Problem-Oriented Social Network for the Exchange of International Professional Experience

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Abstract. The article analyzes the conceptual model of creating a modern web platform for the purpose of accumulation of expert practical experience from the leading countries in the field of cultural heritage preservation in libraries and archives. Using a web platform, will enable sharing the breadth of their knowledge and skills, discuss interesting progressive models of development, and present themselves. Authors view the web platform as a means of informational education. It is a form of education, which creates additional convenient opportunities for counseling, exchange of experience, knowledge and does not require additional investment for a specialist. The study of technological opportunities may become the purpose of functioning of such a network. These technological opportunities may concern the development of an informational and communicational environment for collection and processing of. The functional part of the web platform will allow participants to quickly and efficiently exchange information in real time. The article deals with the main thematic areas of the web platform, presents the algorithm for creating and filling the site platform and describes categories of participants and their role.

Keywords: informal education, on-line platform, collaborative access, on-line services, MediaWiki, libraries, archives.

1   Introduction

A significant contribution to the development of a conscious society of any state is the realization of their historical roots and the preservation of cultural heritage. One of the main social tools for these tasks is the state archival system. However, the effectiveness of its functioning is critically dependent on the level of the archival staff's skills and the arrival of new, trained personnel. At the same time, today there are no special courses at universities (excluding special training programs), which would result in the recievement by the archive's employees of competencies in the direction of not only digitizing archival materials, but also in the creation of a certain joint project to preserve the cultural heritage.

Modern information and digital technologies penetrate into various spheres of life and society. There is no exception for the archival and library industries, where the main focus of informatization is the fund digitization and the provision of remote access to them, the creation of electronic catalogs, exhibitions, etc. The mentioned institutions

in the leading countries of the world, where this process has been going on in recent years, today occupied the significant space of the «Library and Archives Internet». The Ukrainian "library and archive segment" of the World Wide Web today does not fully satisfy the needs of users and industry employees. Namely, the latter depends on the development of archives, libraries and preservation of cultural heritage. Taking into account the facts of certain gaps in the field of the Ukrainian libraries' and archives' informatization, it is advisable to create a common on-line platform for the purpose of accumulation of expert practical experience from the leading countries in the field of cultural heritage preservation in libraries and archives. As historically, Ukraine has a significant layer of common historical and cultural heritage with other states (Poland, Austria, Hungary, etc.), which in particular is documentally presented in libraries, museums, archives and architecture of these countries, it is expedient to build such an on-line platform on a collaborative basis with the involvement of experts from the leading Ukrainian and foreign archives.

The creation of on-line resources, in particular those aimed at the preservation of cultural heritage in archival and library systems, is the subject of the scientific work of such researchers as: M, Jones [12], M. Rassadina [19], R. Baryshev [5] etc. [2, 3, 4, 11,]. Despite the large number of publications concerning the transformation of archival and library sources into on-line ones, it should be noted that the majority of works are already considering the creation of such a resource, while avoiding the review, analysis, and moreover, the creation of new resources and services informational support for the process of training archivists and librarians throughout a life, aimed at acquiring knowledge, skills and abilities, the actuality of which will be activated in the future.

The purpose of the article is to create a conceptual model of an on-line platform for collaborative exchange of international experience in preserving cultural heritage in archives and libraries. To achieve the goal you need to solve the following tasks: carry out a general analysis of the project; develop an algorithm for creating a platform web site; identify the main goals of creating an online platform; identify the target audience and users of the on-line platform; to analyze the risks of creating and using such a platform.

2 Analysis of the On-Line Platform as Part of Informational Education

In American literature, there is a concept "Aging measurement unit of the specialist knowledge" – the period of "half-drop" of competence – a decrease in productivity by 50% as a result of the emergence of new information [5]. This means that graduates of higher educational institutions, in addition to their knowledge in the narrow profession, should develop their competencies to study throughout their professional life, their communication skills, adaptability, self-improvement, organizational and group efficiency, and a number of other qualities. The development of such competences in the future after graduation is through the alternation of training with other activities

and is called "Adult Education"; "Continuing Education", "Further education", "Recurrent education".

Today, specialists singled out three basic forms of education:

- formal education – primary, general education, general professional education, higher education, post-graduate education (post-graduate and doctoral studies), advanced training and retraining of specialists and managers with higher and general vocational education in institutes, faculties and advanced training courses; professional retraining;
- non-formal education - professionally directed and general cultural courses in adult education centers, in lectures, on television, in various intensive courses;
- informal education is a general term for education outside the standard educational environment – individual cognitive activities that accompany daily life, realized at the expense of their own activity of individuals in the surrounding cultural and educational environment [17].

An online platform for the exchange of international experience in the use of IT in the archival and library industries may become a part of informational education as one of the forms of education, which creates additional convenient opportunities for counseling, exchange of experience, knowledge and does not require additional investment for a specialist.

Taking into account the current world trends in the development of informational technology, more and more professionals of each segment of scientific and practical knowledge are united on the Internet in social networks for the purpose of evaluation, discussion of ideas, development, analysis and creation of new knowledge that form the new knowledge economy [20]. Using a web platform, the project of which is presented in the study as a prototype of the social network, experts will be able to share the breadth of their knowledge and skills, discuss interesting progressive models of development, and present themselves [14].

3 Overview of the Functional Part of the Web Platform

The purpose of the functioning of such network of professionals may be the technological opportunities' study for the development of an informational and communicational environment for the collection and processing of innovative information and the opportunities for development of a full-featured innovation incubator from social networks created on the basis of the web platform.

The functional part of the web platform will allow participants to quickly and efficiently exchange information in real time by creating publications covering new ideas, describing their own thoughts on solving individual issues and urgent problems of modern archival and library industries [13, 19].

It is expedient to structure the full information content of the platform by topics and sections that can be created and moderated by each participant. Such sections should be divided according to the specifics of library and archival institutions:

1. Features of the organization of modern library activity:

- library professional education and staff training for libraries;
- library management system;
- methodology of modern librarianship;
- facilitation of the electronic involvement of citizens in the use of information infrastructure of libraries;
- prospects of e-governance for public libraries in Ukraine;
- modern approaches of public libraries to information provision of their activities;
- Usage of modern information resources in the library business [24].

2. Features of the organization of modern archival affairs:

- professional education and training for archival institutions;
- archive management system;
- system of Ukrainian archival institutions;
- foundations of work with archival documents;
- research and methodological work of archival institutions;
- Reconstruction, preservation and access to archival documents: ways and methods of activity [6, 8].

Therefore, the results of the development and implementation of the project to create a web platform should be:

- the establishment of a professional community interested in archival and library activities, having practical experience and / or theoretical knowledge in preserving cultural heritage (documents, books, etc.) and participating or willing to participate in the development of archival or library industries;
- expanding community through educators and students enrolled in educational direction "Libraries and archives" (in Ukraine – specialty "Information, Library and Information Science");
- design, development and deployment of a dynamic site for the wiki class for free Internet access. It is advisable to give users of various categories on the site an opportunity to create, edit and comment materials in accordance with the system of rights and authority;
- creation of a system of templates and means of semi-automatic input for materials of different types, such as: educational material, frequently used question, video illustration or video tutorial, equipment instruction, methodical instruction, legal help, forms of documents, materials for discussion etc.;
- connection to the site of the pilot group of users from the field of protection of the historical heritage for testing the project, and its updating (if necessary);
- creation of a set of educational materials in the form of electronic documentation, video collections, user instructions and electronic texts on effective use of the platform in different modes; testing of this complex in focus groups, in particular in the form of a special training course for students majoring in "Libraries and Archives" (in Ukraine – "Information, Library and Archival Affairs");

- conducting the initial filling of the platform with separate materials of the specified types on the subject of protection;
- a set of measures to popularize the platform among the target audience, in particular by using SMM methods, adapting to search engines, holding public lectures and participating in topical programs on TV, writing articles in the press [1, 22].

Figure 1 shows the algorithm for creating and filling the site platform.

An important aspect of such platform existence is the formation of a list of participants and their registration. The categories of such participants should meet a number of requirements, in particular:

- availability of special professional education;
- availability of work experience (training) in archival and / or library activities;
- representation in state authorities or local self-government bodies;
- sphere of interests;
- place of residence [15, 16, 23].

4   Registration and Validation of Participants

According to the proposed criteria for selecting the participants, the potential audience of the platform site is:

- employees of Ukrainian and foreign archives at different levels and subordination;
- universities lectures of Ukrainian and foreign higher education institutions specializing in the field ("Information, Library and Archival Affairs", "Information Technologies", etc.);
- students of Ukrainian and foreign higher education institutions specializing in the field ("Libraries and archives", "Information, Library and Archival Affairs", "Information Technologies", etc.);
- representatives of state authorities, whose sphere of competence includes the protection of cultural heritage;
- scholars conducting research on the development of culture, historical and cultural monuments, methods of preserving archival and library foundations as sources of memory of cultural heritage;
- journalists, reporters, bloggers, who inform society about news in the field of interstate cultural life and the protection of historical and cultural monuments;
- managers and agents in the field of historical and cultural tourism;
- specialists on the use of modern IT in the areas of libraries, archives, digital technologies for the preservation of cultural heritage [7].
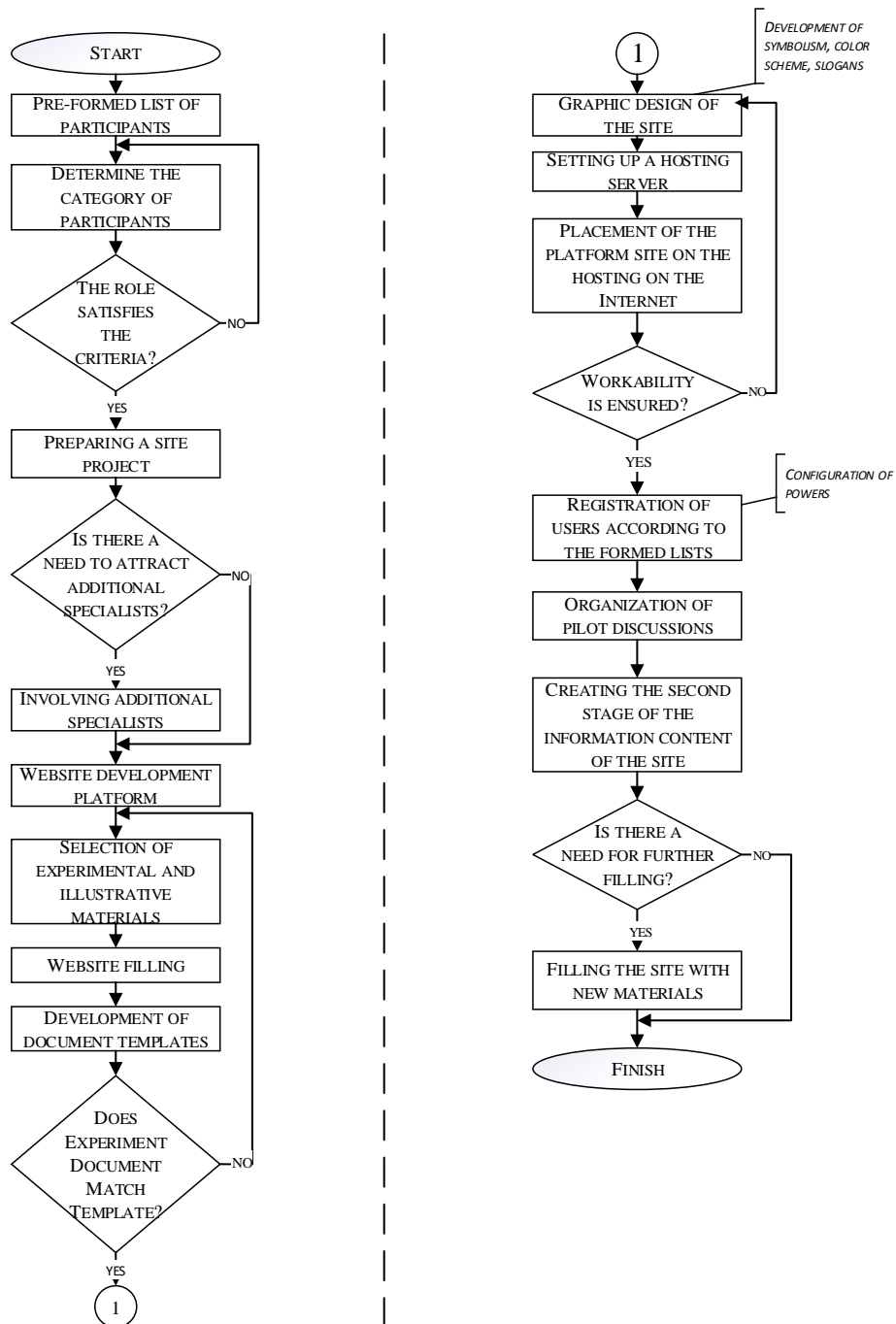
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                                                                    DEVELOPMENT OF
                                                                    SYMBOLISM, COLOR
      START                                            1            SCHEME, SLOGANS

PRE-FORMED LIST OF                              GRAPHIC DESIGN OF
   PARTICIPANTS                                     THE SITE

DETERMINE THE                                  SETTING UP A HOSTING
 CATEGORY OF                                        SERVER
 PARTICIPANTS
                                               PLACEMENT OF THE
     THE ROLE                                  PLATFORM SITE ON THE
    SATISFIES                                   HOSTING ON THE
       THE          NO                             INTERNET
    CRITERIA?
                                                   WORKABILITY          NO
       YES                                        IS ENSURED?

 PREPARING A SITE
    PROJECT
                                                      YES
                                                                       CONFIGURATION OF
    IS THERE A                                  REGISTRATION OF         POWERS
  NEED TO ATTRACT                              USERS ACCORDING TO
    ADDITIONAL      NO                          THE FORMED LISTS
   SPECIALISTS?
                                               ORGANIZATION OF
       YES                                     PILOT DISCUSSIONS

INVOLVING ADDITIONAL                           CREATING THE SECOND
   SPECIALISTS                                    STAGE OF THE
                                               INFORMATION CONTENT
WEBSITE DEVELOPMENT                                OF THE SITE
    PLATFORM
                                                   IS THERE A
  SELECTION OF                                 NEED FOR FURTHER        NO
EXPERIMENTAL AND                                   FILLING?
 ILLUSTRATIVE
   MATERIALS
                                                      YES
 WEBSITE FILLING
                                               FILLING THE SITE WITH
 DEVELOPMENT OF                                   NEW MATERIALS
DOCUMENT TEMPLATES

     DOES                                            FINISH
  EXPERIMENT
  DOCUMENT           NO
   MATCH
  TEMPLATE?

       YES

       1
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Fig. 1. Algorithm for creating and filling a platform website.

The registration and validation algorithm of the member profile in the web community consists of two main stages:

1. Check the correct email address. If the e-mail address is incorrect, the registration process stops because the password can not be sent.
2. Verify your Internet name in accordance with the rules of the web community. If the e-mail address is correct, then the participant's Internet name is checked:

- for compliance with the naming rules in the web community (for example, the web platform administration may require platform users to use the template "Name Surname" or meaningful aliases during the registration process for the Internet name);
- in the absence of already registered participants with such system names [9, 10, 25].

5   Creating Document Templates

The development of document templates is an algorithm stage which operation is based on the close collaboration of librarians / archivists and platform administrators. As the proposed platform will be developed as a dynamic Wikisource site [21], in the process of creating templates it is necessary to categorize them using the addition of certain codes, as required by the Wikipedia in Ukrainian. Template namespace names should be called with prefixes of an artificial subspace of names, through a colon. It is advisable to give examples of naming categories of templates:

- Themed templates: Category: Patterns: <Theme Template>;
- Templates-cards: Category: Templates: Cards: <Template Template>;
- Navigation Templates: Category: Navigation Templates: <Template Theme>;
- User-Box Box Templates: Category: User Boxes: <Template Theme> [18].

Applying such a standard category naming scheme will greatly simplify the search for categories and will allow users to automate the manipulation of the namespace of the created templates.

In addition to the fixed text (own content) of a template, it is expedient to provide an opportunity to display the wikicontent, the presence of which is provided under certain conditions specified by the presence or content transmitted in its call (the page where it is contained) of the template parameters. The web platform template's parameter will be the wikicontent or sequence of characters transmitted by the MediaWiki engine for further processing as a template parameter and processed by a parser as a Unicode character string.

6   Analysis of Completion Indicators and Project Risk

Analyzing the main requirements for the modern library-archive industry, it is expedient to develop the following templates:

- Instructions for keeping records of documents in library collections;
- Templates of the card account of units of library funds;
- Templates of written thematic, factual, analytical, address-bibliographic and other references for individuals and legal entities;
- Templates for the preparation of bibliographic lists for coursework, diploma and scientific papers, catalogs for personal libraries and libraries of enterprises, institutions and organizations;
- Organization template and methodology for assessing the value of documents and designing its results;
- Methodical recommendations for converting document information into descriptive article of the archival reference book;
- Instructions for the process of transferring the content of documents from paper to electronic versions with the help of digital technologies;
- Methodical recommendations for converting information from any technologically outdated databases to the latest databases;
- Schemes of systematization of fund documents;
- Instructions on the preparation of manuals in the archives [14].

Indicators of the completion of the project to develop a web platform should be considered as follows:

- Existence of the site in free access to the Internet under a certain domain name;
- Availability of at least 10 templates of typical materials on the protection of monuments of cultural heritage;
- Placing at least 100 content hypertext and multimedia materials on existing historical heritage in libraries and archives of Ukraine and other countries;
- Participation in the project of at least 50 people from the specified target audience in the form of active registered users;
- Availability of a set of documentation and methodical materials;
- Availability of advertising and informational materials about the platform, including in the social network of Facebook, in local and thematic mass media, on the official sites of institutions involved in the project;
- Conducting at least 7 training seminars and trainings for archivists and librarians, teachers and students majoring in Library and Archives.

The sustainability of project results will be achieved by the following factors:

- The presence of unique content that will provide significant traffic to the site search engine platform;
- Availability of partner links from sites of institutions that will provide stable traffic and credibility;
- Presence of a certain circle of participants, united by common interests, which will ensure a stable growth of materials and traffic;
- Collaborative character of the platform, which will provide an opportunity for active communication and exchange of ideas between partners in a convenient format;

- The platform and project will be an important experimental platform for educational initiatives and student training;
- The popularity and availability of the platform audience will ensure the commercialization of individual services, primarily advertising, which in the long run will allow the payment of technical services (hosting, technical staff).

Since the design and implementation of any new project always has a probabilistic nature of the result, it is advisable to determine the probability of obtaining an unfavorable result (loss), that is, the risks, such as the probability of obtaining a result different from the expected one.

Table 1 presents the risks [26] of implementing the project and possible ways to overcome them.

Table 1. Risks of project implementation and ways to overcome them

Name of risk	Way to overcome
Low activity of the target audience	Introduction of a system of motivation for students and graduates of professional specializations, which have a significant share of employees in this field.
The technical complexity of the project	Use as the core of the technical support of waste solutions at the Lviv Polytechnic National University on the basis of existing open source systems, in particular the Wiki Media Engineer MediaWiki, which already has experience in the wiki.lpnu.ua project.
Limited access to materials of archives and libraries.	Use of established contacts with the administration of institutions, as well as cooperation with institutions directly subordinate to universities.

7 Conclusions

Further development of the archival and library industry in Ukraine requires the preparation of new and retraining of existing specialists in the field, ready for the use of modern information technologies in solving a wide range of practical tasks. It is necessary that this resource is at the same time a base for knowledge of IT use in the industry, and served educational purposes. At the same time, it is important that the resource is filled in cooperatively, with the direct participation of both teachers and scientists, as well as practitioners in the field, as well as students of the specialties of library and archival purposes. Taking into account the previous positive experience in related fields of education and science, we see the construction of such a resource as the deployment of a specialized Wikipedia web site on the MediaWiki engine with the organization of user systems, roles and templates for information content.

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