition (or improvement) of hearing will be succesful. The prelingual deafs have the hardest situation from all because in the worst case they do not learn any language till they are teen-age.

Segregated or integrated

When the deaf children have started the school their parents have to choose between two options how they will educate their deaf child. The parents get had entered their child in two types of schools: segregated or integrated. Integrated school means that the deaf child learns with hearing pupils. But they have often had communication and understanding problems. They have to learn much more because they constiguously have to make up for what has missed during the lessons. It has more reasons: they have to read lips that is really tiring process. There are four or five lessons a day in a primary school. An average deaf child can read lips precisely for 2–3 hours long. So they can concentrate that so long and stay behind. They as Johnson H. (2012) mentioned are

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2 There is a part of the cochlear implant that has to be on the sculp.

3 "Dammayer reported that poor sign or spoken communication skills were significantly related to psychosocial difficulties." Antia S. D. et al (2010)

delayed of vicabulary knowledge, acquired new words at slower rates and have a narrower range of context that results in word learning that is less than their hearing peers.

If the parents choose the segregated solution although the child with hearing loss will be with like him. But the sign language was forbidden in the deaf schools. In fact the effectiveness of the pedagogy of deaf was the same in both cases. In one hand the school for the deaf is better because there is 2 years to deaf youths for prepering the primary school. The other hand this school is worse becuse the accent is on the speech development and not on expanding the knowledge.

Social or cultural approch of deafness

A significant moment was when in 2009 Hungarian sign language and the deaf culture was offically recognized by the goverment. This was important because sign language is most spectacular part of the deaf minority culture. A scientific team came off seeking the sing language, developing a full sign language dictionary and expand a method using sign language and speech developing as well.

The most interesting part is what the deafs are thinking about themselves. They think being deaf means that you have a share with a little majority ethnic unit. You have to accept their values and use the sign language. They had had so powerful consciousness of their own value and identity they started to write the deaf culture with capital "D": Deaf culture. Their behaviour is similar to that deafs groups who live in other countries. The hearing people who accept that point of view just asks simply: Who are you? What do you need? In that view people accept others what does it like and that everybody need special things, treatment or devices. There are no differences between hearing or deaf, healthy (pregnant woman, old people etc.) or who has got any illness.

The deafs and the library

In this case deaf people need some special service in everyday life, for Example in the library too. Unfortunately the education of library using of the deaf is an a low level. They have communication and understanding problems so they do not become a good reader. We have to base the process te become a reader. Libraries have to undertake a big role. Because if information is presented only verbally, deaf those who use sign language is unable to make the same choises and decisions as hearing people about

making use of library service sor contribute effectively to conversation debate and discusson."[4]

When I were watching all the curricula of the seven school there were not big differences between them. The content is mostly the same the cause of the unefficiency is to translate the information the deaf children read. The studies I processed showed me if the whole education practice has to alter (use the sign language and the bilingualism) that the deaf children can unterstand they read. I hope there will come a moment that the librarians and the information experts can handle the education of library use for the hearing and the deaf children ont he same level as well. The libraries in the Hungarian school for the deaf are trying to do the best but the real development will be reguired when the deaf children do not struggle with the way of communication.

Till this moment the public libraries need to inform the society about the deafs and provide to the deafs that services they can reach and use without limit.

A fully inclusive library and information service for deaf people would incorporate the following:

The library has to advertise the service, notices in deaf clubs and pubs and organization, social services and audiology departments and within specialist organizations. The library also has to write articles and make advertisements for the media targeted at deaf people, in plain English and clear typeface The deaf citizens need to have access to the websites with links to specialist websites. They are visual so they need video information about the services provided with Hungarian sign language, a clear soundtrack with no background noise and subtitles, to include directions to different parts of the site; and. library staff has to learn sign language on a basic level and visiting Deaf clubs. The library has to become a social place fo the deaf too, it can be a plece for their studying course, for Example: lip reading classes, hard of hearing clubs, etc. The visuality is the strenghness of the deafs so they can reach the signage in all areas The deafs need special services, personally advertise what is available and it is necessary.[5]

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07.2.2

MARKETING DIGITIZATION PROJECTS THROUGH SOCIAL NETWORKS

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Abstract

Many activities connected with digitization are placed in libraries, archives and museums (LAM institutions) as well as in conservation and restoration institutions/units (Seiter-Šverko, Križaj, 2012). LAM institutions have started to carry out digitization projects even before national digitization plans were designed and approved by financing bodies. By carrying such projects LAM institutions have been introducing innovative approaches and tools which influenced their liaisons with ICT and computer scientists.

To be able to attract new users and to make all users aware of the innovative products and services LAM institutions use more and more social networks for better communication and marketing. Social networks can be useful tools in developing and advertising new services for free, and in a more user friendly way. Today's society is characterized by the usage of information and communication technologies, so cultural institutions had to expand their management activities to fulfill the needs of society (Manić, Aleksić, Tankošić, 2012).

The main goal of this paper is to explore how Croatian LAM institutions are recognizing the possibilities of social networks and how they use social networks in promoting their digitized collections. The focus is on several research questions: a) Do information institutions use National digitization plan and how much does it help in the process of making digitized collections?; b) Which services, related to digital collections, are available to users?; c) What are the terms and conditions for accessing collections? and d) Which are the main reasons for using social networks for promoting digitization projects?

The methodology used is based on interviews with representatives of 8 Croatian institutions: The Archives of the Croatian Academy of Arts and Sciences, Pazin State Archive, The National and University Library in Zagreb, Marko Marulić City Library Split, Petar Preradović Public Library Bjelovar, Museum Documentation Centre, Croatian State Archives and Zadar Archaeological Museum.

Introduction

Digitization is a process of converting physical materials into digital objects. The main reasons for digitization can be sorted into four groups: protecting original scripts, improving accessibility and the abilities to use materials, creating new services which include new contents and services and totalizing funds. LAM institutions recognized the importance of digitization for improving their collections, protecting the original materials and developing new services. To insure durability of digitized collections, institutions manage their collections according to Recommendation on the Digitization and Digital Preservation National (2011) and national digitization plans (in Croatia, per example, the national plan was approved in 2005 and the Strategy on digitization of cultural heritage till 2020 is about to be publicly announced by the end of 2014).

Even though Croatian Strategy on digitization of cultural heritage till 2020 has not yet been published, LAM institutions have started to carry out digitization proj-ects and offer them to users having in mind that digital collections can improve the institution's management and attract new users. By carrying such projects LAM institutions have been introducing innovative approaches and tools which influenced their liaisons with ICT and computer scientists. Since social networks are becoming more and more popular, many institutions have started to use them as a tool for promoting their services.

Theorethical background

While creating digitized collection it is necessary to determine which criteria the collection needs to fulfill. In that procedure, useful guidelines for LAM can be accepted principles in building good digitization collections, written by NISO Framework Working Group:

1 A good digital collection is created according to an explicit collection development policy that has been agreed upon and documented before building the collection begins.

2 Collections should be described so that a user can discover characteristics of the collection, including scope, format, restrictions on access, ownership, and any information significant for determining the collection's authenticity, integrity, and interpretation.

3 A good collection is curated, which is to say, its resources are actively managed during their entire lifecycle.

4 A good collection is broadly available and avoids unnecessary impediments to use.

5 A good collection respects intellectual property rights.

6 A good collection has mechanisms for collecting data that measure use and usefulness.

7 A good collection is interoperable.

8 A good collection integrates into the workflows of staff and end users.

9 A good collection is sustainable over time. (A framework of Guidance for Building Good Digital Collections, 2012)

Considering that one of the main goals of every information institution is to provide access to their materials and different information services, many institutions started digitization projects for many reasons, most oftenly as form of preservation and improving access (Hrvatska kulturna baština, 2014). Croatian Ministry of Culture have started a National digitization plan in 2005, and the Strategy on digitization of cultural heritage till 2020 is about to be publicly announced by the end of 2014. The goal of 2005 digitization program is to encourage cooperation of information institutions and make accessible digital collections with recognizable and national relevant contents (Hrvatska kulturna baština, 2005). To insure durability of digitized collections, institutions manage their collections according to Recommendation on the Digitization and Digital Preservation National (2011).

As digitization commonly includes two operations: reproduction and making materials available in the public domain (Horvat, 2012), common problem in selection of materials for digitization is certainly the problem of copyright management. Digitization projects usually include only those materials which are not copyrighted, because the materials which are copyrighted can only be used for research and LAM institutions need to make their collections available to everyone. Unlike the collections placed in libraries, which can be controlled by institutions, collections set on the Internet allow everyone to access them, so it is impossible to supervise the usage and reproduction. Materials which are most often used for digitization are ephemeral materials (photographs, posters, postcards, tickets etc.), since they are very attractive to public, and also testify a certain historical lifestyle (cultural value). Also, the creators are usually unknown, so copyright is not violated.

Another problem with digitization is financing. Digitization is not always a simple procedure, and it requires both time and money. Information institutions (LAM) have always been facing financial problems, since they have to justify their expenses to financing bodies which, in most cases, do not consider digitization is necessarily required. Financial problems are also linked to acquiring of necessary equipment for digitization and training the employees. Besides that, employees do not always have the required knowledge for doing the job of digitization, so the problem of financing education or hiring some other associates also occurs.

Many activities connected to digitization are performed in libraries, archives and museums (LAM institutions) as well as in conservation and restoration institutions/units (Seiter-Šverko, Križaj, 2012). LAM institutions have started carrying out digitization projects even before national digitization plans were designed and approved by financing bodies. By carrying such projects LAM institutions have been introducing innovative approaches and tools which influenced their liaisons with ICT and computer professionals. The focus was put on all aspects of information and communication technology usage: collection and search information tools, project management tools and internet 2.0 social media (Duparc, 2012).

These technologies, especially social networks, have given series of options linked to digitized collections for information institutions (LAM). They can overcome many problems connected to digitization: geographical boundaries, collection mobility, financing, damage and theft to name but a few. Also, relying on social networks, institutions are able to communicate with users, as well as advertise (Manić, Aleksić, Tankošić, 2012.) Social networks as Facebook, LinkedIn and Twitter have contributed to better visibility of institutions, as well as to the visibility of their collections. Their interactive content allows publishing of photos, texts and even creating applications for representing digitized content.

Still, the question remains how much information institutions really recognized social networks as an advertising medium. By analyzing literature and web sites of several LAM institutions it is noticed that they use social networks mostly for communication with users, and rarely as a medium for advertising services and collection (Carlsson, 2012). To determine is the situation really like that and why, we carried out a research among Croatian information institutions.

In this research we were especially interested in possibilities and ways of marketing digitization projects. Special attention was given to defining marketing activities through which users are informed about the conditions of accessing these collections. Since Internet is becoming the main communication medium, information institutions have recognized the possibilities in using them for carrying out their marketing activities. Besides LAM web sites, many information institutions have started joining different social networks, so they can get closer to their users and make their institutions more interesting and representative.

Research methodology

The goal of our research was to determine to what extent Croatian information institutions recognize and utilize social networks as a medium for digitized collections promotion. We chose 10 LAM institutions for our research: Croatian State Archives, The Archives of the Croatian Academy of Arts and Sciences, Pazin State Archive, The National and University Library in Zagreb, Marko Marulić City Library Split, Petar Preradović Public Library Bjelovar, Museum Documentation Centre, Varaždin City Museum, Zadar Archaeological Museum and Zagreb City Museum.

Through interviews we intended to determine primary reasons for digitizing of collections and find out if the institutions adhere to the National digitization programme for library, archival and museum materials (Nacionalni program digitalizacije knjižnične, arhivske i muzejske građe, 2006). Furthermore, we were interested in what services, regarding digitization and digital collections, are available to the users and what are the terms and conditions of use. We also wanted to determine what social networks do the institutions use, how often do they release new information, do they communicate with their users and do they use the social networks to promote digital collections. We intended to find out whether the web sites are more visited after they started using social networks, and if they analyze their user's satisfaction with offered services.

The research was carried out through interviews. We contacted institutions via mail or phone and the questionnaires were conducted via phone or mail. 8 out of 10 institution representatives were willing to answer the questions. The answers are presented in the following discussion.

Interview data

When did your institution started with digitization?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
1992	1996	2004	2009	Not aswered	A few years ago	Not aswered	1950
What was the main reason for digitization?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
services improvement, scripts preservation, better access of commonly used materials	scripts preservation, services improvement	scripts preservation, services improvement	scripts preservation	not answered	not answered	not answered	scripts preservation
Do you adhere to National digitization program?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes, we participated in creating the National program	yes, we also use "Good Practices Handbook"	yes, we use it as guidelines for digitization	yes, we also use other guidelines like JISC Digital Media	no, we usually follow guidelines of our profession	no	yes, but we think the program needs to improve	yes, our institution is one of the program founders

1. The National and University Library in Zagreb

2. Museum Documentation Centre

3. Petar Preradović Public Library Bjelovar

4. Marko Marulić City Library Split

5. Pazin State Archive

6. The Archives of the Croatian Academy of Arts and Sciences

7. Zadar Archaeological Museum

8. Croatian State Archives

Table 1 – The beginning and realization of digitization projects

Which services, regarding digitization and digital collections are available to your users?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
digitization on demand, online collections	online access	online access (catalog)	online access, digitization of users material (if valuable)	available only in library	providing access to collections	providing access only for institution's employees	one part of collection is public, other is available through institution's intranet
What are the terms and conditions of using digital collections?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
free access, except for materials with copyrights	general institution terms	free access (read only)	free access	general institution terms	access only for scientific purposes (fair use)	collections are available only to institution's employees	general institution terms

Table 2 – Service and usage of digital collections

Which social networks do you use?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
Facebook, Twitter, YouTube, LinkedIn, Pinterest	Facebook, Twitter, Pinterest, YouTube	Facebook, Twitter	Facebook, Twitter, ISSUU, YouTube, Vimeo, Soundcloud	none	none	Facebook	Facebok
How often do you publish new information on social networks?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
occasionally	few times a week	daily	daily			daily	daily
Do you communicate with users through social networks?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes	yes	yes	yes			yes	yes
Do you promote digital collections through social networks?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes	occasionally	yes	yes			no	no
Do you consider social networks to be a useful marketing tool in promoting digital collections?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes	yes	yes	yes	yes	no	no	no
Is your website more frequently visited after joining social networks?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes (Google Analytics)	yes (Google Analytics)	yes	yes			yes	yes
Do you analyze the level of user's satisfaction with provided services and how?							
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
yes (surveys)	yes (verbal cocommunication with users)	yes (surveys)	surveys, verbal communication with users	not answered	no	no	yes

1. The National and University Library in Zagreb
2. Museum Documentation Centre
3. Petar Preradović Public Library Bjelovar
4. Marko Marulić City Library Split

5. Pazin State Archive
6. The Archives of the Croatian Academy of Arts and Sciences
7. Zadar Archaeological Museum
8. Croatian State Archives

Table 2 – Service and usage of digital collections

Discussion

LAM institutions started digitizing their collections at end of the 20th century and in the beginning of 21st. Most of the institutions interviewed stated that they carry out their digitization projects to protect the original materials, to increase the use of their collections and to provide new services to their users.

All of the institutions interviewed, with the exception of The Archives of the Croatian Academy of Sciences and Arts, stated that they adhere to the National digitization programme for library, archival and museum materials, considering it a useful document that facilitates their job as we can see from the following statement: "I believe that it is necessary to constantly monitor standards and modernize the guidelines and instructions which are necessary in the implementation of digitization projects." They provide their digital collections use in situ or through their web sites. All of the terms and conditions are provided within their internal Policies and Procedures. It is a rather worrying fact that one of the institutions provides the access of its digitized collections strictly to the employees. The goal of every institution is to provide the access online, and enable the usage even to the users that are not members of the institution. Unfortunately, that is not always possible: "Because of the modest possibilities our institution does not provide digital collections online," stated one of the interviewees.

Facebook is the most used social network. It is followed by Twitter, YouTube, Pinterest and LinkedIn. Most of the institutions use social networks almost on daily basis. From the interviews carried out, it can be concluded that digitized collections are rarely or never promoted. Some of the interviewees gave a rather interesting reason for that: "Our users are mostly scientists, I don't think that (social networks) means anything to them." Nevertheless, most representatives stated they consider social networks useful for marketing, as well as representing digitized collections: "I think that social networks have the potential for further development of new services related to digital collections."

Institutions we interviewed mostly monitor their web analytics and state that they have noticed that their web sites are visited more frequently since the launch of their social network profiles. They mostly use Google Analytics tool. Most of the institutions recognised the importance of social networking and consider them a valuable marketing tool. User satisfaction is analyzed mainly verbally, more rarely through short surveys.

Conclusion

The main goal of a marketing plan is to create positive image of an institution in public. It is very important that information institutions design new services to satisfy the needs of users. Many users are not aware of their information needs, until the information of existence of certain services comes to them; it is important to attract the potential users and promote such services. Social networks can provide new possibilities in promoting digitized collection and the institution itself. Although most of the institutions point out that they use, or plan using social networks in their management, it is possible to conclude from the interviews that some of them still do not recognize the possibilities that social networks provide. The positive examples such as The National and University Library in Zagreb and Museum Documentation Centre can be used as an example to other institutions in using social networks as a marketing tool so that the other institutions would start providing services for their users in places where they spend their time every day – on the social networks.

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REVISUALIZATION AND DE-VISUALIZATION OF DATA: TRANSFORMATION OF VISUAL DATA INTO INFORMATION FOR VISUALLY IMPAIRED USERS

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Abstract

The current trend in providing information is data visualization. Raw, textual, orderless data are transformed into structured information through visualization. It is assumed that sight is the main receptor through which information flows to a person, and which allows him to grasp the whole subject at once in one time. Thanks to this, it is possible to quickly acquire an overview of the structure of the object which is explored.

However, advancing visualization causes difficulties to users who cannot use sight to acquire information – users with a visual impairment, especially blind users. In order to fulfill their right to information, it is necessary to devisualize information, i.e. to transform information into a form other than visual; because blind users replace sight by touch and hearing, it is necessary to provide haptization and audialization of the visual information.

This paper will define users with visual impairments and divide them into categories according to functional criteria. We will focus on methods of haptization and audialization of information for visually impaired users and define and classify documents that are created by the haptization and audialization of information.

Introduction

It is reported that a human being receives about 90% of information through the eyesight. Thanks to this fact the visual information plays a significant role in contemporary culture – visualization is one of the preferred methods to transform the unordered data into structured information. On the other hand, today's society becomes aware of the fact that this society includes even people for whom the tendency to visualization and the amount of visual information represent a considerable obstacle – they are mostly people with some type of visual impairment.

The task of personnel engaged in the provision of information for visually impaired users, is primarily a transformation of visual data into forms that are accessible for perception through senses other than the eyesight (the tendency is thus strongly against current trends). The results of such a transformation are different types of documents intended for users with visual impairments. We describe in this paper some of the methods by which the visual data become modified visual or non-visual information; we will show what documents for visually impaired users exist, and we will contemplate the nature of the visualization itself.

Visually impaired user

The Medical Dictionary by Farlex defines and classifies visual impairment with the following words: "Total blindness is the inability to tell light from dark, or the total inability to see. Visual impairment or low vision is a severe reduction in vision that cannot be corrected with standard glasses or contact lenses and reduces a person's ability to function at certain or all tasks. Legal blindness (which is actually a severe visual impairment) refers to a best-corrected central vision of 20/200 or worse in the better eye or a visual acuity of better than 20/200 but with a visual field no greater than 20° (e.g., side vision that is so reduced that it appears as if the person is looking through a tunnel)."

The World Health Organization (WHO, 2010) divides visual impairment according to visual acuity into six categories: (in brackets, there is a terminology which is used in the Czech context):

- mild to no visual impairment,
- moderate visual impairment,
- severe visual impairment,
- blindness 1 (practical blindness),
- blindness 2 (legal blindness),
- blindness 3 (total blindness).

Among other visual disorders there are myopia, hypermetropia, astigmatism, hemianopia, colour-blindness, tunnel vision, central and peripheral scotoma, diplopia, night blindness and impaired adaptability to light (WHO, 2010).

From a viewpoint of **library and information science**, it is useful to define the user with visual impairment according to the functional criterion (Červenka et. al., 2012) which is close to the psychological, philosophical, and epistemological approach to disability and which takes into account the user's ability to work with information in a specific sensually perceptible form. According to

this approach, we define the user with visual impairment *as a user who works with information in a modified visual form or in a form other than visual* (Stodola, 2011a).

We can divide such users into those that
- work with modified visual information (category 0.–3. according to WHO),
- work exclusively with non-visual information (category 4.–5. according to WHO). (Stodola, 2011a)

Revisualization and de-visualization of visual data

Breakdown of the users implies the necessity to transfer the original visual data partly into the form of visual information (revisualization), partly into the form of non-visual information (de-visualization).[1]

Visual text data are usually transformed using the visualization into the visual image information.

Figure 1 – Data visualization

That which is the image information for a person who sees, can be understood as mere data, i.e. the raw material for the purblind person or blind person. This material becomes information only after its revisualization or de-visualization, thus after transformation into modified visual form or non-visual form.

Visual data must therefore be first divided into textual data and image data. We can divide into revisual-

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1 Data are clean, unordered characters. They are the basis of the information. Information are data structured and put into context. Knowledge is the human being's ability to strategically use information (Bates, 2010).

ization and de-visualization the process by which this data is converted into information. The revisualization means the modification of the original visual form, which results in visual information. The de-visualization means converting the visual data into non-visual information. The de-visualization includes the haptization, audialization and textualization. The textual data can pass through the revisualization, haptization or audialization, and thus are changed into the visual information, tactile information or auditory textual information. The image data pass through the revisualization, haptization and textualization (it is the inverse procedure to the traditionally understood visualization), and there are generated the visual information or tactile image information or textual information from them (tactile or auditory).

Visual data	Process	Information
Visual textual data →	Revisualization →	Visual textual information
	Haptization →	Haptic textual information
	Audialization →	Auditory textual information
Visual image data →	Revisualization →	Visual image information
	Haptization →	Haptic image information
	Textualization →	Textual information (haptic or auditory)

Table 1 – The process of transformation of data into information

Revisualization of visual textual data and image data

"Enlarged Printing" is used for the revisualization of visual textual data and image data. There is no standard that would regulate this process – it always depends on individual dispositions of a particular user. Users may prefer different designs and font size of the printed text – the sans-serif font types Arial, Tahoma are usually used; the fonts variously decorated are inappropriate. The situation is similar in the case of enlarging image data.

To enlarge the text and the image it is possible to use the camera magnifying glass, thanks to which it is possible to enlarge and modify the colours of data from the classic printed document. These cameras have either their own display, or may be connected to a computer. It is also used software device for Scan and subsequent enlargement and modification of data on a computer screen using a standard or specific tool for working with text or graphics.

Figure 2 – Working with the camera magnifying glass

Figure 3 – Braille six-point and Czech National Braille Norm

In an electronic environment there are used software applications to enlarge the operating system environment, providing the desired modification of the image according to individual user needs.

Haptization of visual textual and image data

During the so-called haptization, the visual data are transformed to the touch (tactile) information. This should take into account the differences between visual perception and tactile perception. We may express them using the following table:

For the haptization of visual textual data there is typically used the Braille, created originally for writing

Tactile perception	Visual perception
Contacting	Distance
Slow	Faster
Partial	Complex
Successive (time-sequential)	Simultaneous (time-synchronous)
Spatial, it does not distinguish the 3D display on the desktop	It distinguishes in the space and in the surface
Limited dimensions of the object	Virtually unlimited dimensions of the object
Mainly active, more effort	Mainly passive, easier

Table 2 – Comparison of tactile and visual perception

alphanumeric characters of French language. The so-called six-point is a basic variant of this system. The characters are based on a combination of 1–6 points (2 columns and 3 lines), by combination of which 64 characters are created. It is not sufficient, so it is necessary to express a variety of characters that are used in different alphabets and scientific fields, by means of a combination of characters. It is mostly a combination of the main character and prefix.
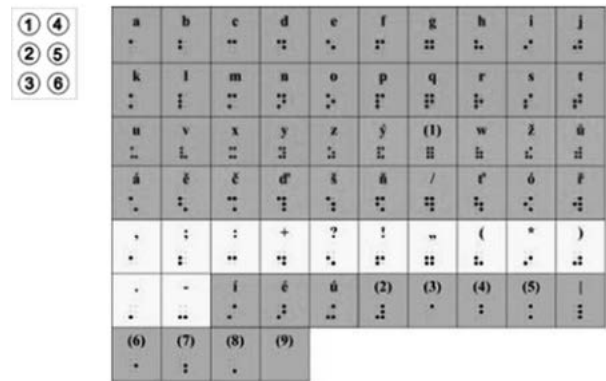
There is an effort to remedy this deficiency of the Braille system using the so-called Braille cell, which consists of two columns and four lines, and that enables to write 256 characters. In doing so, the positions 7–8 have a similar function as prefixes in the six-point.

Various printers are used for printing text in Braille. The so-called tactile display enables the Braille output of the computer screen.

The tactile graphics is created by means of haptization of visual image data. The differences between

Figure 4 – Braille tactile display

visual perception and tactile perception should be taken into account during its creation, which we already mentioned. It is to be expected that the tactile display will always contain less details than the visual original – it is necessary to simplify the overall image.

Vacuum forming, carried out by the so-called thermoforming, is the traditional method of producing the tactile graphics, which lies on the border between the two-dimensional and three-dimensional models. This device enables the creation of multi-level plastic relief. It is based on three-dimensional matrix, which is enclosed by a plastic film at high temperature and vacuum.
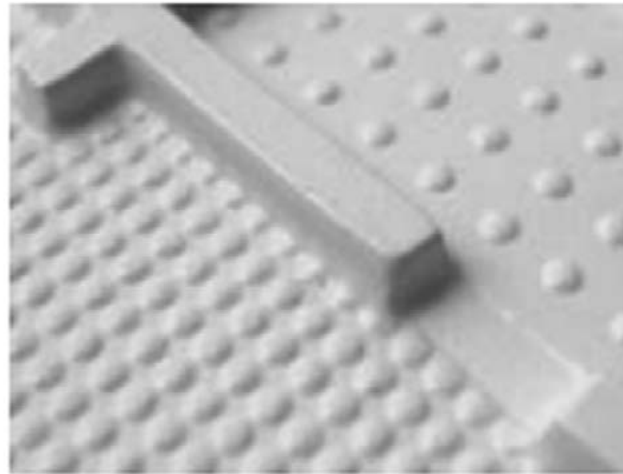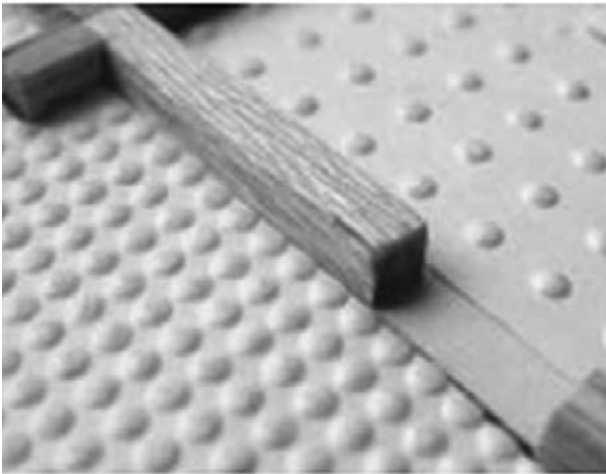
Figure 5 – Technology of vacuum forming: matrix, plastic output

The thermal fuser is used in production, which does not need to distinguish multiple layers, multiple heights of relief (such as the graphs, charts, simple images, plans, maps are so manufactured). In this device, a two-layer film is used, which reacts chemically with the black colour that is applied to the film using the classical printer or manually. After heating, the tactile relief is displayed on the film in the area of black coverage.

Audialization of visual textual data

Audialization of visual textual data is to convert the text into voice form. When using the natural human voice, the classical non-musical sound documents are produced (such as audio books, audio magazines, etc.). In an environment of computers there is used a voice output by means of the so-called screen reader and voice synthesizer. The unique audialization of visual textual data is associated with the vocal track of the so-called hybrid book, which among other things allows working with voice output, similarly as with the text (the voice output is directly linked to the text).

Textualization of visual image data

Figure 6 – Audio book

Textualization means converting the image data to the textual information. It is usually used in the digitization of printed documents. According to the content, we distinguish three types of image data: a) the accompanying graphics, which perform solely an aesthetic function, b) the graphics that visualize the information, which is also found in text form, c) the graphics, which itself carries key information, and whose conversion into text form necessarily entails the information loss. From a formal point of view, we distinguish in particular the tables, images, diagrams and graphs. For example, the following rules apply for diagrams and graphs:

Schemes are verbally described, like images

- Graphs with accurately plotted values are broken down as tables (the tables are left in tabular mode or are converted to plain text using the unique characters for the columns – semicolons and lines – dots
- More complex schemes will not be overwritten – only their original label is retained
- As regards the inaccurate graphs, only tendencies of the course of the function is described
- The broken down schemes with comments of editor are enclosed in special characters

Documents for the visually impaired people

Document for readers with visual impairments is a document whose method of data recording is accessible to people with visual impairments. These documents can be divided into the following, according to the way of the record:

- Visual textual (enlarged letters) and image documents (enlarged graphics, enlarged cartographic documents)
- Spoken audio documents (audio book) and music documents
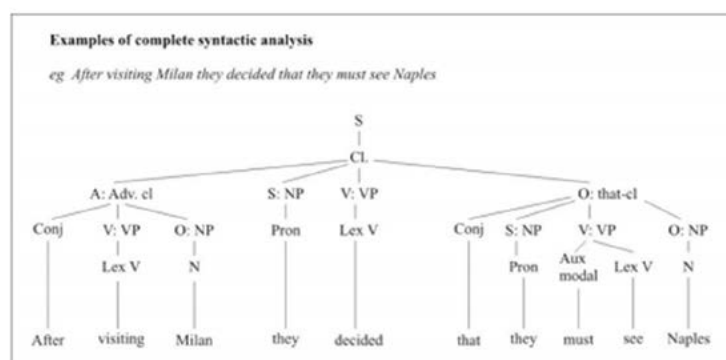
@Figure 30 Examples of complete syntactic analysis
(Poznámka k úpravě: jednotlivé úrovně syntaktického stromu jsou vyznačeny pomocí odrážek, arabskými číslicemi je naznačeno pořadí výskytu jednotlivých jevů - VP, NP, Conj....)

eg After visiting Milan they decided that they must see Naples.
S = Cl
- Cl = A: Adv. cl + S: NP1 + V: VP1 + O: that-cl
-- A: Adv. cl = Conj1 + V: VP2 + O: NP2
-- S: NP1 = Pron1
-- V: VP1 = Lex V1
-- O: that-cl = Conj2 + S: NP3 + V: VP3 + O: NP4
---V: VP2 = Lex V2
--- O: NP2 = N1
--- S: NP3 = Pron2
--- V: VP3 = Aux modal + Lex V3
--- O: NP4 = N2
Conj1 = after; Lex V1 = visiting; N1 = Milan; Pron1 = they; Lex V1 = decided; conj2 = that; Pron2 = they; Aux modal = must; Lex V3 = see; N2 = Naples&

Note to adjustment: the individual levels of syntax tree are marked with bullets; Arabic numerals indicate the order of occurrence of the individual events – VP, NP, Conj....)

Figure 7 – Transcript of syntax scheme

- Tactile textual (Braille publications) and image documents (tactile maps, tyflographics)
- Combined documents (they allow output for sight, hearing and touch – electronic resources)

According to the categories of documents AACR2, we can distinguish the following types of documents for visually impaired users. The noun here refers to the basic type of document, and then the adjective refers to the type of document with which the basic type is combined, or form of the basic document. We obtain these types of documents by using the combination of the following characteristics:

- Books printed with enlarged letters
- Tactile books
- Electronic books
- Enlarged cartographic documents
- Tactile cartographic documents
- Electronic cartographic documents
- Music documents printed with enlarged letters
- Tactile music documents
- Electronic music documents
- Non-musical audio documents (audio books, audio documents continued)
- Electronic non-musical audio documents (electronic audio books, electronic audio continued documents),[2]
- Enlarged graphic documents
- Tactile graphic documents
- Electronic graphic documents
- Electronic resources
- Three-dimensional documents (tactile models)
- Continuing sources printed in enlarged text
- Tactile continuing resources
- Electronic continuing resources

2　The list does not include the audio music documents, because these, although they are available for readers with visual impairments, they are not intended primarily for them.

Concluding considerations

Visualization is currently a popular tool how to express the various relationships between data that have not been interpreted so far, how to make from the data the structured information. We have seen that there is a group of people for whom the general tendency to visualize is not a useful educational tool, but rather a big problem. The more amount of visual (especially) information we produce, the greater information deficit of visually impaired people will be. To be at least somewhat mitigated, it is necessary to use various revisualization and devisualisation means of which we deal with in this article. However, these means are extremely time-consuming and costly, they are often unable to interpret the visual data without loss of information, and cannot completely remove the information deficit of visually impaired people.

From the standpoint of the concept of education available to everyone (universal learning design), it is necessary to ask whether in all cases where there is data visualization, it is really necessary to express them in this way. In general terms, it would be advisable to answer the question whether through the rapid efforts to visualize all sorts of things; we do not simplify dangerously intricately structured reality by that that we reduce it to spatial relationships.

In any case, it should be approached cautiously and responsibly to the issue of visualization, it is impossible to consider the visualization as a pedagogical tool that resolves everything; it is necessary to consider its advantages and limitations.

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07.2.4

ROLE OF PICTOGRAMS IN ONLINE COMMUNICATION

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Abstract

According to English encyclopedia, pictogram is a symbol, or a picture that represents an object or a concept; for example, a picture of an envelope represents an e-mail message. When talking about pictograms on computer interfaces, they are commonly known as 'icons'. Nowadays, icons and symbols are all around us and we do not even pay attention to them anymore, but without them our life would surely be more difficult. The best examples are traffic signs that enable us functional road traffic.

In the world of online communication pictograms have a special place. According to Aurora Bedford, user experience specialist at Nielsen Norman Group in California, icons must first and foremost communicate meaning in a graphical user interface. Icons allow faster information flow in case users speak other language, or have limited language abilities. They have unique graphical meaning which, with time, has become recognizable and allows us easier informing regarding to textual information.

Nowadays, they come in different packages that can be useful while choosing icons for websites. For example, the most popular icon providers are Microsoft with 625, and Google with 404 available icons. Also, they come in different formats like .svg, .png, .jpg, .gif, .psd etc. and they are going to be explained through this research. Seven packages within 2,653 accessible packages are going to be analysed and compared. In addition, the most used icons that come from those packages will be visually compared. The expected results will show the difference between various manifestations of icons, how much space they occupy in online communication, the most used formats, their purpose in online communication, and how many of them can be purchased freely. Furthermore, it will be discussed whether so many different icons with the same meaning which differ from each other only in small proportions should be used, or should they be universal. Today, most of the icons are widely recognizable and they represent same thing in every operating system, on every web page or at some other places where they appear, same as traffic signs do in every country because they have identical shape and appearance.

Introduction

With the Web content use increase, there has also been an increase in needs for symbols that would replace the words. Because of the industrial revolution and globalisation, people worldwide have been establishing themselves in foreign countries, where language and culture diverse from theirs, but at the same time using the same technologies to work and communicate. This is what is called a universal lifestyle. In order for this to work we need to communicate in an universal language that everyone can understand, no matter what one's language or culture is.[1] That language is based on pictograms which role is to connect people on the global range with universal images that allow easier managing in online space. According to English encyclopedia, pictogram is a symbol, or a picture that represents an object or a concept; for example, a picture of an envelope represents an e-mail message.[2] Pictograms must be clear, understandable, and must represent warnings, prohibitions, and rules and allow users to quickly access the information. When talking about pictograms on computer interfaces, they are commonly known as 'icons'. According to Aurora Bedford, user experience specialist at Nielsen Norman Group in California, icons must first and foremost communicate meaning in a graphical user interface.[3] Designers and developers have been detecting new situations and functionalities where this style of communication is applied. This basically means that

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1   Saffron Interactive. A brief history of pictograms and ideograms. Retrieved December 10, 2014 from: http://saffroninteractive.com/a-brief-history-of-pictograms-and-ideograms/

2   English encyclopedia. Pictogram. Retrieved November 15, 2014 from http://www.encyclo.co.uk/meaning-of-Pictogram

3   Aurora Bedford.(2014). Icon Usability. Retrieved November 10, 2014 from: http://www.nngroup.com/articles/icon-usability/

we have gone from a few universally understood and recognized pictograms to hundreds of thousands of icons employing the same simple visual vocabulary.[4] From the beginnings of using icons on the Web until now, the number of icon packages has constantly been increasing. Is it possible that there is a need for so many of them? That question leads us to the hypothesis of this research, which is the questionable existence of too many icon packages with the icons of the same meaning.

Research

While browsing the Internet, the information tells us that there are 2,653 different icon packages, and among them the most popular are Microsoft with 625, and Google with 404 available icons. Specimen was defined by in advance determined population from which seven different but interrelated packages were chosen. Specimen was selected by browsing and viewing various websites with different icon packages. Research was carried out by content analysis. Content analysis is defined as "Analysis of the manifest and latent content of a body of communicated material (as a book or film) through a classification, tabulation, and evaluation of its key symbols and themes in order to ascertain its meaning

and probable effect."[5] With further research, packages were compared by seven different categories:

- the name of the package
- the source
- the number of icons
- the format
- the size
- the model
- the purpose

The name of the package and the source define which package it is about. Number of icons in package tells us how many different icons there are in the observed package. The format category are lists with formats of icons such as .svg, .png etc. The size category describes the size of each icon in the package. The model defines the manner in which icons are available; whether they can be downloaded freely or only be purchased. The last category is purpose which states for what devices the observed icons are intended. During the research, all of the free packages were downloaded so we could define value of previously listed categories.

It is visible from the Table 1 that packages mainly differ in number of icons. The smallest of the observed packages is Iconic which consists of 233 different icons, and the largest is Freepik with 38893 different icons. Most of the icons are saved in .png and .svg formats. But some of them are also downloadable in other formats such as .psd, .eps, .ai, .pdf and .xmal. The size of each

Name of the package	Source	Number of icons	Format	Size	Model	Purpose
Windows 8	http://icons8.com/download-huge-window8-set/	2400	PNG, SVG, PSD, EPS, AI	1 KB	Free, Buy	Windows
Iconic	https://useiconic.com/open/	223	SVG, PNG	1 and 2 KB	Free	Framework, html
Minicons	http://www.webalys.com/minicons/icons-free-pack.php	1500 (210 free)	PDF	1 KB	Free, Buy	Web design, wireframes
Material Design Icons	http://materialdesignicons.com/	581	PNG, SVG	By choice	Free	Android
Iconmonstr	htttp://iconmonstr.com/flip-chart-2-icon/	2665	PNG, SVG	By choice	Free	All
Freepik	http://www.freepik.com/free-icons	38893	PNG, SVG, EPS, PSD	By choice	Free	Personal and commercial use
Modern UI icons	http://modernuiicons.com/	1259	SVG, XAML	1,2 and 3 KB	Free	Windows, iOS, Android

Table 1 – Research of icon packages

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4   Pixel resort designed by Michael Flarup. How and when to use pictograms?. Retrieved December 5, 2014 from: http://www.pixelresort.com/blog/how-and-when-to-use-pictograms/

5   Powell, Ronald R.; Connaway, Lynn Silipigni. (2004). Basic Research Methods for Librarians. Library and Information Science Text Series. Westport, Connecticut and London: Libraries Unlimited.

icon is ranged from 1 to 3 kilobytes, depending on the package. Material design icons, Iconmonstr and Freepik allow choosing the size of icons before you start downloading, so users can save the version which is the most suitable for their website. Every package allows at least one part of the icons to be freely downloaded. Windows 8 and Minicons allow downloading several icons of their choice for free, but if you want the whole package you have to pay some price. Windows 8 allows free downloading only of .png format and other formats are to be purchased. The price range of the expanded package is $149 to $249, and Minicons offers expanding the package by the price of $59. It is clear that more popular icon packages put a bigger price on their product. We can also see in the table that the purpose of every package is to display icons on various operating systems. That is very useful because nowadays the number of operating systems has been increasing. Some of the icons are intended for Windows, Android and iOS, and the other ones are intended for web design and frameworks. Iconmonstr is the only one of observed packages that is intended for all platforms. Packages which are intended for web design and frameworks can be downloaded in the form of a code which can be implemented in html and css files.

For the second part of the research, seven recognizable icons from every package have been chosen for comparison, so we could determine their differences and similarities. Icons were chosen by criterion of representation in online environment, i.e. their popularity. While visiting different web pages with different packages of icons, the observation was made that there are icons of the same purpose included in the same package.

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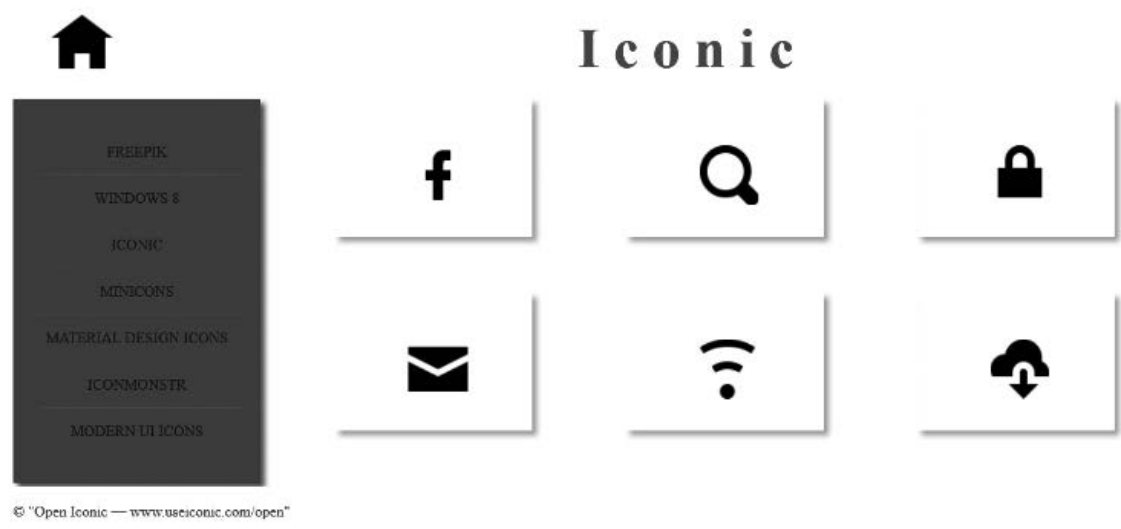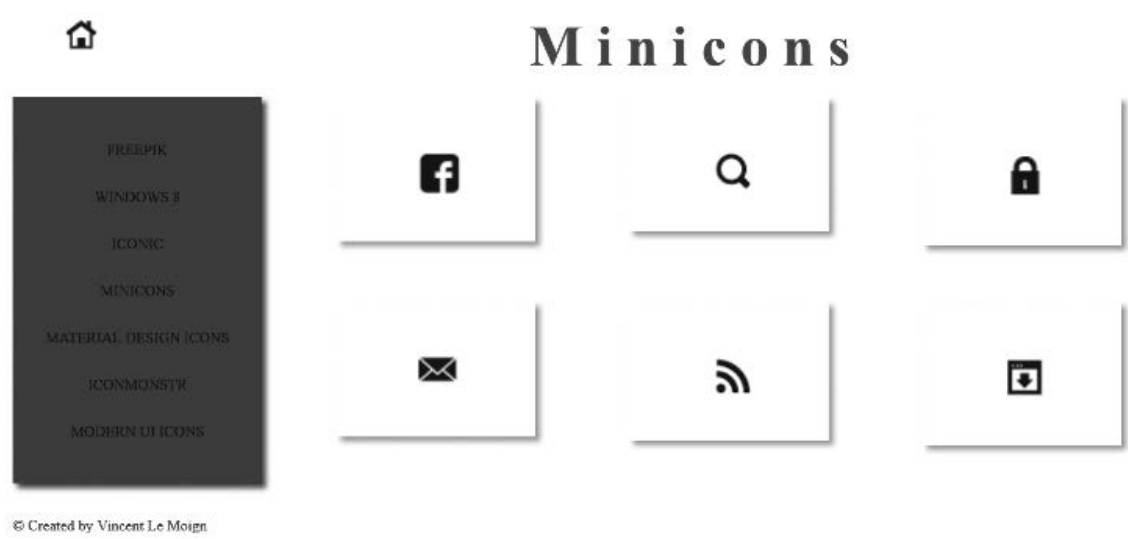
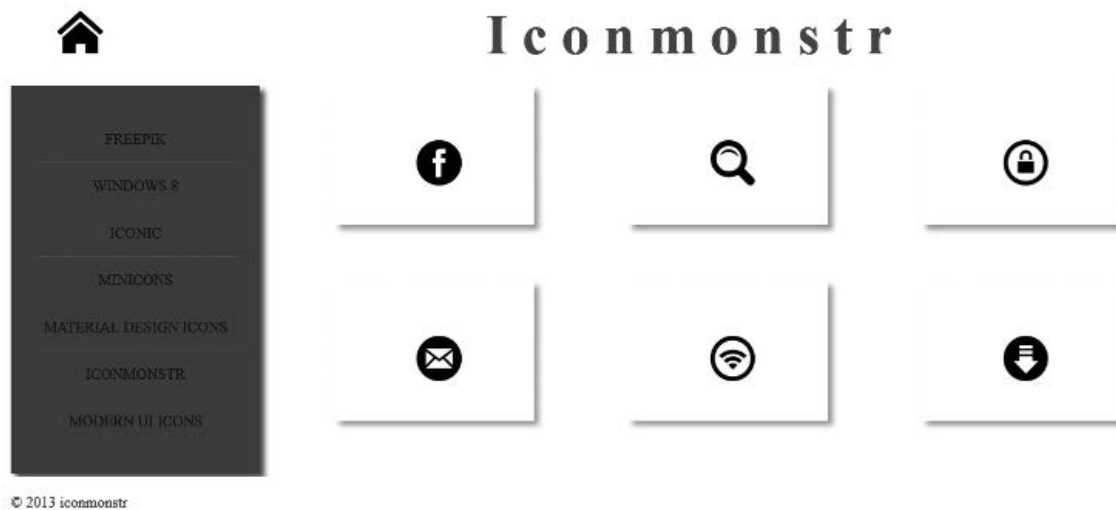**Image 1**

© 2014 VisualPharm LLC

Image 2

Image 3

Image 4

Image 5

© 2013 iconmonstr

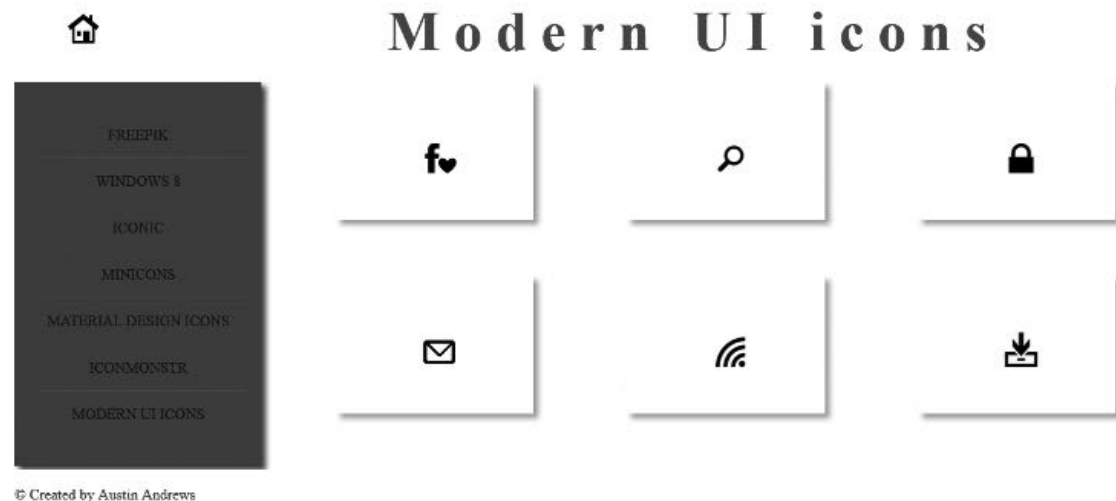**Image 6**

© Created by Austin Andrews

Image 7

Icons that we chose for further comparison are: "home", "facebook", "wifi", "download", "lock", "search" and "e-mail". Pictograms that can be purchased free are represented on attached pictures. The first detected similarity between chosen icons is their colour – all of them are coloured black and white. Icons in packages contain different spectrum of black colour, so some of them are pale black and the other ones are black. Furthermore, all icons contain common form, which is necessary, in order to know that they communicate the same information. One of the differences that was detected is their design. Some of the observed icons from different packages have form of the circle, others are shaped as square with rounded or sharped edges. Even though, at first, it seemed that all icons are of the same quality; because on the web page they are shown in the same resolution,

they are actually not, and that can be seen if their default size downsizes or magnifies.

Discussion

The picture superiority effect says that pictures are remembered better than words, especially when people are casually exposed to the information and the exposure is for a very limited time.[6] As a result, icons have generally become common in communication. Icons are pictorial symbols that are designed more freely and in greater

6   Presentation zen. Picture superiority effect, pictograms & culture. Retrieved December 9, 2014 from: http://www.presentationzen.com/presentationzen/2007/04/

details than pictograms, and have to follow less formal criteria. Their objective is to visually communicate certain company-specific issues and objects in an accessible way.[7] It is also important that each symbol has a fixed meaning; otherwise, there is a risk of too many interpretations, sometimes not correct ones.[8] Some of the previous researches discussed about roles of pictograms in everyday communication and about their recognisability for different types of people and cultures. One of them is research named „The design, understanding and usage of pictograms" which explains the usage of pictograms in everyday life. It was also concluded in that research that compared to just textual information pictograms are better and easier for recognition. Besides that, they can be used in numerous situations where verbal message is not possible or appropriate. Mostly, their effectiveness should be measured by ability of people to understand them. Good pictogram should consist of little details and be easy to understand.[9] Since there are so many different packages of icons, every icon in that package should have specific design that would not be repeated on other icons. This raises the question whether so many packages of icons are necessary. There can be found icons for the same or at least similar purpose inside of every package. Every icon has specific appearance and they differ one from another. They can be found in different shapes, line thickness, formats and sizes. Besides that, there are simpler and more complex icons. More complex icons are the ones that with their basic black and white colour have some other colours, too. Because of that it is necessary to have so many different packages of icons.

7   RWE Corporate Identity. Pictograms, icons and key visuals guidelines. Retrieved December 10, 2014 from: http://www.rwe.pl/web/cms/mediablob/pl/2364052/data/1028718/1/start/dla-dostawcow/przetargi/RWE-guideline-pictograms-r1-21.pdf

8   Falck, Kerstin. The Practical Application of Pictogram. Retrieved December 9, 2014 from: http://static.pictosys.se/pictogram/practicalapp_pictogram.pdf

9   Tijus, Charles...[et al.]. (n.d). The design, understanding and usage of pictograms, pp. 1–22. Retrieved December 11, 2014 from http://www.cognition-usages.org/chart/dmdocuments/inrets22.pdf

Conclusion

Pictograms have become part of everyday communication. It is impossible to imagine the world without them. Their usage is global and their meaning tries to adjust so it can communicate the same information in countries all around the world. More and more people use pictograms in order to exchange information. Also, they are used as resources for communicating information on airports or in traffic and in all other places where it is necessary to warn people or point out something, where words would not be appropriate or they would be redundant in those situations. Therefore, the transfer of information from one side of the world to another has become faster. Since pictures are considered to be the easiest way of communication that can transfer lots of information, they have also been chosen for communication in online world. Pictograms are more informative than words and that means that they are faster in attracting the attention of users. As a result, the time needed for receiving information out of online environment has been decreased.

Two researches were conducted in this paper. The first one, where the different packages were compared based on categories, it was concluded that most packages are available freely, but there are also the ones that can be purchased. Also, packages can contain icons in various formats so users have wider choice to satisfy their needs. It was compared on which operative systems different packages of icons can be used and it was concluded that most of the packages nowadays try to adjust to the most common operative systems. The second research; where various icons were compared, showed that they are mostly very similar. However, there are small differences that justify existence of numerous icon packages. Mentioned differences are important for designers because they offer them more choice in choosing icons that suit their design the best.

Assumed hypothesis of this paper has been proved correct. It would be much easier for users to choose wanted icon package if there were less packages. As it has been said before, all of the observed packages contain icons with the same meaning with a slight of differences in their appearance. It would be quite enough if there were several packages with different purpose, i.e. for different operating systems.

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LIS — EDUCATION, COMMUNITY & CAREER

07.3.1

CULTURAL DIMENSIONS IN INFORMATION SCIENCES E-LEARNING

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Abstract

Globalization, interculturisation and the rapid development of information and communication technology (ICT) have brought on the necessity for both library and information (LIS) specialists well as their trainers to work both efficiently and skilfully in an international environment, to have knowledge of intercultural communication and the possibilities of ICT. Using case study, the opinion on the nature of intercultural communication and on the factors supporting intercultural communication in e-learning of the students of two LIS curricula was investigated. The purpose of this paper is to explain the prevalent cultural differences in e-learning on the basis of Hofstede's (1988) cultural dimensions. Although in the earlier LIS studies some aspects of intercultural communication in e-learning have been studied, there are no records of an approach in which intercultural communication is being explained on the basis of cultural dimensions. The data obtained during the study explain different opportunities for helping the students in e-learning. The data has been collected via e-interviews and using document analysis and has been analysed using constant comparative analysis. E-interviews were conducted with 18 students studying in Digital Library Learning (DILL) curriculum and 18 students studying in International Master in International Information Studies (MIIS) curriculum. The DILL curriculum has been created in the cooperation of Tallinn University, Oslo and Akershus University College of Applied Sciences and Parma University (Digital Library Learning, 2009). The MIIS curriculum was put together by University of Parma and University of Northumbria (International master, 2005). To analyse the collected data, Hofstede's (1988) four main cultural dimensions were used: individualism-collectivism, power distance, masculinity-femininity and uncertainty avoidance.

It became clear while explaining the results of the study using Hofstede's (1988) cultural dimensions that the most recurrent cultural dimension was individualism-collectivism and the least prominent was masculinity-femininity. Although the cultural dimensions offered support for explaining the results of the study, there were also some differences. The students who participated in the study claimed they felt using the same language makes communication easier. According to Hofstede (1988) language and culture are not tied closely enough to say that using the same language means sharing the same culture. The students claimed that the similarities that simplify communication do not only have to be tied to the familiar culture or language, but the personality of the learner has also a strong effect on the outcome. Students from individualistic cultures needed more context in e-learning than in classroom learning – more information about the behaviour of co-students. In order to do that, they preferred, in addition to e-learning, contact lessons and using video-supported real-time tools. Also, the students did not always use the communication style inherent to their culture. Some students from collectivistic cultures preferred direct communication style instead of indirect communication style. The reason for that can be the peculiarity of e-learning, expressing oneself in a foreign language and adjusting to the style of communication used by the other learner or the lecturer. The students from cultures that are accustomed to uncertainty felt it was difficult to create relationships and expressed a need for rules to feel themselves safe in intercultural e-learning environment. The difficulties related to creating ties with other students had to do with the restrictions of e-environment: the lack of visual and auditory clues and group communication created distance and made the communication impersonal. The students from cultures that are not accustomed to uncertainty preferred literal and simple use of language. This preference was due to being forced to express oneself in a foreign language.

Introduction

Globalization, interculturalisation and the rapid development of information and communication technology (ICT) have brought on the necessity for both library and information specialists (LIS) well as their trainers to work both efficiently and skilfully in an international environment, to have knowledge of intercultural communication and the possibilities of ICT. Using case study, the opinion on the nature of intercultural communication and on the factors supporting intercultural communication in e-learning of the students of two LIS curricula was investigated. The purpose of this paper is to explain the prevalent cultural differences in e-learning on the basis of Hofstede's (1988) cultural dimensions. Although in the earlier LIS studies some aspects of intercultural communication in e-learning have been studied, there are no records of an approach in which intercultural communication is being explained on the basis of cultural dimensions.

The data has been collected via e-interviews and using document analysis and has been analysed using constant comparative analysis. E-interviews were conducted with 18 students studying in Digital Library Learning (DILL) curriculum and 18 students studying in International Master in International Information Studies (MIIS) curriculum. The DILL curriculum has been created in the cooperation of Tallinn University, Oslo and Akershus University College of Applied Sciences and Parma University (Digital Library Learning, 2009). The MIIS curriculum was put together by University of Parma and University of Northumbria (International master, 2005).

The cultural differences that became evident in the interviews with DILL and MIIS students were analysed using Hofstede's (1988) cultural dimensions. The results were compared to the results of other researchers who have analysed intercultural online communication conducted in English by institutions of higher education using cultural dimensions. In order to compare the results of this research to previous results, six empirical studies of intercultural communication in e-learning published between 1998 and 2012 were analysed.

Hofstede's cultural dimensions

To analyse the collected data, Hofstede's (1988) four main cultural dimensions were used: individualism-collec-

tivism, power distance, masculinity-femininity, and uncertainty avoidance. According to Hofstede (s.d.) "the fundamental issue addressed by the first dimension (individualism-collectivism) is the degree of interdependence a society maintains among its members. Power distance is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. The fundamental issue in the masculinity-femininity dimension is what motivates people, wanting to be the best (masculine) or liking what you do (feminine). The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these is reflected in the uncertainty avoidance score."

Students divided as follows: 24 learners were from individualistic and 24 from collectivistic culture, 13 learners were from large and 23 from small power distance culture, 26 learners were from culture that avoid uncertainty and 10 from uncertainty tolerant culture, 26 learners were from masculine and 10 from feminine culture.

The characteristics of cultural dimensions help to find out the students' preferences in online communication and studying.

Analysis

Individualism-collectivism dimension

Out of four cultural dimensions the first, individualism-collectivism, was the most prevalent. Students from collectivistic cultures considered harmony and avoiding conflicts most important in intercultural communication (including criticizing ideas, not people, preventing conflicts and solving problems when they occur) and preferred group goals and decisions (for example supporting the majority's opinion, concentrating on goals, negotiations, fear of saying unpleasant things or being misunderstood). The results or the present study confirm the results of Cronjé (2011) who concluded that students from collectivistic cultures value harmonic communication and the support of the lecturer. In the present study students from individualistic cultures also emphasized the importance of co-operation and working towards common goals, but mainly from the perspective of good co-operation results (for everyone to put the same amount of effort into their work). People from individualistic cultures were not afraid of conflicts saying that at times, criticism is needed.

Students from both individualistic (communication of low-context cultures) and collectivistic (communication of high-context cultures) cultures needed, according to the results of the study, more context when learning in an online environment – a need that is usually common to communication of high-context cultures. Many students emphasized the need for face-to-face meetings, video conferences and interactivity. Students from collectivistic cultures drew attention to difficulties in expressing emotions when communicating in online environment (for example inability to understand the tone of the other person), students from individualistic cultures mentioned the importance of staying on topic. The differences between the characteristics of individualistic and collectivistic cultures may come from the most prevalent feature of intercultural communication – uncertainty. Uncertainty is not having knowledge about other people which is prevalent in the study in hand and also in previous studies, being exposed to a foreign educational system and environment. Gudykunst (2003) used the term of uncertainty in anxiety/uncertainty management theory, the goal of which was to describe successful intercultural communication. According to Gudykunst (2003, p 169) uncertainty is the inability of preventing or explaining other peoples' behaviours, feelings or attitudes. On the basis of the anxiety/uncertainty theory the students need visual and auditory information to reduce uncertainty and thus, understanding each other better.

Students from individualistic cultures preferred direct communication, as opposed to people from collectivistic cultures, who preferred indirect communication. Students using indirect communicational style tended to be outspoken, began from further away, explained the background, used more examples and stories, avoided direct negation and kept from answering some questions, i.e. were silent. Nevertheless, comparing the communicational style used in the interviews with the preferred communicational style of the students, differences were notable. This may be because of several reasons. Since the interviewer comes from an individualistic culture which is characterized by communication of low-context cultures, the questions of the interview and the communicational style of the interviewer were direct. According to other researchers, the students adjusted their communicational style with the style of the lecturer or the other person in the context of e-learning, especially the students with the experience of communicating in e-learning. Also, the reason might have been as said before, the peculiarities of online environment (no real contact with the other person) might make modest

students more active, expressing oneself in a foreign language or the impact of the communication tool on the communicational style (using real time communication tools the communication is fast).

Comparing results of Morse's study (2003) about the factors that support and hinder communication from high- and low-context cultures we usually see similar factors such as flexibility; more contact with the person conducting the study; the chance to express one's thoughts; the chance to reread the written text before presenting it and time to reflect other's posts; and impersonality that hinders co-operation. The results of the study are similar, although in Morse's (2003) study the answers to the questions were given to the students for them. The studies differ by the three factors prevalent, two of which were students from low-context cultures (as of factors supporting communication: presenting one's opinions without the others interrupting; as of factors that hinder communication: rhetorical posts that hinder discussion) and one, hindering factor (not being able to develop language skills by talking to others) from students from high-context cultures.

According to the results of the studies of Arenas-Gaitán et al. (2011) and Lee et al. (2012) students from low-context cultures were more conservative towards e-learning and communicating in online environment than students from high-context cultures. The present study did not examine which of the two groups have a more positive attitude towards e-learning, but rather tried to answer if preferring e-learning depends on the cultural context of the students. According to the results of the study both students from high-context and low-context cultures preferred international face-to-face learning and communication. Also, the preferences between students from cultures of different cultural context on using communicational tools did not differ: similarly to students from low-context cultures, students from high-context cultures were interested in using wikis, blogs and real-time communicational tools in addition of traditional forums and e-mails. The attitude towards using communicational tools was closely tied to previous experience of using it: if the experience had been positive, the students tended to be prone to using different methods for communication later on. Similarly, using different communicational tools was the reason why many students wished for a how-to on using the e-learning environment and assistance from the lecturer: in online supported face-to-face learning students received enough explanations and instructions on using the e-learning environment and tools. Lee et al. (2012) claim that the teaching methods of a lecturer

from low-context cultures may have an influence on the success of a students from a high-context cultures. In the study, students from the MIIS curriculum said that if the teaching methods of the lecturer were familiar, it made it easier for them to study. On the other hand, students from the DILL curriculum did not feel the same way. This may mean that in face-to-face learning the teaching methods of the lecturer are not as big of a factor than in e-learning.

Power distance dimension

Students from cultures of large power distance tended to prefer formal and students from cultures of small power distance tended to prefer informal communicational style. Students from cultures of small power distance felt less dependent on their lecturer than students from cultures of large power distance. For example, when students from cultures of small power distance tried to change the time of the exam, students from cultures of large power distance did not enter the discussion with the lecturer, although they were also interested in it. There were also different opinions on passive and active learning, as in Chen's (1988) and Al-Jarf's (2004) studies (in cultures with large power distance, the teaching methods differ from the ones of cultures with small power distance, for example the widespread reading of literature and thus the student show less initiative expressing their opinions). Also, differences were notable about showing authoritarian attitudes: different understanding on the roles of the student and the lecturer, for example, how to come up to the lecturer. Students from cultures of small power distance felt comfortable using the lecturer's first name. The attitude of the students towards power was positive (for example, students felt more comfortable taking the position of the leader in group assignments than students from cultures of large power distance).

Masculinity-femininity dimension

On the scale of femininity-masculinity, the intercultural differences were most insignificant in the present study. The reason for that may be the fact that in the context of learning, the e-learning environment expresses the beliefs under evaluation and thus the students express themselves according to the expectances and demands of the lecturer and the online environment. Also, there were not many questions in the interview about the role of the lecturer. Nevertheless, it became prevalent that students from feminine cultures valued the friendliness of the lecturer, tried to avoid failure (and because of that, preferred to consult the lecturer in private) and did not like the wish to compete with each other that was prevalent in students from masculine cultures.

Uncertainty avoidance dimension

Because there were 26 students from cultures that avoid uncertainty, the answers mostly dealt with avoiding uncertainty. The students valued good relations with the lecturer and differences caused uncertainty and stress. That is why most students preferred direct communication (especially to the lecturer), needed support and directions from the lecturer, valued the lecturer's opinion and needed to be in touch with the terminology. At the same time, there were three differences compared to the cultural dimensions. First of all, both groups of students felt creating ties and getting to know each other was difficult. On the one hand, it is an peculiarity of the online environment that became clear from other studies, by which actual contact between people in online environment is nonexistent and it makes creating ties difficult. On the other hand, according to Weinschenk (2011, p 93), it is difficult to create ties when there are no clear leaders who would organize relations. The answers saw the lecturer as the leader, not themselves. The students waited, in the beginning of the course, socialization exercises and during the study process, continuous attention towards the relations in the e-learning. The lecturers, on the other hand, waited for the initiative of the students (in according to the constructivist paradigm). Secondly, simple, not sophisticated language usage was valued. The reason might be the difficulty of using a foreign language (according to Hofstede (1993)). That is why student preferred to express themselves in a plain manner. Thirdly, students from low uncertainty avoidance cultures also expressed the need for rules. The reason is, according to Gudykunst (2003), the increased uncertainty that lies in online environment, which is why the students look for something to rely on.

Discussion

Hofstede (1993) has said that language and culture are not connected directly enough to say that speaking in the same language would mean sharing the culture. In the present study, the students felt that sharing the same language makes communication easier. One reason may lie in the fact that using the same mother tongue allows expressing oneself more accurately and more freely. The second reason is that using the same mother tongue means expressing oneself similarly to the other person, which makes it easier to understand each other.

Also, the previous statement can be backed up by a fact noticed by Ting-Toomey (2002) and also prevalent in this study, which is the need to find similarities to the other person in intercultural communication. The interviewees named as one of the similarities using the same language. Finding something familiar in the other person (for example, the same culture) made the student feel comfortable in online environment. This supports Hofstede's (1988) claim that people from cultures of similar cultural background understand each other more easily. On the other hand, almost half of the students think the personal characteristics and interests of the person are more important than the latter. The students emphasized that empathy, proximity and similarities all attribute to understanding each other – and helps to overcome all sorts of differences. This is why it can be said that similarities do not have to be connected to familiar culture or language.

Conclusions

The data obtained during the study explain different opportunities for helping the students in e-learning. It became clear while explaining the results of the study using Hofstede's (1988) cultural dimensions that the most recurrent cultural dimension was individualism-collectivism and the least prominent was masculinity-femininity. Although the cultural dimensions offered support for explaining the results of the study, there were also some differences. Students from individualistic cultures needed more context in e-learning than in classroom learning – more information about the behaviour of co-students. In order to do that, they preferred, in addition to e-learning, contact lessons and using video-supported real-time tools. Also, the students did not always use the communication style inherent to their culture. Some students from collectivistic cultures preferred direct communication style instead of indirect communication style. The reason for that can be the peculiarity of e-learning, expressing oneself in a foreign language and adjusting to the style of communication used by the other learner or the lecturer. The students from cultures that are accustomed to uncertainty felt it was difficult to create relationships and expressed a need for rules to feel themselves safe in intercultural e-learning environment. The difficulties related to creating ties with other students had to do with the restrictions of e-environment: the lack of visual and auditory clues and group communication created distance and made the communication impersonal. The students from cultures that are not accustomed to uncertainty preferred literal and simple use of language. This preference was due to being forced to express oneself in a foreign language.

According to Hofstede (1988) language and culture are not tied closely enough to say that using the same language means sharing the same culture. The students who participated in the study claimed they felt using the same language makes communication easier. The students claimed that the similarities that simplify communication do not only have to be tied to the familiar culture or language, but the personality of the learner has also a strong effect on the outcome.

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INFORMATION SCIENCE OBSERVATORY AT UNIVERSITY OF PORTO

A successful collaborative project

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Abstract

An observatory constitutes an instrument of control, evaluation and spread of information on a given theme that aims at stimulating the collaboration between the receivers and the agents. In this article, the Observatory of Information Science of the University of Porto (OCI.UPORTO) is presented. It was developed by students in the context of the Management of Information Services course of the 3rd year of the Bachelor in Information Science (LCI), through teams constituted annually with the responsibility of its management and continuous improvement.

The OCI.UPORTO was created in the academic year 2006/2007 and results of the confluence of two factors: the exit for the job market of the first graduates in Information Science (IS) from the University of Porto (U.Porto) and the beginning of the implementation of the Bologna Process in Portugal.

By opening the first Bachelor in IS in Portugal in 2001/2002, the U.Porto intended to guarantee an education adapted to the new reality of the Information Society in which the archives and libraries professionals, the data and information systems administrators and, in general, the information managers in the organizations develop their activity. This new model results from an innovative partnership between the Faculty of Arts and the Faculty of Engineering, whose complementary features in this field allowed the building of a study which combines traditional knowledge and uses that mix theory and practice in the fields of information and communication technologies.

As the job market received the first graduates, with a new professional profile and the redefinition of the study cycles with the Bologna Process, there was a need to monitor the professional, research and educational trajectory of each alumnus building a technological and information infrastructure from which it was possible:

- to collect, to record and to make available information about the trajectory of each alumnus;
- to guarantee the continuity of the connection of the *alumni* to the University and to IS in the U.Porto through its participation in the updating of the information and of the application, throughout the years, of questionnaires (professional and research perspectives, training needs, position regarding the changes of Bologna, etc.);
- to promote the communication between *alumni*, students, the faculty and the researchers, the institutions and employing enterprises who receive students for curricular traineeships and, already in Bologna, propose dissertation and doctorate projects;
- to promote and to disseminate the scientific production, the organization and participation in scientific events and the entrepreneurial and business spirit of students and *alumni*.

At the technological level the OCI.UPORTO began with a HTML page, evolving subsequently to the platform TWIKI and, lastly, to the content management system JOOMLA, where the collaborative capacity and the communication through the social networks (Facebook, Twitter and LinkedIn) is enhanced, with a simultaneous evolution at the graphic level that led to the standardization of the image of IS in the U.Porto, the **ci@uporto**.

Regarding the internal structure, the contents are collected in a single and dynamic platform organized in six sections:

- Enable (individual trajectory of the *alumni*);
- Investigate (scientific action);
- Be Professional (academic nature, professional and business activity);
- Cooperate (inter-university cooperation and the internationalization);
- Communicate (connection of IS in U.Porto to the outside);
- Be Entrepreneur (innovative facet and creativity).

Concentrating the information collected throughout seven years, the OCI.UPORTO constitutes at present a source of unique information about IS in U.Porto, its *alumni*, masters and doctors, providing the collection of indicators and diversified statistical analysis.

So, this is a platform of collaboration and communication, the Portal of IS in U.Porto, which quickly integrated, besides the *alumni*, the masters and doctors in IS from U.Porto, a pedagogic component, embodied in the DELTCI – Electronic Dictionary of Terminology in Information Science and of professional direction, with the notebook of Professional Profiles in IS, supporting today a vast online community hosted in the information system of U.Porto and with extensions in several social networks.

Introduction

A new curriculum in Information Science (IS) and the "Bologna Process" are at the core of the Information Science Observatory at University of Porto (OCI.UPORTO).

By opening the first degree in IS in Portugal in 2001/2002, the U.Porto intended to guarantee an education adapted to the new reality of the Information Society in which the archives and libraries professionals, the data and information systems administrators and, in general, the information managers in the organizations develop their activity (SILVA & RIBEIRO, 2012).

This new model results from an innovative partnership between the Faculty of Arts (FLUP) and the Faculty of Engineering (FEUP), whose complementary features in IS field allowed the building of a study which combines traditional knowledge and uses that mix theory and practice in the fields of Information and Communication Technologies (ICT).

Joining Archives, Librarianship and Documentation the Bachelor in IS (LCI) is built on a unitary approach with three IS subareas (Information Organization and Processing, [Technological] Information Systems, and Information Services) complemented with Administration and Management Sciences, Social Sciences and Humanities and Informatics. The focus of this model is preparing information professionals to be able to work in any organizational context (RIBEIRO, 2007).

The education provided jointly by the two faculties aims to make the student rich in his/her capacity of information analysis, in the versatility, in the diversity of knowledge, in the adaptability to new contexts, in its tendency for innovation, in the capacity of interpersonal communication, as well as in the promotion of life long learning, being these basic characteristics for the increase in value of the graduated as professionals and researchers.

The bachelor started in 2001 with a 4 years curriculum, including a six months internship in a work context. The first internships took place in 2005 with proposals that came either from the private or the public sector. Collected data showed, as early as 2006/2007, that 57% of the students found their first job in private companies with a clear and increasing domain of sectors related to organizational information management (RIBEIRO & PINTO, 2009).

With the Bologna implementation in 2007/2008, while LCI needed to be changed to a 3 years curriculum, it was initiated the Master in IS (MCI), which resulted of adapting the Master in Information Management (MGI), that FEUP has been offering from 1997/98 to 2006/07, to the Bologna Process.

MCI is also a joint initiative of FEUP and FLUP and aims at deepening the knowledge and competences of IS graduates towards a professional specialization as well as envisaging a research career. The Dissertation, a course unit, offers new opportunities because it can be conducted in academic or business environment consisting in an individual project work aiming at the integration and application of knowledge, skills and attitudes obtained along the course. Although the loss of the practicum in the first degree, the IS integrated educational offer in U.Porto was, in fact, enhanced (DAVID et al. 2008; PINTO, 2008).

In 2007 both cycles (1st,, LCI, and 2nd, MCI) result from and foster a shift in IS area in Portugal which needed to be kept under observation encompassing students expectations, graduate course, job market needs and research tracking. Collect and build an informational basis supported by a human and collaborative network became the main challenge.

The Observatory of IS in the U.PORTO

The concept "Observatory" raises several definitions and there isn't a consensus between the proposals that

emerge in several scientific areas. However, it is common to several authors that an "Observatory" is an instrument of control, evaluation and spread of information about a given theme, aiming to combine different strategies that promote the collaboration between different sectors and agents (MARCIAL, 2009).

Husillos (2006) typifies the observatories in three categories:

- Documentation Center, which appears in institutions with specific thematic approaches and whose aim is the storage and classification of information.
- Data Analysis Center, which supports decision taking and which guarantees the recognition, processing and access to information, as well as, the knowledge of a given theme.
- Space of information, exchange and collaboration that is distinguished by the adaptation to the ICT, allowing to collect, to treat and to spread information, to know a subject concretely and to promote the reflection in the network.

The OCI.UPORTO brings the two last typologies together. On one hand, it produces, accumulates and makes available quantitative and qualitative information that allows the monitoring and support to the decision taking by the different participants, adding value to the presented information and, on the other hand, because it is a digital platform that guarantees the increase of the human potential of the collaborative work underlying to this project.

The main objective of OCI.UPORTO is to guarantee the exchange, the communication and the collaboration between students, graduate, postgraduate, teachers, researchers and communities that interact with IS in the U.Porto.

In its origin are two needs. The first one is the need of spreading and developing a new educational offer at the level of the Bachelor course and Master's degree in IS (LCI and MCI) and, later, the Doctorate in Information and Communication in Digital Platforms (ICPD), in the context of an emerging scientific area and that prepares a new professional profile, which the job market still identifies in an inaccurate way. On basis of this is the need to create a platform that connected the IS community of the U.Porto, at the level of the maintenance of the connection of the *Alumni* to the degrees/university and of the development of the interaction between them and the current students.

So, it was important to collect and to manage all the information originating from the academic and professional experience of the *alumni*, as well as from the respective educational trajectory. With this base, a communication and information network of contacts between the academia and enterprises was created in a natural way, aggregating and presenting the entities/institutions who received the curricular traineeships of the Bachelor and who, nowadays, propose and receive the projects of dissertation of the MCI, as well as the employers of *alumni*.

Therefore, the OCI.UPORTO appears in the 2006/2007 academic year and presents itself as a technological and information infrastructure conceived and managed by students, in the context of the Management of Information Services course of the 3rd year of the LCI. It is a project of development of a service with a collaborative base and with foundations in the communication via Internet and that favors the use and development of competences acquired in the course, namely at the level of Information Management and Project Management.

Like any digital platform, the OCI.UPORTO evolved through the collaborative potential present in the teams of students in charge of the project that, in spite of being renewed each academic year, contribute successively to the fixed objective, implementing and enhancing the technological innovation. Consequently, the monitoring of the evolution of the IS field in the U.Porto benefits of the know-how acquired and developed by the several teams and that is transmitted from "generation to generation", forming a collaborative network of information people and contacts at the heart of a community united around the IS and of the university that houses it.

The OCI.UPORTO collects contributes from the crowdsourcing implicit in the collaborative work, aims at transparency and reliability of the information that it transmits, promotes its diffusion via instruments of web marketing, namely through the social networks that allow a practically instantaneous feedback between the community and the management team of the platform, also promoting the interaction needed for the continuous improvement in its different perspectives.

Evolution of the OCI.UPORTO

In the first year of existence, 2006/2007, the driving force consisted in "creating a dynamic space to the image of and for the students and *alumni* of the LCI, diffusing an innovative bachelor" and it resulted in a website in HTML from which there were made available the first *alumni* forms and the list of entities that received curricular traineeships and of employers. To strengthen the image

of the new degree, it was also developed to first version of a logo of IS in the U.Porto.

As it was necessary to guarantee the continued updating of the data, the interaction between students and *alumni* and the promotion of the discussion on themes that were concerning the IS community, the team 2007/2008 developed the technological base of the OCI.UPORTO as a Twiki.

In 2008/2009, the goal was the internationalization in terms of scientific field, of the students who arrived from other countries in order that they carried out their learning programmes in the U.Porto, namely through the protocols PL/LA (Portuguese speaking countries and Latin America) and the ERASMUS program, and of the students from the U.Porto who went to foreign universities. In this context, it was developed an English version of the Observatory, the Cooperation area was created and it was prepared the Observatory Administration Manual to support the community in the carrying out of tasks in the Twiki platform.

The team of 2009/2010 developed the graphic interface and, with the collaboration of other students, the first questionnaire was applied to all the *alumni*, in order to to validate and to complete the existing information in the Observatory and to produce the first study on the professional trajectory of the *alumni* in IS and the perception that employers and colleagues had of the new profile and of the respective performance. This study was presented in BOBCATSSS 2011 (SILVA et al., 2011).

With the collaborative base and the simplicity of use of the Twiki platform the functionality of updating the data of the OCI.UPORTO was opened to the *alumni*. However, this opening demanded that in 2010/2011 a fundamental work was developed regarding the structure of data and permissions of access to the OCIUP, enabling the users, properly authenticated, to the edition of the respective professional and educational trajectory, as well as to share experiences and ideas connected with IS through a Forum. Still in that year, and when 10 years of existence of the course were celebrated, the publication of the book "The Bachelor Degree course in Information Science: ten years of pedagogic and scientific activity" (CASTRO et al., 2001) benefited from the contribute of the information made available by the Observatory and the support of the team in charge of its management.

In 2011/2012 the focus was centered in the Master's degree having carried out a questionnaire to the Masters in IS by the U.Porto in order to collect contributes for the reformulation of the Study Plan that was being prepared for 1st and 2nd cycles.

The year of 2012/2013 marks the transformation of the OCI.UPORTO in the "IS Portal of the U.Porto". This period is marked by deep changes in the technological platform that supports the functioning of the University and the OCI.UPORTO, appearing the need/ opportunity to make it evolve of the Wiki into the Joomla. An alteration that involved the directions of the degrees, the teachers in charge of the project, the collaborators of the Computer Science Center (CICA) of FEUP and the management team.

Corresponding to the recognition of the area of IS in the U.Porto and externally, the new image of the CI@UPorto and the graphic interface of the OCI.UPORTO were developed, now supported in a systemic and integrating vision represented by six pieces of a puzzle that, identifying the areas treated by the Observatory show the importance of the aggregation of this information in a single and dynamic platform and the connection of the academia to the community. The IS logo was also rejuvenated putting the focus in the information dynamics with the colors of FLUP and FEUP.

Reflecting the bigger complexity of the work to be developed in the context of the Observatory, its management model was modified in 2013/2014 with the managing team integrating elements of the previous and of the current year, in order to guarantee the transmission of the knowledge and the continuous functioning of the OCI.UPORTO.

In this year its presence was reinforced in the social networks, particularly in LinkedIn, Facebook and Twitter. This bet made the communication of contents of the area of the IS, diffusion of events, job opportunities, as well as the promotion of a bigger proximity with institutions, enterprises and other organizations easy. The optimization of the retrieval included the creation of contents metadata and to speed the communication up with the *alumni* there were introduced in the individual profile buttons of access so that each alumnus asked via electronic mail the updating of his/her profile and for the disposal and access to the respective Curriculum Vitae. Given the information volume a database was developed by students (ALMEIDA & MOREIRA, 2014), in the context of the Databases course of the 3rd year of LCI, to support the management of the information of the *alumni*, aggregating their professional and academic trajectories, as well as the relations with entities and respective contacts. Lastly, it was improved the image of the Observatory. This process included the improvement of the interface and the creation of the logo symbolized in a magnifying glass that completes the idea of the puzzle and emphasizes the components of observation, search and retrieval of information. New

communication media were also conceived to promote the study cycles such as the representative brochures.

Structure of the OCI.UPORTO

The development of the OCI.UPORTO, its technological evolution and the maturing of the result of a project that began with a structure in HTML evolving to Twiki and from Twiki to Joomla. The first reformulation appeared with the intention of increasing the network collaboration and the communication between the IS community from a discussion forum. The change for Joomla represents the formalization of the OCI.UPORTO at the heart of the University and the consolidation of the structure of access to the information.

As a system is constituted by interconnected and interdependent elements, the structuring of the OCI.UPORTO is supported, today, in six sections represented like pieces of a puzzle, which express the domains in focus: **Empower, Investigate, Be Professional, Cooperate, Communicate** and **Be Entrepreneur.**

The section "Empower" reflects through individual forms the trajectory of the IS *alumni* in the U.Porto – Bachelor, Master and Doctorate. As the degree is not focused only in the development of curricular skills and competences the Follow-Up Commissions of the Degree, which include both teachers and students, are also present in this area, as well as the individual portfolios developed by the students in the Preservation and Conservation course, of the 3rd year of the LCI, presenting individual profiles, trajectory in LCI and expectations.

In the section "Investigate" the scientific production of students, masters and doctors is made available, containing articles and communications of the area of IS, master's dissertations and doctorate thesis susceptible to being diffused, as well as participation in national and international events and the connection to the R&D Units (CETAC.MEDIA and INESC). It also includes the component of pedagogic and investigative support through the Electronic Dictionary of Terminology in Information Science (DeltCI), a partnership of FLUP with the Universidade Federal do Espírito Santo, Brazil.

"Be Professional" is the section that connects the academic reality to the job market. It contains testimonials of *alumni* and the list of entities who received curricular traineeships and dissertation projects, as well as of entities that employ graduates, masters and doctors and relevant associations for the area. The professional pro-

files in IS are also available here, as a result from a study developed by students in the Management of Information Services course, of the 3rd year of LCI (BUSCHBECK & SOUSA, 2013).

With internationalization being a particularly important requisite for the IS community, not only the contents were translated as the section "Cooperate" was developed, showing the connections of the U.Porto, in the IS area, with other institutions, national and international. The Erasmus students who studied in foreign universities and students from foreign universities who studied in the U.Porto are identified here, as well as the respective protocols and the protocols with Portuguese speaking countries and Latin-American countries.

The section "Communicate" comprises the IS community, students, *alumni* and teachers, in its connection with the outside. It is presented here a brief history of IS, statistical analysis connected with the area and with the degrees, whether they were developed in the context of the Observatory or by the University and external entities. It is also established the connection to the social networks to promote a more continuous and direct contact, highlighting hyperlinks of particular importance and the history of the IS Newsletter, published between 2009 and 2010 and of the IS Journeys, a national reference event promoted annually by the students going into its 13th edition, were made available.

In IS there is also a place for entrepreneurship. In the section "Be Entrepreneur" it is possible to recover information on the *alumni* that created their own enterprises, as well as on the extracurricular activity developed in the context of the StartUP@U.Porto. This is an entrepreneurship programme directed to university students, that results from a partnership of the U.Porto with Junior Achievement Portugal and it involves teachers and students of the LCI and of the MCI, whose participation and national and international prizes earned have a special emphasis here.

Conclusion

Today the OCI.UPORTO is associated to the pages of the degrees in the SIGARRA (Information System for the Aggregated Management of Resources and Academic Records) through an intermediate page that acts as a connection between this platform of information about the IS in the U.Porto and the platform of information of the University.

In each academic year, a renewed team takes over its management, development and continuous improvement

thinking about the current students, in former students and in the challenges that the evolution of the scientific area, of the university, of the job market and of the society in general places in an environment marked by the quick changes.

Aggregating diverse resources and contributes that go beyond the two faculties directly involved with the IS, it constitutes a catalytic project of the collaborative work in the U.Porto, having reached, at present, a phase of maturity that makes it a reference and gives it a propelling capacity regarding similar projects in other Universities.

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ISCHOOL COMMUNITY AND SCANDINAVIAN LIBRARY SCHOOLS

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Abstract

I would like to take a short overview about the evolution of the iSchool movement and its implications to the education and research profile of respective Nordic library schools that just have become members to the iSchool community in the recent years. The presentation based on mainly a sub-topic of my master thesis submitted to the Digital Library Learning Programme in Oslo and Akershus University College for Applied Sciences in 2013. The iSchool movement is active primarily in the LIS education field. Moreover, by following an interdisciplinary approach for the definition of information, not only LIS schools (around 75% of all members) but also schools of Computer Science and Management are also members of the iSchool community. That mixture of institutions with different profiles (but with LIS school dominance) refers back to the traditional debate on the definition of information in different disciplines. This community can create a broader partnership in research by the different disciplinary considerations in partnership than before. This seems to be the major positive impact of this cooperation model. The major community aim is to define a new brand. This brand broadens the focus of the education from training librarians in order to work in library to a more general direction. The aim is to educate people to all kinds of professional position in broad professional fields where managing, handling and retrieving information is an important issue. Beyond this brand based on this broader viewpoint however the content of education by programmes and courses cannot represents a new model comparing these elements with other accredited LIS schools in the US. The iSchool community not considered as an exclusive club at the very beginning but it wanted to stimulate more active research and education cooperation in the LIS field. However, the membership criteria later brought some hidden exclusivity mainly for financial reasons that exclude the smaller institutions with smaller research budget than $ 1 million per year over 3 years. I would like to discuss whether the iSchool movement represents a new holistic, interdisciplinary set of education approaches or just an important re-branding effort of the most representative research-based LIS schools together with some collaborator partners from other fields. Why iSchools are different from other library schools in the US and beyond? What are the main relevant points of iSchool membership in a Scandinavian sense?

The evolution of the i-school cooperation model with some Nordic context

As (Chu, 2012) points out, the iSchool movement has a true interdisciplinary background however active primarily in the LIS education field. The main focus on information, people, and technology in a common context (Borlund, 2010). Following an interdisciplinary approach for the definition of information-based disciplines, not only LIS schools (around 75% of all members) but also schools of Computer Science and Management are also members of the iSchool community. That mixture of institutions with different profiles (but with LIS school dominance) refers back to the traditional debate on the definition of information in different disciplines. If we look beyond the US to the Nordic dimension of iSchools in Europe, we can notice the appearance of LIS-based multidisciplinary approach in Boras, Oslo and Copenhagen. In my view, Tampere represents a clear profile in the different fields of Natural Science discipline. The pacific dimension of iSchools also represents schools with broad multidisciplinary profiles (Doracic, 2012) that created their own organization in the region and form collaboration with the schools in a model managed by iSchool Caucus. The global iSchool community and each member school can create a broader partnership in research by the different disciplinary considerations in partnership than before. This seems to be the major positive impact of this cooperation model. The major

community aim is to define a new brand and build bridges among different disciplinary approaches linked to the information discipline. This brand broadens the traditional vocational focus of the education of library schools to a broader education profile. The aim is to educate people to all kinds of professional position in wide professional fields where managing, handling and retrieving information is an important issue.

Beyond this brand based on this broader viewpoint however the content of education by programmes and courses cannot represents a new model comparing these elements with other accredited LIS schools in the US. The main difference mainly appearing on the availability of additional financial resources and advanced research capabilities of iSchools (Chu, 2012; Lopatovska & Ransom, 2014). The establishment of the iSchool model goes back to 1988 when Toni Karbo, the Dean of the LIS School in Pittsburgh founded the "Gang of Three" with the deans from the Drexel and Syracuse LIS schools just to facilitate interaction between the member schools. The iSchools were not intentionally exclusive at the very beginning but wanted to stimulate a more active cooperation in research and education areas in the LIS field. However the membership criteria defined in three points later brought some hidden exclusivity mainly for financial reasons (Chu, 2012; Doracic, 2012)

From an institutional perspective, the members are appearing in three groups(Chu, 2012).The first group consists of pre-existing LIS schools (such as University of Pittsburgh, Drexel University). The second group formed by merging pre-existing schools but disparate academic programmes (like University of Michigan). The third group is based on (entirely) new programmes hiring faculty mainly from outside the institution (like in Pennsylvania State University). Before the founding of iCaucus in 2005 only one institution could have been defined as a non- traditional LIS School (the School of Informatics and Computing at Indiana University) (Chu, 2012).

The collective efforts of the iSchools currently managed by the iCaucus. The major types of coordinated activities are mainly focusing on organising common conferences, managing the ischools.org website and running special research projects. The website is offering some brief introduction elements for the member institutions about their students, faculty, research and academic programmes. These content elements can be set into various parts of the site. A central RSS newsfeed aggregator can manage the institutional information as well. The members of the iCaucus have to pay an annual fee and each of them has one vote at common decisions (Chu, 2012; "Membership in the iSchools," 2012).

The membership criteria are currently defined in three main points as major characteristics of the iSchools ("The Characteristics of iSchools," 2012):

1 Substantial sponsored research activity (an average of $1 million in research expenditures per year over three years)
2 Engagement in the training of future researchers (usually through an active, research-oriented doctoral program)
3 A commitment to progress in the information field.

These three points lead to certain consequences).The first point exclude the smaller institutions with smaller research budget then $ 1 million. All the three criteria are mainly research based. It seems that the iSchool Caucus community is more research based then non-research LIS education factors would imply (education, curricula, and students). This kind of approach excludes the schools, which are small and/or are part of non-research universities. The hidden effects of the 3-point criteria are clearly against the founder's aims to enrich interactivity and collaboration among various institutions without forming any kind of closed exclusive circle of LIS schools...

The purpose of the establishing of the iSchool community summarized on the website according to their charter: "The iSchools take it as given that expertise in all forms of information is required for progress in science, business, education, and culture. This expertise must include understanding of the uses and users of information, the nature of information itself, as well as information technologies and their applications. The iSchools have organized to pursue common objectives with a collective commitment of resources ("The Purpose of the iSchools," 2012)

This seems to me to be a traditional LIS approach by talking about the nature of information and about the users and uses of it. But that definition on the other hand is broad, and seems suitable to cover different (inter)disciplinary perspectives of the different fields of LIS, Computer Science, and Management. In an interview, Per Hassle (Dean of Royal School of Library and Information Science, Copenhagen University) points out that his school represents a complex information-based discipline and it is no longer a library school. The new Danish name (Information Science Academy without the "Library" term) reflects the fact that iSchools represent a holistic (comprehensive) view of the information-based disciplines. It covers the traditional library education topics too, but in a new broader context (Saabye, 2011). It includes a more professional research element as before, when library schools mainly served

as a form of vocational training (offering skills and competences for the traditional library profession). Nils Pharo points out this historical element in his article about the LIS research education in the Scandinavian countries (Pharo, 2005). The new broader context with new perspectives brings more dynamism into education and research according to Hasle's view. RSLIS has joined the iSchool community, because their long-term development goals are in complete harmony with the major purpose and characteristics set by the definition of iSchool Caucus!

Another major publication is also relevant in this context as it discusses whether the iSchool movement represents a deliberate disengagement from the traditional LIS education or just an ingestion of traditional disciplinary content into a new field (Bonnici & Burnett, 2009)

The authors followed the fractal cycle mechanism in a philosophic sense to model the positioning of iSchools in relation to the traditional LIS schools by programme descriptions, curricula and iConference abstracts. They found that the progression mechanism from LIS into iField by defining the conception of information follows a kind of inverted fractal cycle mechanism from the practice based on specific locales (library) into a more broader perspective as practice in general (in a location independent way). "The iField is not only the heart of everything but has ingested the L into his heart." (Bonnici & Burnett, 2009)

The meaning of "i" as a content or branding element is still quite confusing when we want to make a difference between the two groups: iSchool MA programmes with ALA (American Library Association) accreditation and the non iSchool LIS MA programmes with ALA accreditation.

The iField deals with all the issues, opportunities and challenges regarding our information age. From this article it became clear that the cooperation network of iSchools representing a broad partnership network can offer a wider perspective of research with multiple aspects of information. By various broader professional impulses and through different institutional practices and traditions, the interdisciplinary evolution in LIS is going forward in a more efficient way than if the cooperation stayed within the traditional LIS school field with narrower perspectives.

Somehow the whole iSchool movement is a major initiative as a policy issue in a social and political arena (Bonnici & Burnett, 2009; Saabye, 2011). The aim is to create certain re-interpretations of old forms and their replacement with new frameworks, using new definitions in compliance with the natural evolution of the LIS field. Different interpretations of information have existed in different disciplines for a long time. This new kind of cooperation model as an initiative offers a broad partnership framework to amalgamate all these perspectives into a common context. As (Bonnici & Burnett, 2009)mention it and also Per Hassle refers to it in his interview (Saabye, 2011), the leaders of the iSchools have become clearly aware not to use the traditional 'library science' 'library studies' terms in information studies programmes by information science schools. This is a clear indication of the re-modelling of the educational perspective as I have referred to it above. They are creating a new (broader, interdisciplinary) brand (the name of library as a target of vocational discipline and information locale no longer exists) with new expressions. At the same time, they are integrating all the traditional library science issues into the content of the new programmes behind the fashionable branding slogans. In this way, we can define the iSchool model as an initiative, a policy issue connecting to LIS with major new social and political interpretation and branding goals.

The iSchool model focuses on the appearance of traditional issues in new forms as it is defined in an article in another context (Braman, 2008). This article is theorizing some types of policy issues in the context of theorizing the impact of IT on library and state relations. The 'traditional issues in new forms' term is a major type of general policy issues concerning reinterpretation, trigger adaptation or replacement of traditional professional forms in a new context. Originally it appeared in the context of law (replacement, reinterpretation or trigger adaptation of the law in digital environment) but it can be used by other subjects as well, for instance by a public policy theory (Braman, 2008).

This policy game with the branding slogans and names of the master programmes however is not as simple as it seems to be according some sources, referred (Bonnici & Burnett, 2009; Saabye, 2011). As Chu points out, within the iSchool cohort one of the members of the gang of three,- Drexel – continues to have LIS in its degree names (Chu, 2012). North Texas at the same time offers two majors: information science and library science in its master's programme. By the author there is a little difference among iSchools and non iSchools according to degree names (however these have a higher consistency in degree naming practices in the US). As Chu also points out the differences of the programme requirements in iSchools and non iSchools cannot be defined clearly (Chu, 2012).

The ALA (American Library Association) professional accreditation requirements guarantee a common standard for schools in the LIS field in the US. The same is true for the core courses as there are no major differences among the ALA accredited iSchools and non -iSchools. The differences appear mostly in the concentrations. The non- iSchools have a more traditional approach to topics. On the other hand, three of the non-iSchools from the sample of the research did set up a digital library concentration while only one iSchool (Drexel) offered it (Chu, 2012). However, without deep content analysis of the courses there is no chance to make accurate statements about the differences of the contents in relation to the divergent focus points of the programmes. It is difficult to carry out this kind of research because of the lack of accessibility of hard data about courses in the institutions for comparison.

iSchools generally offer a broader variety of courses than non-iSchools according to the research sample. The weakest point of the branding conception of the iSchool movement is that there is no hard evidence of a fundamentally different form or superiority of ALA accredited iSchool programmes from the ALA accredited non-iSchools in the LIS field.… (Chu, 2012). The other main problem is what I mentioned above: the lack of accessibility of hard data about courses to compare them.

The cooperation and interaction of the LIS institutions and their interdisciplinary partners are constantly growing. Based on the literature it seems that the iSchool community provides a major contribution to this effort. Debates about the various kinds of education and partnership forms can help the development of the LIS and other related disciplines. Further study is required on the research potential of the iSchool community (as according to their criteria they are defining themselves more like a research than an education based-community). Also further research work should focus on the globalization impacts of the iSchool movement, discussing how the Non-American partners can alter the branding, education and research efforts of the iSchool community.

iSchools in the Nordic region

The Royal School of Library and Information Science made a major education reform, and it have become a faculty of Copenhagen University (Christensen, 2012) (IVA, 2013). Per Hassle in his interview points out that, they want to create a European dimension of the iSchool community together with their iSchool partner institutions from the continent (Saabye, 2011). This goal appears also in the internationalization strategy of the Danish library school (Royal School of Library and Information Science, 2012). RSLIS want to join EU-networks with relevant large EU-funded research projects. A major cultural mission would be to interpret the European cultural dimension towards in North America. When in the interview, Hassle is talking about the collaboration in education; he is highlighting the research collaboration in the PhD level. In a global sense, the collaboration aim with their iSchool partners is to find the best experts and research environment that can help to manage the different projects of the PhD students. The internationalization of education used as a keyword in the interview concerning the declaration of the long-term goals. This keyword is also referring to the Master level education but without concrete examples in that field. The internationalization strategy offers some details about general institutional goals of international collaboration. It not holds any specific issues about master level education, just points out to the major collaboration directions and partners. The strategy and the interview with the rector reflects well to each other (Borlund, 2010; Royal School of Library and Information Science, 2012; Saabye, 2011).

The Swedish School of Library and Information Science (SSLIS) has become a member (the first in Sweden) of the iSchool community (Borenstein, 2013). The effects of membership could strengthen the internal collaboration of the Business and IT schools within the university college as all schools belonging to it. It also can help to develop some new partnership forms with the Skövde University College in the information technology field. The international collaboration of the members of the iSchool community can also develop new research projects and might have positive impacts on the quality of the academic programmes according to the hopes of the SSLIS management. The iSchool brand can also help to finance research projects and the membership can offer a kind of quality assurance of these activities. The partners are representing the highest quality of research and can share the latest results with each other through various collaboration forms according to the Swedes. These arguments concerning Borås are similar to what the management uses in Copenhagen. However in the Swedish case locally there is a better coordination of research activities among the different schools of the Borås University College. A West-Swedish regional dimension of the collaboration with the partner from Skövde also represented. The advantages of collaboration occur on in different levels (local, regional, international).

The interdisciplinary profile of the institution can be stronger by positive impacts on research and education.

In case of Oslo and Akershus University College of Applied Sciences, the Institute of Archives, Library and Information Science in the Faculty of Social Science has just started a PhD programme in the recent years and develop its research capabilities in a significant way (Audunson & Gjestrum, 2012). Research and education focus on master and PhD level represents three major areas: The social role of libraries (library and society), mediation of literature and culture, knowledge organization (Audunson, 2014). The strengthening of the research-intensive profile of the institution completely refers to the strategy of the university college in order to become a university with major research capabilities in several disciplines. Partnership with external stakeholders (e.g. a joint research project with the Norwegian Public media company, NRK) is also a major factor. The Institute is the coordinator of an International Master Programme in Digital Library Learning ("Digital Library Learning," 2014) iSchool membership can help to develop further the international links and research capabilities.

The School of Information Sciences at University of Tampere represents a bit different research and education profile than the other Nordic iSchool members. The general research aims are similar that deals with information and its processing, management and use. The school offers education in Information Studies and Interactive Media, Mathematics, Statistics, Computer Science, and Interactive Technology. It has a more Nature-Science based profile than the other schools in the field of Mathematics, Information Science, and Computer Science disciplines (School of Information Sciences, 2014). The PhD programme is focusing on Information and Systems (Majors: Mathematics, Statistics or Computer Science), Information Studies and Interactive Media (Major: Information Studies and Interactive Media) and Interactive Technology (Major: Interactive Technology) (School of Information Sciences, 2014) It can represent successfully the mainly Computer and Information Science based profile of the iSchool community. iSchool membership can help to further develop the strong international research collaboration forms and it can utilize more the development of knowledge based products and information services.

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07.3.4

NEW INFORMATION PROFESSIONALS: WHO WE ARE AND WHAT WE WANT

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Abstract

I would like to speak up about a few topics connected with new information professionals (NIP) in Czech Republic, Europe and around the world.

New Information Professionals are students or recent graduates from Library and Information sciences. These people need to get new contacts and experiences, share their successes and/or failures, so they form or join NIP groups. These groups often arise as a part of professional library organizations.

New Information professionals – Who we are, reasons for establishing Czech NIP group. At the beginning research was conducted among freshly graduated librarians by Anna Vyčítalová from University of West Bohemia Library. Anna has found that young librarians are not members of librarian's associations, they are not interested in the membership and there is no networking between them. She thought about the situation and she came forth with the idea of some place for young librarians and other information professionals. Czech NIP group was founded in 2014 as a working group of AKVŠ (Academic Libraries of Czech Universities). They are three main goals of NIP CZ: firstly to create a platform for sharing experiences and creating a friendly environment for new information professionals; secondly, NIP CZ wants to establish international cooperation with other groups in Europe and all over the world; and the last main goal is to become a partner in dialogue between libraries and library schools. NIP CZ is a young group but it has certain serious ambitions – we, the members of this group, want to be a part of a librarians' community and we want to become an audible and progressive voice in the discussions of Czech librarians and libraries.

International connections

There are about 40 groups of new information specialists around the world. Most of them are groups from Europe, but many can be found in USA, New Zealand, Australia and some in other counties, for example Japan or Philippines. In this paper we want to present some interesting activities of this groups and describe their goals.

We would like to co-work with them – learn about best practices, share experiences, start international exchanges and share our passion for libraries!

Who are New Information Professionals (NIP)?

Recent graduates and students could be considered as a specific group with special needs, knowledge, abilities and working habits. These differences are obvious especially at labor market or at work. Groups of new information professionals ("New Professionals worldwide", 2014) are platforms which are established to protect interests of recently graduated librarians, other information professionals, working student and so called "newcomers" (people who came from other branches and have no experience with librarianship). These people need to get new contacts and experiences, share their successes and/or failures, so they form or join NIP groups. These groups often arise as a part of professional library organizations (see for example British CILIP Career Develop-

ment Group[1], Latvian LLA Section of New Professionals[2] or U. S. LLAMA New Professionals Section[3]), but they can be also established in informal way as virtual groups, i. e. social network groups (e.g. German LIS New Professionals Deutschland[4] or Finnish Young Librarians[5]).

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1 www.cilip.org.uk/get-involved/special-interest-groups/careerdevelopment/cdg-benefits/newprofessionals/Pages/newprofessionals.aspx

2 http://lbbjss.wordpress.com/

3 http://www.ala.org/llama/llama-new-professionals-section

4 https://www.facebook.com/groups/126470954103138/

5 http://www.facebook.com/groups/113227042054851/

NIP Groups around the World

There are about 40 groups of new information professionals around the world. Most of them are groups from Europe, but many can be found in USA, New Zealand, Australia and some in other counties.

Some groups are (like NIP CZ) part of professional library organizations. Others are founded spontaneously rather as a forum for the exchange of experiences and knowledge.

Doesn´t matter how these groups are organized, but many thing have common. All groups communicate with each other and outside group through social networks. Vision and goals are also common. All groups can help new professionals with orientation in the field. All groups are also trying to integrate new professionals to network and provide them with the necessary contacts.

Let's focus on some groups of the new professionals in the world. Lots of Groups are located in North America. In the United States can we can find six groups of new professionals. In this area, it is worth, for example, Music Library Student Group. It's a group of students and recent graduates who study and work in music libraries. The Group regularly updated blog and filming video interview. Another group in the United States, for example, LLAMA New Professionals Section. This group collects resources and information that LIS students and new professionals need to start a career orientation in the field. This tool is called NPS Toolkit and new professionals, we will find links example of how to prepare a successful contribution to the conference and many other useful information.[6]

A lot of groups are also located in Australia and Asia. In Australia operates ALIA New Generation Advisory Committee. This group has regularly updated blog. Another group of this area is for example UP Future Library and Information Professionals of the Philippines.

In Europe, we will found also lot of groups. For example, ARA section for new professionals, which operates in the UK, regularly organizes workshops and seminar. Also in other European countries, we find a group of new professionals. In the north of Europe, we find the Estonian group Young Librarians Club. This club is organizing a two-day BibliCamp where members know each other and exchange their experiences. Another group is LIS New Professionals Germany. This group acts only on Facebook and serves to inspire and exchange experiences.

To describe all groups NIP would take a lot of time, but a list of all NIP groups can be found on the Internet.[7]

NIP in the Czech Republic

There are some professional associations in field of library and information sciences in the Czech Republic, for example Association of Library and Information Professionals of the Czech Republic[8] (Svaz knihovníků a infromačních pracovníků České republiky, SKIP), which is general library association for all types of libraries), Czech Information Society[9] (Česká informační společnost, ČIS) or Association of Libraries of Czech Universities[10] (Asociace knihoven vysokých škol České republiky, AKVŠ), which represents some of Czech university libraries. Since 2014 none of these associations established section for young information professionals.

The initial idea of creating new information professionals initiative originated from first IFLAcamp, in which one of the authors participated. The IFLAcamp (Vyčítalová, 2012) took place in Hämeenlinna (Finnland) and was organized in a form of unconference by IFLA New Professionals Special Interest Group[11] (NPSIG). The author got opportunity to meet great amount of new information professionals. A lot of them were members of national or/and international new professionals groups, for example Germen, Latvians, Romanians etc. Author could see how their experience, which they got by working in these groups, helped them to develop their professional and language skills, expand the contact network and find new friends.

The initial attempt to start new information professional initiative was made at First Librarian's Barcamp which was held on 10th May 2013 at National Library of Technology. The author (Vyčítalová, 2013a) tried to introduce the issue of new information professionalism and persuade the auditorium about the advantages of establishing initiative for new information professionals. The discussion which followed the presentations showed that it would have been impossible to start this type of initiative on the green field without support of

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6   http://www.ala.org/llama/nps-toolkit

7   http://npsig.wordpress.com/new-professionals-worldwide/

8   http://www.skipcr.cz/

9   http://cisvts.cz/

10   http://www.akvs.cz/en/

11   http://www.ifla.org/new-professionals

any library association. That was the main reason why author decided to try to start an initiative under the auspices of AKVŠ. Other reasons were that author was working at university library (a member of AKVŠ) and that AKVŠ tried to support new informational professionalism through special funding for young librarians under 35 to attend IFLAcamp.

Firstly, author needed to recognize, who are new information professionals that are working in member libraries of AKVŠ, their main interests, skills and abilities. Therefore author decided to conduct a little survey (Vyčítalová, 2013) among head librarians which was aimed at employees under 35 (mainly working students and recent graduates). The survey was conducted through online questionnaire created in the application Survio[12] from 16th August to 18th October 2013. The main aims of the survey were to characterize the group of new information professionals (NIP) working in academic libraries, to gain information about their level of professional skills and relationship to further education and professional association in the field of librarianship and information sciences. The questionnaire contained 22 questions. Forty respondents (head librarians of member libraries of AKVŠ) were asked to fill in an online questionnaire. The response rate was 75%.

The questions were divided into two groups – basic facts about NIP (age, job position and professional qualifications) and attitude to further education and professional associations.

The ratio of NIP to all employees was 29%, which is quite large proportion. On one hand NIP were found to be relatively well qualified, when they started to work on their positions. On the other hand some of them had significant problems with cataloging or work with information resources. 40% of respondents had to make a remarkable effort to additional education of NIP in order to be able to perform their job sufficiently.

The second part of survey showed that NIP had positive attitude towards further learning. They preferred especially common professional courses and seminars (83%), e-learning courses and webinars (75%) and self-education (42%). Moreover, majority of NIP (64%) would like to go abroad for internship. On the contrary, NIP had a lax attitude towards an individual membership in Czech professional associations (only 7% of NIP are member of SKIP and 3% are members of AKVŠ working groups). Furthermore, they didn't have overview of activities of international associations. Only 30% of NIP were

interested in activities of international associations such as IFLA or LIBER.

The survey results were presented at Bibliotheca Academica 2013 (annual conference of AKVŠ). At the end of the speech author tried to identify a few problems, which are connected with NIP's carrier development, such as bad communication between libraries (employers) and LIS schools, lack of interest of professional associations in the group of NIP, lack of interest of NIP and low awareness about possibilities abroad (international associations and conferences). Author also tried to offer some recommendation to solve these problems such as better relationships between schools and libraries (employers), targeted orientation of professional associations on the group of NIP and last but not least better awareness raising about possibilities, which are offered by international professional associations such as LIBER or IFLA.

After the presentation, head of AKVŠ Marta Machytková offered the author the possibility to establish new group of NIP, which the author immediately accepted.

Subsequently, author negotiated with M. Machytková on the form of the initiative and therefore decided to conduct another survey directly among NIP (employees under 35) working in AKVŠ libraries. The main aim of the survey was to identify who NIP are, which preference they have and especially if they are willing to become members of new initiative. The author created an online questionnaire in application Survio. The message was distributed to NIP through head librarians of member libraries of AKVŠ and mailing lists. The survey was conducted from 7nd November to 5th May 2014. The questionnaire was filled in by 73 respondents.

The group of respondents (Vyčítalová, 2014c) was consisted mostly of recent graduates (40%) and experienced NIP (36%). A large share of respondents worked as cataloguers or in loan services. Surprisingly, some of them worked as heads of departments or even as head librarians.

Only 44% of NIP were satisfied with their professional education.

Second part of the survey was focused on NIP's relationship to further education. NIP seemed to have positive relationship to further learning. They preferred especially common professional courses and seminars, e-learning and self-education. On the contrary, they missed soft skills and language courses. Majority of respondents (58%) preferred to go abroad for internship. The most negative finding of the survey was the fact, that majority of NIP (90%) were not members of any professional association.

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12   http://www.survio.com/

The last part of the survey was aimed at NIP's preferences connected to new initiative. 44% respondents agreed with founding of new initiative. 22 % respondents provided contact information indicating that they were really willing to become part of the group.

CZ NIP BarCamp took place on Wednesday, September 3th 2014 in Czech University of Life Sciences Prague Library. The organizers chose deliberately form of BarCamp[13]. The 21 participants were mainly from university libraries throughout the Czech Republic. Eight participants espoused with contribution. Contributions were divided into three sections – *New information professionals, work and / versus learning, My professional life and good practice and New tools in libraries* (Vyčítalová, 2014).

After registration and short introduction the participants were encouraged to introduce themselves to each other, which helped break the ice and launch a debate and subsequently to establish new contacts between them.

In the first block which was moderated by Anna Vyčítalová were presentations on the topic of further education and its implementation within the profession. Ondřej Hykš (2014) introduced an unusual view of a new era of learning. The contribution by Anna Vyčítalová (2014b) acquainted with the present state of the topic of new information professionals in the country.

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13 BarCamp is an international network of user-generated conferences primarily focused on technology and the web. These are characterized as open, participatory workshop-events. The program is provided by participants. The first BarCamps focused on early-stage web applications, and were related to open source technologies, social software, and open data formats. The contribution could sign anyone who was interested.

Strong stories and experiences from working life were rung too. That program is continuously flowed into the second block. Kristýna Paulová (2014) described working cycle from point of view of average student of librarianship with the motto: "Work for knowledge, not for money." Vladimíra Bendová (2014) told a personal story of transition from the art library to a small scientific research library. And Renata Salátová (2014) presented the findings and experiences of the internship in Netherlands, which inspired many participants to similar actions.

The last block introduced successful projects that had been carried out under the direction or with the participation of new information professionals. Zdeněk Hruška (2014) participated in the audit Slovak central data archive and shared his experiences in the BarCamp. The second interesting contribution was aimed at Implementation of OS ILS Koha at the Police Academy in Prague Library. Barbora Lichancová (2014) took her determination and showed other new information professionals that innovation is worth to push through. The most successful was within this category and across the BarCamp contribution by Hana Janečková (2014), which was dedicated to user testing of Primo (discovery system) at the Libraries of Brno University of Technology. This contribution was about direct work with library users and their information behavior and it acquired the best grade and verbal assessments during the final evaluation.

Conclusion of BarCamp consisted of discussions about a group of NIP CZ. After a short brainstorming session was voted the formation of the group and its affiliation with the *Association of Libraries of Czech Universities*, its name (NIP CZ) and basic programming points in the form of key activities. The participants also started to discuss the logo and communication channels of NIP CZ. In conclusion, participants agreed to form appearance at the conference *Bibliotheca Academica 2014*, and also to participate in *BOBCATSSS 2015* in Brno.

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07.3.5

PARADIGM SHIFT IN 21ST CENTURY HIGHER EDUCATION

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Abstract

The study concentrates on teaching-learning paradigm shift. Higher education participants should use the ICT facilities better and more times necessarily. They have to acquire the knowledge and theories of teaching and learning, but for this self-training, training and further training in the 'ICT jungle' are indispensable.

The research aims are to explore the impact causes of paradigm shift in higher education and give a short presentation of these effects on mostly Hungarian higher education and higher education libraries. The applied qualitative method is based on the review of the Hungarian and English literature. The focus of this study is to examine the appearance and the increased use of ICT in higher education. For the better understanding, I present the definition and presentation method of blended pedagogy.

Several new trends have appeared in the 21st century universities. The multimedia computer-communication networks have become dominant places, which basically should develop the traditional world of learning and teaching over the past twenty years. Distance learning based on digital and multimedia applications, which can be defined as e-learning as well as teaching, opens up new horizons for Hungary, the European Union in a globalizing world. The United Nations, the UNESCO, the European Union launched new program groups for the dissemination of e-learning. In our country e-learning is bounded mostly to universities, colleges and libraries, as well as business life. In Hungarian education it has currently got less role than in more developed European countries.

The research aims in more details are to answer following: does higher education demand a paradigm shift; what is the difference from the freedom of teaching and learning compared to the previous (20th century) freedom of teaching and learning; at present the theory or the practice dominates in higher education; use of the potential opportunities of ICT tools and electronic sources effectively in higher education and university libraries; that why the Hungarian professors and university students comply with the demand for the use of ICT tools.

The results show there are three main findings: (a) no significant differences between use of the Hungarian students and professors ICT skills (b) a more positive achievement of freedom of teaching and learning (c) an observation of differences between the previous and at the present of freedom of teaching and learning.

Introduction

In modern life of 21st century everyone life are full of gadgets, widgets, applications, tools social media, e-sources, altogether full of informatics sorters, hardware. Why is it so? Because – unfortunately – the most of pulse reaches touch the outside world through these gadgets. Through these we held connections with colleagues, friends, family members; we get information; we work and learn on it as well. In my opinion, if we want to keep up with the global trends, we have to change our academic teaching and learning methods. We have to change our way of thinking about the ˝quasi˝ classroom teaching and learning.

The research aims are to explore the impact causes of paradigm shift in higher education and give a short snapshot of these effects on mostly Hungarian higher education. One of the scientific reason was that I chose this topic that there are lots of higher education trends – look at the OECD studies – which have been emerging at universities, academics in the last few years. I think that among these trends the most important is globalization, that kind of globalization which affects the academic sphere: the new methods of teaching and learning. The research is concentrates on teaching-learning paradigm shift. Higher education participants should use the ICT facilities better and more times necessarily. They have to acquire the knowledge and theories of teaching and learning, but for this self-training, training and further training in the 'ICT jungle' are indispensable.

'ICT jungle' what I mean by it? The new generations (maybe my generation) are being placed with new chal-

lenges, old educational, instructional methods will become partly ineffective. One of the biggest tensions in education generations are conflicting, since they do not speak the same language.

In today's world where the digital competence of students is much higher than the average of adults or teachers, the most important question is: how can we make the curriculum easier for them in a comprehensible way.

How can we achieve them? To be successful in this issue you need to keep in step with the times, and in addition to modern teaching methods with the latest information and communication technologies (ICT), which should be utilized. (Antal P., 2014)

In literature we can read about (digital) immigrants and aboriginals. Who are they? Where and when are they? The immigrants and aboriginals lived in the prehistoric times, but nowadays we talked about digital immigrants and aboriginals too, just in other surroundings and society.

A significant number of educators are still digital immigrants. On the other hand, students who have been taught, have digital natives/aboriginals. This means that digital competence strengthens quite early, even at the same time of the development of native language skills. They also say that they have grown into the use of modern tools and services, they are the teachers, however, they learned. The futuristic question is what will happening if they live in a same digital world for more years. Will be there more significant differences between them or will be disappear it the passage of time?

Methods

This research is currently on, so in this study I show you just one part of the research. The research aims in more details are to answer the following: (1) does higher education demand a paradigm shift; (2) what is the difference between the freedom of teaching and learning compared to the previous (20th century) freedom of teaching and learning; (3) at present does theory or practice dominate in higher education; (4) use of the potential opportunities of ICT tools and electronic sources effectively in higher education, Hungarian professors and university students comply with the demand for the use of ICT tools. The 1–3 questions are applied on the qualitative method they are based on the review of the Hungarian and English literature. But, the last one is applied on the quantitative method it is based on a questioner survey. For now, I just made a pilot questioner survey, so I have

not got punctual results yet. So this is the reason why I do not want to publish it.

This study just focusing, try to have answers the first three point of the research.

Results

The title and the research keywords are the paradigm and paradigm shift: I used the paradigm concept in Thomas Kuhn's meaning extrapolating to higher education. The paradigm shift in higher education is used in the sense that the views and expectations of society and the scientific community are changing in higher education. A paradigm shift is a change in vision!

One possible direction of the higher education paradigm shift to the new learning space will be created, which is based on the fact that the e-learning and other new kinds of education methods lead to the students' and the teachers' joining the international network formation very quickly.

As I mentioned, several new trends have appeared at the 21st century universities. The multimedia computer-communication networks have become dominant places, which basically should develop the traditional world of learning and teaching over the past twenty years. Distance learning based on digital and multimedia applications, which can be defined as e-learning as well as teaching, opens up new horizons for Hungary, the European Union in a globalizing world. The United Nations, the UNESCO, the European Union launched new program groups for the dissemination of e-learning. In our country e-learning is bounded mostly to universities, colleges and libraries, as well as business life. In Hungarian education it has currently got less role than in more developed European countries.

Overcrowded environment of ICT tools such as trends are effect and prevail for teaching and learning process. It means, if we recognize these trends and using of potential way we have to need to take some new "baby" steps in higher education, teaching and technical level as well.

Bertalan Komenczi meanings that the information and communication technology devices within the educational institutions' learning environment filled in three function:

1 system manager,
2 information provider,
3 communication functions. (KOMENCZI, 2009, 125–127.)

The latter allows, that the educational institutions to become more open learning resource center, which is able to move to any point of contact with the world, for example the MOOC (Massive Open Online Course[1]).

In the global information system lot of database, webpage, news portal and communication cannel etc. We called these are uniformly electronic resources. What is the teachers, professors' role in it?

That in this world of ICT, they find the right way and guide in it the students.

Teachers and professors are already not the main channel of information transmission, also they are the planner of communication effect system. Center of the system are students, whose have to prepare for the life-long learning (LLL), that for them life they can collect the necessary and interesting information and knowledge contents. (KOMENCZI, 2009: 122–123)

The question is that in Hungarian higher education participants – teachers, professors and students – how can they live for these new opportunities. I think it depends on that what approach to education in primary and secondary school. For example the Hungarian science education system is traditional, which is puts science to explain the phenomena in the field. Less weight, identifying the nature of scientific problems, and the use of scientific evidence. This means that the new systems, such as the appropriate level of use of ICT tools are harder incorporated into the every days' practice education, such as follows from the international experiences. (BALÁZSI – OSTORICS – SZALAI, 2007:25)

Freedom of 21st century teaching and learning is changed a little compared to the previous ones. This changes are in majority the sharing information, getting information and freedom of mobility because of the internet. The Bologna Process is create the possibility of university freedom. What I mean by that? Just think about the required courses, optional courses and credit system.

Students can be visited at any university course which is pass on them interests. Between the institutions of the credit system provides easier and freer passage.

In the part of the teachers the issue of freedom is depends on the tutor own freedom of choice what the emphasis within the object. The freedom is the freedom of the spatial possibilities. The study abroad, research, conferences, various scholarship opportunities

to broaden students' opportunities for personal trainers (eg. ERASMUS & Campus Hungary, Fulbright).

Related to these thoughts, I believe that the freedom of teaching and learning in higher education today is increasingly present.

In Hungary, the most of higher education faculties and institutes are more theory-oriented education is than practice-oriented. Typically in technical faculties, that trend can be observed that the Hungarian higher education institutions are increasingly engaging with external companies, multinational corporations. The companies during the students' education guarantee a place of traineeships for them, which later could be a potential workplace for them.

From this trend the Hungarian higher education is not a practice-oriented only one step towards the advanced training. Let's look at some examples in this regard. In Hungary has four higher education institutions, which have a contract of a multinational company: The University of West Hungary (Győr), the College of Kecskemét, University of István Széchenyi and University of Pécs.

In these institutions the dual education became available in the year 2012–13. They take their theoretical knowledge in various basic engineering courses – ie. mechatonics, vehicle engineering and material engineering – and after that they can use their knowledge in practice even in the partner company for one semester

I like to somehow representative a snapshot for the previous result which is based on the literature review.

The previous results show there are three main findings: (a) no significant differences between the usage of the Hungarian students' and professors' ICT skills (b) a more positive achievement of freedom of teaching and learning (c) an observation of differences between the previous and the present freedom of teaching and learning. In the future I would like to do a questionnaire survey which will be designed to explore the attitudes of academics students and educators towards ICT tools using in the virtual, electronic study environments in particular.

Discussion

Globalization has opened the possibility of a new world for us both advantages and disadvantages. Lots of people accept and keep step with the challenges of globalization, than others are keep aloof a conservative way. But they cannot avoid it, because everyone is part of it. I would like to cite a from Károly Barakonyi: "You can

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1   MOOC: http://www.educause.edu/library/massive-open-online-course-mooc (2014. december 29.)

love or you can hate the globalization, just one thing we can not to do, that we are not realize and not adopt to it." (BARAKONYI, 2009:34)

Who is skipped will be lose it. I think this short sentence can be described in today's Hungarian higher education teaching and learning methods. The instructor and students both of them interest to know the possibilities offered by ICT tools. Not only their interest but also the obligation to live with these tools, technologies.

The desire for knowledge of the factors that motivate the self-study, education, training the 'ICT jungle' participants, actors. Be objective in the global knowledge acquisition, knowledge of the extensive literature on the research projects, publishing and conferences appearances. In addition, a further aim the share, pass over and transmit of the knowledge, which can be located in the teaching process.

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07.3.6

THE PHD IN LIS CAREER DEVELOPMENT

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Keywords: LIS education, doctoral degree, career development, blogs

Abstract

There is a case for saying that to reach the higher levels of employment in library and information work a bachelor's or master's degree in LIS is no longer enough – a PhD is required. PhDs in LIS date back to the University of Chicago's programme of the 1920s, which made its first award in 1930. Since then there has been a steady growth in both the number of librarians with LIS PhDs and also the number of PhD holders from other disciplines obtaining senior posts in libraries. This is still highly controversial. By using blog content it is possible to obtain a substantial sample of professional opinion on both sides of the issue. Content generated by a controversial presentation by Jeff Trzeciak in 2011 is especially helpful. Methodologically the use of blog content is interesting and, although it has to be used with caution, it can be a great deal more stimulating than the content obtained from the questionnaire surveys, and even interviews, generally used to garner opinion. The commentary is essentially concerned with the relevance of PhD level education to the work that librarians and managers of libraries do. Advocates of undergraduate and master's level education in LIS oppose the trend with some force saying that what a student learns on a PhD programme is of questionable relevance to LIS practice. Conversely a serious argument can be developed that the completion of a PhD brings with it highly developed standards of information literacy, which can be put very good use in library practice. However, another aspect of the issue that is not given much prominence in this largely American debate is the question of the quality of the PhD now that programmes are offered by a much greater number of universities and many more doctoral degrees are granted than before. The intense rigour of American PhD education tends to guarantee standards, but there are valid doubts about the quality of the doctoral degrees in LIS granted in many other parts of the world. This debate is far from resolved, and librarians contemplating doctoral studies should make efforts to be aware of the range of opinions. There is also some basic advice on selecting a university, supervisor and topic that they need to take into account.

Introduction

This article will, as the title suggests, explore the LIS PhD as a contribution to the careers of librarians. This is in contrast to much of the relevant literature which concentrates on the PhD as a means of generating research information for the profession, and for a wider audience including educators, policy-makers and administrators. The question asked here is why someone might study for a LIS PhD, and what it might mean to them in their career. The obvious answer is that studying for a PhD can be one of the most rewarding experiences in a life, let alone in a career. The chance to spend three years with a topic, reading about it, discussing it, identifying methods to find out more about it, analysing and writing up data about it, and theorising about it, is a privilege and a joy. But the joys of research are not the whole of the story. After a brief look at the past of the LIS PhD (which is well covered in the literature), we will look at current debates on its value, and then use the issue of the quality of PhDs to suggest some ideas on how to make a start on becoming a PhD student.

Origins of the LIS PhD

The story of the LIS PhD begins in the 1920s and 30s in the USA when programmes were first offered. The first was at the University of Chicago in 1926. The classic account of these early years is by Danton (1959). He made a good case for the PhD on the evidence of those already awarded. He identified a number of these as significant contributions to knowledge in their own right. He argued that the research skills the new PhD holders had absorbed had often been used in further research. He was also able to point to benefits for the teaching of LIS in universities from new professors having studied for doctorates. He also noted that PhD librarians had a better rapport with the academic staff served by university and research libraries. At the same time Dan-

ton identified some less positive outcomes. He felt that, because the research dealt with a scatter of topics and the studies were often on a small scale, a strong body of research-based information had not yet emerged. Indeed, he saw some of the research as lacking practical application, pointing to generally poor take-up of the findings. Despite these doubts, the situation he reported in 1959 can be seen as offering a good deal of promise.

Since Danton, there have been a number of studies of the LIS PhD, more or less all of them dealing with the North American heartland. These have tended to confirm the indications of promise that he detected. Amongst others, one can cite as examples of the thorough coverage that exists: Bobinski (1986), Abrera (1987), which provides useful detail on the existing doctoral theses, Whitbeck (1991) which is based on a substantial questionnaire survey, and Sugimoto, Russell and Grant (2009) which provides an overview of over 3,000 LIS theses successfully submitted to 38 ALA-accredited library schools from the beginnings until 2007. The LIS PhD is more strongly established in North America than anywhere else in the world and the programmes compete with each other in the intensity and rigour of the experience that they offer to students. Advanced modules on aspects of LIS relevant to the student's areas of interest and an extremely thorough treatment of research methods are more or less universal. In fact if one were to offer a criticism, it might be that North American LIS PhD students are almost too well-drilled to the detriment of originality. This anxiety set aside, the North American LIS PhD is definitely the world leader. Today, universities in Europe, Australasia, Asia, Latin America and Africa also offer LIS PhD opportunities. The data on their activity is less easily available, but Kamila (2014) provides a data base of 1341 Indian theses. A personal sample from this and many other parts of the world will be used later in this article.

Recent debate on the LIS PhD

If what has been said above makes it sound as if the PhD is thoroughly accepted, there is actually impassioned debate on the topic. What follows offers an insight into some of this debate. It uses a reading of blog content. In effect, bloggers have formulated their views and evidence in just the way that one would hope the respondents to a qualitative investigation would have done. Of course, much more caution is needed with blog content,

precisely because the blogger is not a member of a population selected to be representative of the whole, but an active participant in debate who intends to persuade others. As long as this is borne in mind and blog content is not regarded as the whole substance of a set of views, it offers a rich and stimulating entry into ideas on a topic.

To return to the case in favour of the PhD, it is comparatively easily stated. Employers often demand that candidates for Director-level and other senior posts in libraries hold a PhD degree. This is more of a statement of the obvious than an argument. A very persuasive treatment of the question is set out by Macaulay (2004). He suggests that even if the PhD does not necessarily involve research that changes the profession it enhances the skills of the researcher. He sees PhD programmes as producing successful candidates with very high levels of research skills and information literacy. This is very much a 'training' as opposed to an 'education' line of argument, and one might question the value for money involved in a minimum of three years of fulltime study to enhance the professional skills of people who have already had one, and very probably two, long periods of academic study in LIS. Even if the investment looks economically questionable, a flow of highly skilled and qualified people into the top ranks of the profession is clearly good in its own right. At the same time it is far from universally accepted that PhD-holders are the ideal appointees to library posts.

The issue of PhDs in LIS was brought to the surface in a fairly recent debate in the blogosphere. The debate followed on from a public presentation in 2011 by Jeff Trzeciak, who was then University Librarian at McMaster University in Canada. In this he referred to his preference for appointing new staff with PhDs or IT qualifications to professional posts in the library. The best starting point for the resulting blogstorm is Dupuis (2011) who lists more than 100 posts from the first week after the presentation. Much of the outrage was because Trzeciak was not even referring to LIS PhDs, but to PhDs in other academic subjects. It might seem that because he was talking about non-LIS PhDs, this is not relevant to the argument of this article. However, the argument for non-LIS PhDs is substantially the same as Macaulay's information literacy-based argument for librarians taking PhD degrees. What the bloggers say about Trzeciak on non-LIS PhDs is also substantially their general opinion on LIS PhDs.

The McMastergate Debate

At the heart of the debate is fear that a de-professionalisation process is in operation. (http://librarian.new-jackalmanac.ca/2011/04/cassandra-and-the-future-of-libraries.html) In this vision non-tenured, non-unionised librarians are vulnerable to the outsourcing of digital library acquisitions to commercial organisations, and to a general lack of faith in their professional contribution across university campuses. A similar process is identified in public libraries by another blogger.

> The only difference between what Mr. Trzeciak proposed for McMaster and what is happening right now in public libraries is that public libraries are creating positions more generically for degrees other than the MLS, rather than just PhDs. (http://www.readingreality.net/2011/04/hanging-together-or-hanging-separately/)

A telling follow up on this is the suggestion that

> Because of the well-known massive oversupply of PhDs, particularly in the humanities, PhD-credentialed labor is worth even less on the job market than is the already-undervalued MLS. (http://gavialib.com'2011/12/the-coming-adjunctification-of-academic-librarianship/)

The anti-Trzeciak argument is developed further by identifying it as an assault on librarianship as such.

> By saying librarians are unnecessary – by reducing their number or eliminating their number, or deciding that people with PhDs or IT degrees will be hired instead of librarians – what is implied is that librarians are not capable of the jobs they have been trained to do, or worse, those jobs are unnecessary. (http://saucurriculumlib.wordpress.com/2011/04/14/whither-librarianship/)

Of course this assault could conceivably be justified, so other blogs put a determined case for MLS-trained professionals. For instance:

> The more we advertise that our service desks are staffed by real, live research-expert librarians, the more excited our students and faculty become. The more our instruction librarians impress the faculty with their engagement, enthusiasm and talent, the more sessions they are asked to teach. (http://guardienne.blogspot.co.uk/2011/04/valuing-librarian-work-mcmaster-is-not.html)

This was not, however, the whole story. A more cautious view from a digital humanities perspective was that

> I perceive … a need to change how we train librarians. The world has changed dramatically and will continue to change even more dramatically. Library science education must keep pace. (http://chnm2011.thatcamp.org/05/19/futurelibrianship/)

Trzeciak also found direct support, for instance from Stanford University, where a senior librarian said

> I find myself constantly having to fight to increase the level of academic accomplishment required… precisely because I see the need for top-tier scholars to be engaged in selection, description, interpretation of the advanced scholarly content being acquired or sought. (http://outloudlibrarian.blogspot.co.uk/2011/05/fear-and-loathing-in-academic-libraries.html)

There was also supported from a European viewpoint.

> Our Dutch academic libraries are also hiring more researchers and/or PhDs with or without a post-doc library education. Our medical library has two former scientists, and it is not excluded that more might be hired in the future. (http://laikaspoetnik.wordpress.com/2011/04/20/a-library-without-librarians-the-opinion-of-a-phd-librarian-on-the-jeffrey-trzeciak-controversy/)

What is more it was pointed out that Trzeciak's ideas were not an isolated response:

> It appears that some academic librarians are unaware that CLIR [Council on Library and Information Resources] has since 2006 offered a program that systematically creates positions in academic libraries for PhD holders who have decided they want a career in a library. (http://acrlog.org/2011/04/13/why-all-the-fuss-over-phd-academic-librarians/)

What anyone reading the McMastergate blogs will find is a conspectus of views on the place, or not, of the PhD in librarianship. It exposes vested interests, talks of change in librarianship and throws light on views concerning the appropriateness and quality of different qualifications to do library work. A deeper immersion than can be offered here is recommended.

Quality of LIS PhDs

On the issue of quality, there is more that can be said about LIS PhDs now that they are offered by universities throughout the world. Published hints as to a problem are rare, but Satija (2010)'s caustic critique of quality

in the Indian subcontinent is an important exception. He describes Indian LIS research as a desert in which PhD candidates fail to identify worthwhile problems or develop hypotheses, preferring to review existing conditions and survey the literature. Most damagingly, he accuses supervisors and examiners of colluding to pass each others' students regardless of quality. The author's own experience of examining PhDs from British, European, African, and South Asian universities offers strong support to Satija's view of the worst, and also thoughts on the bad, but not quite so bad. In addition to the direct insight that an examiner has into PhD work, there is also an indirect view obtained by refereeing submitted articles to journals. Many of these are clearly the product of PhD and Master's study adapted for journal publication. Their faults and inadequacies (and there is a great deal of inadequate material submitted to journals) are related to those of the theses themselves, as are the good qualities of a proportion of those seen.

This personal sample (with all the admitted fallibility of unsystematic data acquisition) includes some theses that have been a delight to read – well researched, with revealing conclusions – and others that could be called respectable. There has also been disgustingly bad work that is quite unfit to be examined, including one thesis (from India) that was merely 100 pages of long quotations from irrelevant and out of date books. Another from a British university was almost as bad, being illogical, unreliable and inaccurate from page one to the very end. It seems to have reached the point of being examined (when it was patently unfit to be seen) as a result of a series of accidents and mistakes. The personal sample, of which these form the most depressing part, also offers some evidence of a recessive effect on quality as directors of research and supervisors whose own PhDs were acceptable but weak go on to accept standards from their own students that are even further diluted. For example, ten or twenty years ago the present writer examined a thesis by a PhD candidate from a British university and passed it, but with some reservations. More recently that same Dr in LIS, now a lecturer, supervised a thesis which when it came to be examined showed some of the same weaknesses as his own research, but amplified to worrying levels.

The contention is that all PhDs are not equal in quality, but worryingly they tend to be treated as if they were. Possibly in response to a perception of this, there has been a tendency for universities to weight the PhD programme very heavily with required modules from the subject area. Arguably this subverts the nature of the PhD, the only taught elements of which should be research methods modules. This kind of semi-taught PhD is only a little more than another LIS degree designed to serve the 'training' needs of employing institutions. There seems to be a process operating here whereby the appointment and promotion requirements of institutions increase the demand for PhDs but undermine the standing of the degrees themselves. Generally speaking, there is definitely a LIS PhD question here that needs addressing by the responsible government departments and agencies, libraries of all kinds, universities and the profession itself. Having cast doubt on the quality of what is offered on at least some of the PhD programmes that are on offer, it is important to offer some advice on how the potential PhD student should proceed. The following three points should provide some help. They are addressed directly to a potential PhD student.

Advice to potential PhD students

The first suggestion is that you should talk to universities with long-established PhD programmes first. This might seem terribly unfair to institutions that have taken pains to create an excellent, well-structured and well-administered new programme. But the advice isn't to confine your applications to old-established programmes, merely to look at them first. Looking first at the old-established isn't foolproof, but it provides a set of benchmarks for looking at the newer ones, and it is much better than starting more or less at random. What looks good about a programme with a string of past PhD successes and a great reputation should also be suggested by a newer programme. By 'what looks good' is meant not merely the institution's publicity and documentation. You should try to meet not only administrative staff, but professors, even students. You should explore premises and facilities, the library in particular, including those not formally shown off. What you should look for is a kind of critical mass of professors, contract researchers and PhD students working in an environment that demonstrably facilitates their efforts.

Second, you should look for possible supervisors, first of all from amongst those with substantial publication records. An enthusiastic newly appointed professor might be excellent. However, it isn't easy to assess how good they are, what their attitudes to research might be and how they themselves have approached research topics. Sampling a professor's publications is a rich source of clues. Their work might be very theoretical or not theo-

retical enough; it might use a variety of methods or just favour one type of approach, it might address a range of topics or specialise very strongly in particular types of problem. Indeed the work might seem to suggest things about the writer's personality and attitudes that could be relevant. In addition to reading a professor's books and articles, an email message or a phone call is quite legitimate and often welcomed.

Third and finally, it helps to have a clear idea on the research area you want to investigate. Perhaps unsurprisingly many new PhD students arrive to enrol on a programme apparently with no clear preference. Your experience and reading should suggest topics or topic areas at least. There is an enormous amount to be said in favour of owning your PhD topic. A topic you care about and on which you already have some knowledge is likely to be one you will enjoy studying. It is more likely to inspire you to produce excellent work that you can turn into articles. Articles will be read more than any PhD thesis is. It is at the point when you turn your thesis into articles that PhD research as a contribution to the knowledge base of the profession and your own PhD as a significant phase in your career will come together.

Conclusions

Ultimately it is necessary to set doubts on one side and reiterate that studying for a PhD is potentially one of the most exciting and fulfilling of life experiences. PhD students often take on sizeable debt to pursue their academic ambition and most will never regret it at all. The important thing is that they should be on the right programme at the right university, with the right supervisors and a stimulating and worthwhile topic. Occasionally it is true that a good professional will find that the PhD is a form of higher study for which they are unfitted and in some cases it makes their lives a misery for three or more years. With the right advice and mentoring this can be avoided. Perhaps the best advice is that anyone contemplating a PhD should set aside considerations of how it might advance their career, and do it for the personal fulfilment it offers. All being well, the professional advancement should follow.

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08 DESIGN, INNOVATION, PARTICIPATION — ABSTRACTS

08.1

POSTERS

08.1.1

COBISS, MCOBISS AND COMPARISON BETWEEN THE TWO

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Keywords: COBISS, mCOBISS, mobile applications, information systems

mCOBISS

COBISS is a Slovenian library information system, developed by the Institute of Information Science Maribor (IZUM). In this poster we will present its recent mobile application, called mCOBISS, and compare it to the classical version.

mCOBISS is available for phones and tablets that run on Android or iOS. For the full operation of the application, it requires an Internet connection. It offers a quick search of material, after the search, results are displayed with basic information about the material that can be stored or shared.

mCOBISS enables viewing notifications of libraries, checking debts and limitations, extending loan period of borrowed material, canceling reservations, reviewing the history of borrowed material (My Library feature), browsing the list of most read material that shows the most frequently borrowed material in Slovenian libraries. Users can have information about the popular literature in one place (My Bookshelf feature).

It is possible to locate books and magazines, which are equipped with ISBN or ISSN barcode, using the built-in area of a mobile phone.

mCOBISS offers Live Help, which is available only on tablets with sufficiently large touch screens.

Comparison of classical and mobile version of COBISS

Classical version of COBISS has a less organized home page, but it offers a lot of options and services. mCOBISS's home page provides less options, but is more manageable, easier to use, better organized and more user friendly.

Classical version of COBISS enables basic, advanced and expert search, while mCOBISS enables only basic and advanced search. When clicking a search result, the classical version of COBISS offers more information about the material and offers presentation of each record using full view, ISBD or COMARC format. Mobile COBISS enables adding selected material to your collection (My Bookshelf feature) or sharing it through social networks.

The difference between classical and mobile version of COBISS's My Library is, that the classical version enables inter-library loan.

Classical version of COBISS offers more information about libraries, which are included in the information system, while mCOBISS enables phone calls and direct e-mailing to the selected library.

Classical version also provides live help by correspondence, while mobile COBISS provides live help by chatting with a librarian, using a digital camera.

Some of the additional options of mCOBISS (My Bookshelf feature, My Library feature and Scanning Barcode feature) make search a lot easier, which makes it more appropriate even for less skilled users. Classical COBISS, on the other hand, offers more information, services and options, which require a more skilled user.

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08.1.2

COMMUNITY FOR SCIENCE

*A new way of the knowledge transfer
and innovation supporting among
the Phd student in Hungary*

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After the organizational change, becoming a public body (2012 autumn), the Association of Hungarian Ph.D. and DLA Students started to organize its own academic departments, based on scientific orientations. The organizational model used for creating the academic departments is the one used of the Hungarian Academy of Science. Until this moment were established 20 different academic departments of the organization. Their members are Ph.D. and DLA students and Ph.D. and DLA candidates, and the total number of whom joined these departments would be around 500.

Our slogan is „Community for Science!" I would like to presentation our system and plans.

The board of the organization is thinking that the born of the new knowledge is necessary a network among the researchers, after that contact between the business sector and young research or their organizations.

The most important and the also the biggest event of the organization every academic year is the Spring Wind Conference. This year (2014) it was organized at the University of Debrecen, and 700 Ph.D. and DLA students and candidates attended the event. This also means that 10% of the total Ph.D. and DLA student population in Hungary were attending this event, this also being the greatest and the most attended of all conferences realized by the organization.

We would like to bring closer the sector of the Ph.D. and DLA students and young researchers and the business sector because it would be important that these two sectors to meet as it is the basic of the innovation and incubation in our opinion.

We would like to:

- realize a new form of contact/meeting type, the „Coffeehouse of Science/Science in a Coffeehouse", where young researchers will be able to presented new, interesting and actual science topics
- invite new partners from the business sector to our events
- find a mentoring person or a mentoring company from the business sector for every department of the organization, and for the most talented members of departments.

08.1.3

CULTIVATING THE NEXT GENERATION OF LIBRARIANS THROUGH MENTORSHIP AND APPRENTICESHIP

LIS Graduate Assistantships at the University of Illinois Library

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Keywords: collaborative learning, mentorship, pre-professional experience, graduate assistantships, library and information science education, apprenticeships

The University Library at the University of Illinois at Urbana-Champaign partners every year with Library and Information Science (LIS) graduate students at the Graduate School of Library and Information Science (GSLIS) to support library services, initiatives, projects, and patrons through paid positions. These unique partnerships, called "Graduate Assistantships," are competitive employment opportunities for LIS students to gain pre-professional experience working in an academic library while completing their graduate study.

The Graduate School of Library and Information Science at the University of Illinois is the number one ranked library school in the United States, and maintains strong ties with the University Library. With a collection of over twenty-four million items, the University of Illinois Library is one of the largest library systems in the United States, and in the world, serving a student population of nearly 45,000. Graduate Assistants within the library play an integral role in supporting the research mission of the university, and everyday library functions. The partnership offers library students invaluable pre-professional experience prior to pursuing full-time library employment upon graduation.

LIS students who are hired as Graduate Assistants often find mentors within the University Library who offer academic and professional guidance for successfully navigating the library landscape. Graduate Assistants find themselves within an apprenticeship-like opportunities that contextualizes, frames, and enhances their library school education. Graduate Assistants gain hands-on experience within a particular University of Illinois library (there are over twenty), and within a particular library department. Some Graduate Assistants work in areas such as Reference and Instruction, Preservation and Conservation, Cataloging and Metadata, or digital services.

This poster presentation hopes to convey, through case study examples, how one of the largest research libraries in the world, in partnership with the top-ranked library school in the United States, prepares the next

generation of librarians for professional careers through mentorship and real-world experience. This poster intends to spur discussion on the topic of library apprenticeships, assistantships, internships, practicums, and all forms of LIS education that place outside the classroom. I am particularly interested to engage in conversations on pre-professional opportunities library schools outside of the United States offer.

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08.1.4

EUROPEANA AND MOBILE USERS

Cultural tourists

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The fast growth of technology is affecting information needs. The impacts of such changes are tangible in digital services. Nowadays digital natives, mobile users and … are target groups for information providers.

Europeana as a multilingual digital library with great focus on European history and culture in current years has included new functionalities to its services by involving different user groups.

Accessibility is one of the most important challenges in the digital age. High demand of mobility requires implementation of infrastructures and services to support creative data reusing. In this aspect user and user needs are central parts.

Among mobile users, all those that need information on the go, cultural tourists might be good target for starting a study around Europeana's functionalities for mobile users in more centralized way. Smartphone is the focused device in this research, because the other devices are almost the same as desktop. Due to mobile phones 'screen size, there are obvious limitations in the form of interface, type of information and facilitating the interaction.

- How can Europeana increase its services for tourists?
- What type of digital services are tourists expecting?

For getting information around this issue we need to know more about this type of users, their information needs, interests and also their seeking behaviors. On the other hand it is necessary to illustrate the Europeana's current services and its potential capacities in feeding this group. The optional city for this purpose might be Paris. First of all it is one of the famous touristic capitals at the meantime according to case study of Europeana for mobile users in 2011, Joconde as a French database (provided by Culture.fr) was the most popular among mobile users. It worth nothing that Joconde includes half of the Louvre collection. Focus on Joconde by content consumers, is clarifying the necessity of further studies for developing the services in such contexts.

Recommended method is qualitative. Short interviews or questionnaires will be arranged. For instance visitors of the Louvre Museum or national museum for modern art will be asked about their favorite digital service. Also it will be checked that after visiting, whether they are satisfied with current digital offers or they have some other ideas. Mostly interviewees will be those types of tourists that they already have some background information about the city and not looking for very basic information. This narrative study might develop the creativity in information creation and it can make the way clear for reusing the Europeana's potential data.

It is an obvious point that needs and interests are age and witting dependents. So these interviews give this chance to users to present themselves and reflect their ideas and thoughts. For example we have language barriers and previous generations are not good enough in English so guided tours in museums are not useful for everyone. Tourists may ask for short videos in different languages. Or user interaction might be another idea that mostly it is popular among young generations. The eventuality of publishing specific memories and experiences in form of photo, comment or voice message in special digital environment may attract tourist.

As an outcome, it is expected that Europeana will achieve further approaches in user orientation and usability. Moreover, data curation and creation will be

based on users' needs and interests. Specific facilities will have a chance of development for cultural tourists something interdisciplinary that can cover the needs of several groups; mobile users, history lovers, researchers and ... Furthermore, it makes trips with cultural and historical aims, more targeted and interesting.

Note: This research has been planned and surveying will be realized in further.

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EXPERIENCES ON TRACKING INTERACTIONS WITHIN A WEB PAGE

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Interactive information retrieval research focuses on users' interactions with search engines and information, their search behaviour as well as system evaluations. Due to artificial settings in usability laboratories, empirical studies in this area face several problems, many of which are related to controllability and realism of studies. Search engine companies have unlimited access to all their result pages and massive amount of real world data, but studying interaction with the sources requires experimental setting in the laboratory and is costly. In this domain client side logging (incl. screen capture) or videotaping, gives the most robust data, when everything on a computer screen is monitored. In between there is proxy logging, which allows more simultaneous test subjects, yet rather robust details of user behaviour.

In this study, we report experiences using our tracking tool, called UtaProxy, in research. Almost all user interaction can be tracked by using such tool to inject tracking scripts into the served webpages. For instance, locating relevant parts within a document is important in factual searches and question answering where users are presumably looking for very focused information. Accordingly, in our past research two groups of test persons were given search tasks, with varying and controlled result documents and the behavior of each of the test person was tracked in secret. That is,

they were not aware of that their behaviour was tracked or their results are delivered through a proxy. The aim was to study whether the users were able to identify the relevant information if it would be in isolation or would they need more scrolling within the web page for answering the questions.

Most of the studies in interactive information retrieval emphasize the results and analysis of data. This is perhaps not informative enough in order to replicate or develop the research further. Therefore, it is as important to elaborate the actual experimental situation and protocols. Here, we describe the empirical research process and protocols of our past study in detail and discuss the possible research questions the described setting might help to address. These include various usability tests of a web site structure, especially findability of information. For instance, given a page or site structure versus an alternative structure. Or alternatively a more general questions, such as studying the effect of delivering the correct answer right away instead of providing the document beginning.

We have used these protocols in our studies and found them sound. Therefore, we think that this research facilitates future researchers with novel research topics and questions, instigates them to develop experimental settings following our design.

08.1.6

FRIENDS OF LIBRARIES – WHAT ARE THEY FOR?

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Keywords: Friends of Libraries, participatory culture , user participation, library marketing, lobbying for libraries

In many countries worldwide local groups of active citizens are supporting public as well as academic libraries through a lot of different activities. This kind of participatory culture through user cooperation can be used as an effective means to underline the libraries' importance within the society, to achieve all kind of stakeholders' attention, to do marketing and lobbying for the library and – last but not least – to gain financial support through activities like flee markets, programs like "Adopt a book!" (for restauration) and any kind of croudsourcing and croudfunding. Any kind of networking – so-called social as well as personal networks – are the basis for successful "Friends of Libraries" group working.

The poster will show examples of successful Friends of Libraries activities from different countries and encourage the BOBCATSSS participants to commit themselves in supporting their home libraries with new ideas of user cooperation and networking.

INFORMATION LITERACY EDUCATION IN YOUTH DROP-IN CENTERS

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Keywords: digital divide, information education,social disadvantage, youth drop-in center

The poster deals with information literacy education in youth drop-in centers. It explains the importance of development of information and computer literacy in that environment, particularly in the context of avoiding and overcoming the so called digital gap by people from socially disadvantaged backgrounds.

The mission of youth drop-in centers is to offer young people safe environment for leisure activities and professional help with problems they face. These centers provide a variety of information, counselling, prevention, leisure time and educational services most of which are free of charge and anonymous (Česká asociace streetwork, 2008). Typical clients of the center are young people aged 6–26 who find themselves in difficult life situations, unable or unwilling to engage in standard leisure activities, or have a tendency to behavior endangering themselves or others (Jedlička, 2004).

In 2012 the possible educational potential of the centers was supported by a project of students from the Department of Information and Library Studies, Masaryk University, named Build Bridges. Its goal was to overcome the primary and secondary digital gap in a specific low threshold institution and enable clients not only to access the technologies, but also to develop the appropriate skills to use them. The project was inspired by community technology centers abroad that allow the disadvantaged communities an access to ICT in their place of residence while trying to build social capital (London, R. A., Pastor, M., Servon L. J., Rosner R. & Wallace A., 2010). Lessons realized within the project were built to take account of problems of clients of a specific institution, which include low reading literacy, language barriers, low self-discipline or wrong learning habits (Bittnerová, 2009). With regard to the capability of teachers and character of centers the lessons were created flexibly with use of the "edutainment" concept (Janiš, 2011). The theoretical basis for creation of lessons were so called. Digital skills defined by the Dutch Professor Jan Van Dijk, which are divided into operational, formal, information, communication and strategic skills (Van Deursen, 2011). The topics of the lessons take account of recent years trends in education, such as digital storytelling, self-education, teamwork and work with text in the minority language (in our case the Roma).

The poster also outlines possibilities for mutual cooperation between libraries and low-threshold institutions in the area of teaching of information and computer literacy. The mission of the poster is mainly to inspire information professionals and librarians to organize events and courses in information and computer literacy not only at the libraries, but also in the environment of low-threshold institutions for children and youth and in the technological community centers.

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08.1.8

THE INFORMATION SEEKING HABITS OF HIGH SCHOOL STUDENTS OF LATVIA

Information overload affecting high school students

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Keywords: Latvia, high school students, libraries, information overload, information management, surveys.

Information resources are freely and readily available to students attending high schools in Latvia, yet there might be the issue of information overload affecting these students. While these resources are available, students might not be using them due to not knowing of the availability of these resources or due to lacking the skills to use these resources.

We will be developing two surveys. One of these will be aimed at high school students of Latvia in order to ascertain what are their habits when searching for information. What resources do they use (basic search engines, library catalogues, librarian consultations). The other survey will be aimed at library staff in order to ascertain their observations of habits of the high school students who use libraries.

These surveys will be carried out in as wide an area as possible in order to obtain unbiased results. They will be carried out in both the capital and in the regions. The surveys will be handed out on paper when we will visit some of the high schools of Latvia in the capital and in the regions. The survey will also be available electronically in order to gather data from students that do not attend the high schools we will be visiting, as well as as many librarians as possible.

We will then analyze the results of these surveys and ascertain whether high school students indeed suffer from information overload. We will then look at what innovations could be carried out in order to make the resources available to high school students more user-friendly as well as raise the student's awareness of these resources.

During this time we will also be interviewing information specialists. We will try to ascertain whether such innovations are necessary and, if so, what is the likelihood of them being implemented.

All of this information will be condensed and presented in the form of a poster.

08.1.9

IPADS FOR THE MUSICIAN, DANCER, AND ACTOR

Design and Development of a Circulating iPads Program

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Keywords: tablet computers, iPads, circulating, performing arts

Technology develops at a rapid pace and is fully integrated into our daily lives; from taking notes on our laptops to checking work e-mail on our phones, there is no escaping the new mobile trend. As a result, libraries try to keep pace with these trends so that they can assist their patrons and provide useful programs. In January of 2014, the Music & Performing Arts Library (MPAL) at the University of Illinois at Urbana-Champaign launched a circulating iPads program. MPAL circulates five iPads, available for checkout by students, staff, and faculty of the university, that come with preloaded content and some security restrictions. This program plays a role in the development of digital information literacy for our users. It allows patrons the opportunity to interact with tablet technology without purchasing anything.

Utilizing iPads, MPAL strives to provide an additional tool for students and faculty in their academic work, rehearsals, and personal practice. Because MPAL serves those in the music, dance, and theatre departments, this program was designed with these audiences in mind. This is especially apparent in the app selection process, although several general productivity apps are also included so that the iPads are still useful for individuals from other departments. These apps also raise a question of personal information security, which influenced the design of policies and workflow. All five iPads are managed through Apple Configurator and a Breitbart charging and configuration center. Survey forms are handed out with each iPad when it is checked out to assess how the iPads are being used and if patrons find them functional. Feedback has been positive with recommendations for additional content from patrons, which MPAL meets if possible. In general, the development of this program has been a success.

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LIBRARY IN THE GAME

Study of games and gaming in
Finnish public libraries

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Games are nowadays a part of mainstream culture likewise to movies and music, but do they belong in libraries? Is a public library a place where you can play games? What is the role of libraries in promoting awareness of game culture? This paper is trying to answer those questions and furthermore find out what kind of game projects Finnish public libraries have, and what positive or negative influences could games and gaming have in libraries. The library is an affirmative institution that enhances equality, and therefore its responsibility is to enable access to cultural contents, including games.

Libraries are changing from static book storages to diverse functional spaces. Games attune to the change splendidly and there is plenty of potential in games and gaming that could be utilized to benefit public libraries. Gaming events in libraries are a great way to get more people interested in library services. Additionally, they are a social activity that could give people experiences they cannot get elsewhere. Games could bring new users to libraries and demonstrate to libraries non-users that a library is more than just book shelves.

I interviewed library professionals from public libraries from different parts of Finland to determine how they are organizing their gaming and what their attitude towards games and gaming is. The greatest obstacle for promotion of games in public libraries seems to be the lack of resources. In order to improve the situation, a library needs a person who is interested in games and gaming. That in itself isn't enough, but game-related assignments need time and should be listed in the person's job description. Level of progress in gaming varies substantially depending on the region, but games are recognized as a cultural form and are welcomed to libraries across the nation. Games are a part of libraries today and are not going away.

08.1.11

MAPPING SCHOLARLY NETWORKS TO ENHANCE COLLABORATIVE RESEARCH OPPORTUNITIES

Examining BOBCATSSS conference participation with network analysis

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Using coded network analysis, we propose mapping participation in previous BOBCATSSS conferences in order to highlight certain identifiers and create a visual representation of BOBCATSSS involvement and contributions. Distinguishing and analyzing network structures can concretely show past connections and help predict future associations, while allowing viewers to understand the strength, directionality, and origins of these initial linkages.

Additionally, creating and examining the BOBCATSSS participation network within the context of BOBCATSSS history will provide valuable insights pertaining to not only subject matter but also authorship developments. Both presenters and attendees can reveal much about tie strength and the ways in which bonds are forged by multiplicities in research and participation. This could also lend itself to new collaborations based in research, geographical proximity, or previous authorship, and we believe that mapping and analyzing the nodes and edges of our uniquely coded network will reveal beneficial insights about participation in the BOBCATSSS conference from its inception to present.

Our methodology will consist of constructing a dataset with identifiers for each conference as well as each participant, which will be unique that participant and repeating if he or she has multiple presentations, in addition to each presentation and each session in order to match people who presented at the same session. Through a thorough examination of past programming, bibliographies, and research, we will code for betweenness centrality, degree centrality, eigenvector centrality, and closeness centrality in order to determine the structure of the network and its dynamic or static characteristics. Our network with be accompanied by a corresponding legend that demarcates each term and its embedded components.

In our research, we encountered the content analysis of conferences in several disciplines, which supports the interconnectedness of meaningful relationships among both presenters and content. This will help us examine not only what the network of BOBCATSSS participants looks like, and how, if it all it has changed over time, and how these can be used to inform future collaborations but also how past research and collaborations may have contributed to later connections among presenters and attendees.

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08.1.12

MATURITY MODEL FOR PUBLIC LIBRARY SERVICES IN DEVELOPING COUNTRIES

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Keywords: public libraries, library services, maturity model, self-assessment

This poster describes a Maturity Model for public library services, developed for the National Network of Public Libraries in Colombia. It includes five levels of development, from non-existent to innovative level, each of them has a description for services such as help & reference, internet & ICT access, loans & reading rooms, education & training and events & activities. It also has levels for the process of planning, advocacy, service delivery and assessment.

The model is a self-diagnostic tool that allows libraries to identify the level of development of their processes and services, so that each library can autonomously develop a plan to improve service. It is also works as a path to achieve established and innovative levels of service that allows libraries to adapt and continually transform to improve performance and increase its impact in the community. It is a recommended standard useful for libraries in Colombia and Latin America, but it could be also useful for public libraries in development.

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08.1.13

A SWOT ANALYSIS OF CURRENT DIGITIZATION STATUS IN ROMANIAN PUBLIC LIBRARIES

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Keywords: digitization, public libraries, Romania, decisions, SWOT analysis

The digitization of library collections has become an important way in discovering and using information by the research community. For libraries, this process represents a challenge in preserving their unique and rare materials and disseminating them at national and international level. In Romania there are a lot of concerns regarding the digitization of the written heritage both of central authorities and cultural institutions.

Trying to have an overview of the current digitization activity of the Romanian libraries and to find various solutions for improving it, I chose the SWOT analysis which is a classical management tool, applied in many fields. Through it, a range of strengths and opportunities have been showed, such as the rich cultural written heritage held by Romanian libraries, many professional employees in charge with digitization, and the Romanian cultural identity to become more visible outside the borders. Among possible weaknesses we identified a low budget, and different copyright restrictions in order to support the future decisions.

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TOUCH COLLECTION BY FINGER

How touch interfaces make it easy
for readers to use readers' paths

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Our poster asks how tactile access online catalogues in the physical library, could give anyone the possibility to make visible and share its own reader's path, contributing to building various ways to access collections and bridges between documents and users.

Each reader creates some thematic routes inside the collections, uniting documents by subjects (geographic, literature...), and feelings. Users are interested in these readers' paths, as they are a good way to circumvent the complexity of Dewey's Classification (Pernoo, 2001), when librarians see in them as a way to propose another access to collections, without reorganizing the whole library (Jouin, 2008).

In addition, a low attractiveness of the interfaces, an indexation far away from ordinary language, and an impractical exchange with others readers, have limited the use of online catalogues by patrons (Jouin, 2008). Tactile devices, due to their trivialization in our daily lives and to their intuitive and elegant interfaces, seem to be tracks not to be neglected to improve access to online catalogues and for the opportunities offered to patrons to leave their own traces inside catalogues.

In order to become good tools which will propose readers' paths, tactile devices have to offer ergonomics based on the studies on accessibility and action areas (Nogier, 2013), an approach of folksonomy that enables the reader to build their own path easily (Le Deuff, 2006), and finally a possibility of sociability by an easy, and not necessarily authenticated, access to integrated social networks (Moirez, Moreux, & Josse, 2013). In addition, if the simplicity of the interfaces is an important motivation factor, it cannot be enough. Other factors like attractiveness and pleasure in relation to concepts of scriptwriting, gamification and renewal experience (Hol-ley, 2010) have to be part of the project for a long-term participation of the patrons to such a valorization of their own experience as readers.

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PECHA KUCHA PRESENTATIONS

08.2.1

COPYRIGHT'S IMPACT ON LIBRARIES TODAY AND TOMORROW

Library Organisations' Answers to
the EU Copyright Consultation

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Keywords: information policy, intellectual property rights, library organisations, european union, copyright, digital libraries

This pecha kucha means to give a brief overview of how library organisations answered the public consultation on the review of EU copyright rules issued by the European Commission. The consultation was open between 05.12.2013 and 05.03.2014 and the objective was „to gather input from all stakeholders on the review of the EU copyright rules". The consultation generated 11 117 replies of which several came from libraries and library organisations. Both national, European, and global library organisations sent in replies. My aim is to present the opinions which they have in common and thus pinpoint what issues libraries are facing with EU copyright today.

The cultural history of copyright, beginning with the Berne Convention in 1886, is of importance to how library organisations react to the conflict between providing information, which could be said to be the libraries' main purpose, and copyright. Laura Gasaway states in an article from 2000: „Librarians share many values with creators and publishers of copyrighted works, but their interests and values sometimes conflict." From this, we can conclude that the conflict is not new. However, the conflict has taken on new dimensions in the digital era, where information is collected and shared faster than ever before. The library as an entity is transforming from something purely physical to something physical and digital. The development of copyright legislation might have a profound impact on how our future libraries will develop.

Therefore, I will look into the following questions: on which values do the library organisations base their argumentation? Do they propose any solutions to the future of copyright and if so, do they have different solutions? Are public, academic, or another type of libraries especially affected by today's copyright legislation, and how do they predict the future consequences due to copyright in a digital world? How do the library organisations relate to other stakeholders in their replies? What core values of librarianship, as stated by the organisations, are deemed most important in the consultation replies?

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08.2.2

DISCOVERY SERVICES IN LIBRARY AND INFORMATION INSTITUTIONS

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Keywords: discovery services, web-scale discovery, library and information institutions, Slovakia, search engines

Main topic of our paper are discovery services and their use in library and information institutions. These services are designed for search and access to heterogeneous information sources on internet.

Our goal is to map availability of discovery services and their use in libraries in Slovakia and Czech Republic in comparison with other countries. We compare discovery services used in selected libraries worldwide and we identify current trends in this field. Quantitative methods of research are used to investigate the impact of discovery services on quality of library and information services.

There has never been done any research of this problem in Slovak and Czech Republic. The results are benefits, advantages and limitations of discovery services for libraries and their users.

08.2.3

LEARNING TECHNOLOGIES

Interactive Learning Technologies versus Textbooks

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The introduction of Web 2.0 has led to the internet becoming more interactive. These technical developments are already being implemented in the educational sector of our society, where there is being experimented with Interactive Learning Technologies. In our Pecha-Kucha-presentation we will discuss three of these technical implementations and we will compare them to textbook usage.

Our main concern in this matter is the effectiveness of these Interactive Learning Technologies, in comparison to a physical textbook. The innovations we would like to treat during the presentation are explained below.

The first tool, called Interactive Internet Books (Müller & Maurer, 2011) or IIB, concerns scanned paper books, which are enriched by technology and interactive functions for the internet. This enables users to make notes online and create tags as metadata while reading the books. Also, because of the digital use of the contents, it is possible to hyperlink words or sentences, which give the book an extra dimension. The use of tags as metadata makes it possible to create an RDF-triples structure for enrichment of the digital books over the physical books (Becker et al., 2010). RDF stands for Resource Description Format, which is commonly used in triples. It is used to explain relations between certain entities in databases.

A tool called aofconvert (Hermann & Ottmann, 2011) is used during electronic lectures shows relevant links that relate to the subject at hand. It connects the information shown to a Wiki, using additional content, tags and keywords used during a lecture. This offers the students not only the information of the lecture, but also the additional information, organised in the Wiki. It is comparable to a second screen.

Secondly, at the State Library of Queensland in Australia, a new way of learning is offered to children by making the library searchable interactively (Fitz-Walter, Tjondronegoro, Koh, & Zrobok, 2012). This is because they have developed a mobile application called Secret SLQ, with which children can scan hidden QR-codes that have been spread throughout the library. After scanning this code, an assignment is revealed that can be completed in the library. By cooperating in this experiment, children are stimulated to use books for answering the questions of the assignment.

We conclude that adding interactive functions to texts is useful for the user. He or she has access to relevant information which can be used in an effective way in sharing knowledge. This access is due to the ever advancing technologies and innovations in the line of work.

Nevertheless, these innovations might as well lead to distraction which causes lack of concentrated learning. This distraction complicates the so called Deep Reading of text (Carr, 2010).

Both interactive tools and textbooks have pros and cons, which we will compared during the presentation. Our presentation is centred around the dilemma many people and institutions are facing in this matter.

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08.2.4

THE NEW PROFESSIONALS SECTION OF THE LIBRARY ASSOCIATION OF LATVIA

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Keywords: participation, library association, new professionals, cooperation, Latvia.

Subtopics:
- General information of the New Professionals Section of the Library Association of Latvia
- Fields of Activity
- Developed and supported projects
- Section as a motivator
- Involvement of other Baltic countries in creation of similar sections in their country

The New Professionals Section of the Library Association of Latvia was established in April 2009, when a group of students decided to join their forces to encourage recognition of the movement of new Library and Information professionals in Latvia, as well as abroad. Members of the New Professionals Section of the Library Association of Latvia get involved and organise a variety of local and international projects in the field; organise conferences; give lectures to other professionals.

The mission of the New Professionals Section of the Library Association of Latvia is to promote the development and raise prestige of the Library and Information field by offering best opportunities of professional development to the new professionals. We decided to share Latvia`s experience with others.

In the five years of existence, the members of the section have successfully participated in LIS conferences, written interesting and educational blog articles, managed projects, and devoted a part of their leisure time to ensure successful work of the section. Librarians

of other countries noticed our active and enthusiastic work. At the end of 2013 we were approached by new professionals of Lithuania and Estonia, who wanted to hear about our experience and our decision to start this section. In order to facilitate the successful launch of New Professionals Section in their country, Lithuanians and Estonians came to Latvia, where we shared our experience. Our work serves as a good example by showing that a small group of people can volunteer to promote their own professional development, and, at the same time, involve others in doing so.

In our research project we are going to use several research methods:

We will conduct an interview with Dace Udre, initiator of the New Professionals Section, as well as other members of the section.

We will evaluate the blog, social media activity and annual reports of the New Professionals Section.

We will have Skype conferences with new professionals of Lithuania and Estonia in order to get feedback on their impressions about work in their sections and our collaboration.

In the result we will use Pecha Kucha format to present most important and interesting findings of our completed research on the activity of the New Professionals Section.

When we just started The New Professionals Section of the Library Association of Latvia in 2009, no one suspected that our voluntary work would inspire so many others. With time, the section gained new members not

only from the capital but also other regions and cities of Latvia, thus expanding directions of the section. New professional doesn't have to be a person of young age; a new professional is a person, who feels new to the Library and Information field and is ready to share his/her ideas with others.

PURPOSEFUL GAMING

Gamification and Information Sciences

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We, students at the faculty IT & Design of The Hague University of Applied Sciences, will be presenting a Pecha Kucha about gamification. We think games can be a useful addition on several areas in the field of Information Sciences.

People mostly see games as a way to pass the time, like watching a movie or reading a book. It does not have to be just that. For example, Volkswagen (2009) started the initiative The Fun Theory, with the thought that "something as simple as fun is the easiest way to change people's behaviour for the better." They took boring activities, like recycling glass or walking on stairs at an underground station, and made them into a game. The result: people start doing those activities a lot more.

This concept is also applicable when it comes to learning something new. In England, a professor at the University of Huddersfield created a game to improve information literacy, called SEEK! (Walsh & Williamson, 2012). The game aims to build skills around creating a search strategy and is deliberately generic and adaptable. Imagine similar games for other purposes, like learning a new language.

Then there is crowdsourcing. It is the term for getting a large group of people to decipher data for you. A wellknown example is CAPTCHA: fragments of text that a user has to decipher before they can log in. By using words from a scanned text, people help digitize entire books. "Stop a bot. Save a book." (Google, n.d.).

There are similar applications for, for example, adding tags to photos, but they are behind developmentally. The idea is that when a lot of people assign the same label, it is more likely to be accurate. There is even a site that has people solve puzzles for science (Monu & Ralph,

n.d.). By making the process a game, people are more willing to help.

With this presentation we hope to interest people in the subject of gamification, especially in the field of information sciences. We also hope to show that games can be a good addition to learning new skills and for making the most of crowdsourcing.

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08.3

WORKSHOPS

ARE YOU THINKING OUT OF THE BOX?

A workshop about problem solving through Design Thinking and Creative Problem Solving

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Keywords: design thinking, creative problem solving, 21st century skills, innovation, problem solving, education

Design thinking has become popular in the past few years; it is seen as one of the most exciting methods to solve problems in fields like business, education, IT and medicine. It is a human-centered, solution-based specific thinking method for creative and effective solutions to problems. Design Thinking is not a skill people were born with, it however can be learned. It starts with empathy, the understanding of your user's needs and then a few steps should ne taken into consideration. Each step has a detailed explanation that can help people apply this method to real-life problem solving. Design thinking offers a clear framework for the problem solving process.

Creative Problem Solving is a structured method of creative thinking and problem solving. The method is all about teamwork and being innovative. Creative Problem Solving is very flexible because you can jump between stages. It is a process that is used by companies and organisations all over the world who are trying to improve and need to innovate. Compared to Design Thinking, Creative Problem Solving is an easier method to apply and to learn.

We are doing a qualitative research about the implementation of Design Thinking and Creative Problem Solving during Fall 2014. We are studying the implemen-tation of these two methods at the Hanze University of Applied Sciences Groningen because it is involving and will implement more 21st century skills into their lectures. Furthermore we are going to interview professionals in the area of Design Thinking, Creative Problem Solving and 21st century skills as well.

During the workshop we will introduce the subject and let the participants experience how to use Design Thinking and Creative Problem Solving. The audience will be involved in many different ways. Using creative methods like Design Thinking and Creative Problem Solving will help the participants to be innovative and creative every time they have to deal with an problem.

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08.3.2

BE THE GAME MASTER AND SHARE KNOWLEDGE

Gamification to teach information literacy

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Workshop topics:
- Sharing and teaching information literacy.
- Gamification used for teaching.

What:

Our interactive workshop 'Be the game master and share knowledge' is all about sharing knowledge about information literacy in a fun and playful way by using games. In this workshop you will learn about online solutions and how to use them for this purpose.

After finishing this workshop:
- The information specialist will be aware of various ways of teaching visitors about finding information.
- The information specialist will understand why gamification is a powerful tool in learning.
- The information specialist will be able to create an online quiz to offer alongside his explanation.

Why:

Each information specialist has to deal with visitors looking for information. They turn to the information specialist looking for help. In the old situation the information specialist would just provide the information they were looking for, without further explanation.

Nowadays however, librarians are supposed to take on more of a supporting and coaching role. At least that's how it should be.

Furthermore the attitude of visitors has changed; they are more independent and are looking for fast answers. Current technologies allow us to provide in that demand.

In the exchange of knowledge the librarians won't be futile, but the way their role is played evolves. Current information specialists aren't trained to provide knowledge and to adapt to the different target groups they encounter. But over time the demand for this keeps growing.

That's why there's a need for this workshop.

In this workshop we want to show how to teach your visitor in a playful way how to find the right information for his or her research, assessment or thesis. It doesn't really matter what they need the information for, the important thing is to teach people how to find what they're looking for. They're learning a technique which makes them more independent in the future.

There are many ways of sharing knowledge to teach visitors, in this workshop we show a way that's available online.

08.3.3

DIGITAL HUMANITIES IN THE LIBRARY
A Collaborative Workshop

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Keywords: digital humanities, emerging technologies, collaboration

Digital humanities is as an emergent, interdisciplinary mode of humanities scholarship. As the Around DH in 80 Days project (http://arounddh.org) has shown, it is a global field that can take many different forms. Broadly speaking, digital humanities can mean using digital tools to enhance traditional humanities scholarship or to ask new humanities research questions. The library has the potential to play a significant role in this activity: by providing resources, training on digital tools, and collaborating with scholars on digital projects.

This proposal is for a 90-minute collaborative workshop, in which participants will come together to discuss their experiences and questions about digital humanities initiatives in the library. After a brief introduction, participants will break off into small groups to discuss key themes in detail. The questions addressed in during the small group discussion will include:

1   What is your understanding of digital humanities?
2   How is the library at your institution involved in digital humanities projects?
3   What is one resource for library digital humanities that everyone should know about?

At the end of the workshop period, we will reconvene as a group to share our insights about the role of the library in supporting digital humanities scholarship. One of the most useful elements of professional conferences is the ability to come together with colleagues and have informal conversations about topics of mutual interest. This workshop aims to facilitate such conversations. It will be an opportunity for conference participants to come together to share their existing knowlege, as well as to frame new questions for future research and discussions around digital humanities in the library.

INNOVATION IN THE FAST LANE

How emerging technologies will influence the world of information and communication professionals

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There is no doubt that the technological world has been developing with an incredible speed during the last decades. Our generation depends on all kinds of devices which proofs the positive correlation between a human and a device. The innovations in technologies could improve our lives in various ways and are probably part of the most important agents of change nowadays. They can add ways to finding modern solutions to the most worldwide present challenges of the time such as big data, the climate or environmental change, resource scarcity and disease prevention. There are plenty of Emerging Technologies that are relevant for information- and communication professionals. For instance Quantified Self, which is self-tracking by using wireless and wearable devices and applications. This results in large amounts of data that need to be analyzed and visualized. Or the Internet of Things, which basically means that devices are connected to the internet and through that communicating to each other. Another example is Augmented Reality whereby real-time information in several possible forms such as graphics or text is being integrated with real-world objects and presented by projected graphics overlays or heads up displays. Collecting, indexing and providing this information is done through structures which need to be created by information and communication professionals. Other examples of relevant Emerging Technologies are Holographic Displays and data visualization (Gartner, 2014).

During the fall of 2014, we will finish our qualitative research on the impact of Emerging Technologies on the world of information and communication professionals.

In our research we cooperate with the Institute of Quantified Self at the Hanze University of Applied Sciences Groningen because of their expertise in collecting large amounts of data and analyzing this Big Data.

In our workshop we will give a general introduction into and broad overview of the key Emerging Technologies. We will focus on specific Emerging Technologies which are relevant to the fields of information and communication, are currently developing or will be developed over the next 5 to 10 years and will alter the business and social environment.

We will present the findings of our research. The participants will be involved in an interactive way with the use of gaming elements, brainstorming and discussions on expectations, experiences and opinions.

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A LIBRARY'S GAME:

CREATE THE LIBRARY YOU WANT

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Keywords: gamification, motivation, participation, co-creation, innovation

How to involve library patrons in a co-creation process to design new library services?

Is gamification a motivation lever for innovation?

This workshop will show how gamification can be a motivation for the library patrons to involve themselves in a co-creation process to design completely new library services.

Gamification is a process using some gaming features to achieve another purpose than

entertainment or distraction (Nicholson, 2010). Libraries already use this motivation lever to manage learning, communication or mediation projects.

The new idea here is to use gamification for innovation (Jacquinet, 2011). Co-creating an innovative service with library patrons is a way to federate and involve a community in library's service management (Gilbert & Éboli, 2010) and strenghten its creative potential. Exploring together new solutions can lead to a special event, like Biblioremix in France.

Participants to this workshop will be invited to characterize a game encouraging library

patrons to innovate. This process will help them better understanding the organizational and gameplay requirements.

The participants will first have to choose a kind of game to play (out of three), each option offering various amounts of randomness, creativity, challenge, and different gameplays.

The second part of the workshop will focus on the evaluation of the game that was tested, especially its capacity to spring innovative solutions. Its organizational constraints (noise, quality of hosting, rules clarity) will also be questioned. A discussion regarding each of these issues will then start among all the participants, relying on how they experienced the game they played during the first step.

Finally, they will be led to characterize their optimal game to promote innovation.

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