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VISUAL ARCHIVE OF YUGOSLAVIA - DIGITIZING PHOTOGRAPHIC MATERIAL OF MUSEUM OF YUGOSLAV HISTORY^[1]

Abstract. Photographic material of Museum of Yugoslav History is consisted of photos, glass plate and film negatives and photo albums. Material can be found in the following collections: Photo Archive of Josip Broz Tito, The collections of gifts presented to Josip Broz Tito: photo albums, framed portraits and slides, A collection of images of Josip Broz Tito with photo and cinema equipment, A collection of reportage 1944-1947, Photo Archive of Museum of the Revolution of nations and nationalities of Yugoslavia with a collection of photo albums, and Stevan Kragujević Bequest. The process of photo archive digitization was started in 2012 with the support of Telenor Foundation. The result of the cooperation was digitization of 132,000 photographs that documented the socio-political activity of Josip Broz Tito from 1947 to 1980 and are available on the web at <http://foto.mij.rs/site/galleries>. The signing of the agreement between the Museum of Yugoslav History and the University of Basel marked the beginning of a major joint project named Visual Archive of Yugoslavia. This project represents further development of the digitization process started in 2012. and it is a part of the SCOPES programme (Scientific co-operation between Eastern Europe and Switzerland) which is aimed at safeguarding and promoting the visual heritage of Yugoslavia. The project objectives are the development of infrastructure for digitization, improving the methodology of processing, digitizing over 50,000 negatives, development of a database and web portal for presentation of photo material from museum collections in cooperation with Mathematical Institute SANU, organizing student practice at the museum in a collaboration with the Center for museology and heritology at Faculty of Philosophy and Faculty of Media and Communications at University of Belgrade, organization of workshops and exhibitions in a cooperation with a partner on the project, data exchange with the portal Visual Archive Southeastern Europe (VASE) and publication of the manual based on the best practices of digitization process. In this paper will be presented the technical platform of the final solution, metadata schemas and vocabulary for describing the structure and the current progress of the project.

Keywords. Photo-archive, Visual Archive of Yugoslavia, digitization

Introduction

Team named Shanghai Web Designers has announced some statistics observations about the things happening on the Internet. Every minute google processed 694 445 requests on a global level, about 600 videos are posted on YouTube, more than 695 000 Facebook status are updated and so on, but what can we say about heritage, about something that had been existed before web was developed or about facilities that do not primarily arise on the Internet? ^[2] Digitization is a process aimed to preserve the

heritage, and it is essential process in the field of culture. By Finding the way to its audience it gives the preservation of scientific and cultural heritage more sense. The process of digitization of scientific and cultural heritage is based on the mixing of several theoretical and practical knowledge. Digitization of cultural heritage elements has many advantages such as improving public access to cultural heritage elements and facilitating teaching and research^[3]. Major advantage is content preservation. Special aspect of digitization is preserving act that arise but also disappear in time, such as performance or some other form of artistic work, and therefore it is very important that digital database of these acts is preserved and available online. Digitization allows not only recording the digital object but also recording all other data that are related to that particular digital object.

The Museum of Yugoslav History has been recognized as a potential in the field of digitizing photographic material also because of the fact that it is at the forefront of technology adoption among the museums in the region. Because of that fact and the importance of the cultural heritage that has been preserved in the museum, the collaborations with the University of Basel has been established and the project named Visual Archive of Yugoslavia is funded by a grant from the Swiss National Science Foundation (SNF), as part of the SCOPES programme. This project enables the museum to obtain anew state-of the art negatives scanner, as well as a new server, making long-lasting preservation of photographs possible and ensuring the quality of the process. Digitization also entails the effort of MYH experts working on simultaneously researching and describing the entire material. As before, the digitized photographs will be available on the web, through the improved portal of the Photographic Collection of the Museum of Yugoslav History. Database used for storing photo material and system used for presenting collections, serias and photographs and its metadata is developed in the collaboration with the Mathematical Institute of SASA. Figure 1 illustrates a general structure of photographic material.

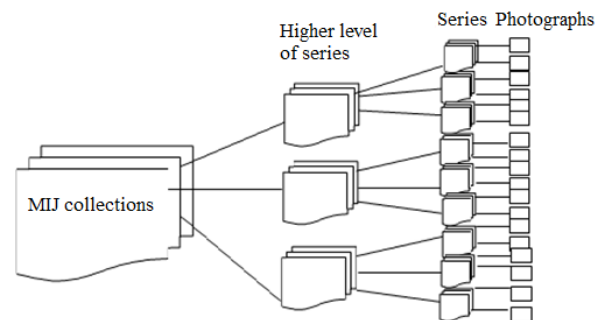


Figure 1 The structure of photographic material

Serbia-Forum^[4] is web application, under constant development since the year 2012, geared towards the presentation, storage and preservation of culturally relevant data using Internet.^[5] This application is used as a platform for implementing improved web portal of the Photographic Collection of the Museum of Yugoslav History. In this paper authors present short technical report of the used platform and customization made in order to improve existing architecture and make web presentation more interesting and understandable.

Technical platform

Platform used in this project is Serbia-Forum, web application based on the existing forum web application, the Austria-Forum. It represents digital platform for the presentation of digital cultural heritage of Serbia. The cultural heritage includes beliefs, customs, traditions, food, mythology, literature, history, science, technology, language, music, art and etc.. Serbia-Forum aims to present the cultural heritage of Serbia using credible (trustworthy) encyclopaedic articles and digitized elements of the heritage.

Backbone of the system is JSPWiki^[6]. It is programmed in Java and it is running as independent application on Tomcat Web Server^[7]. File system is used as physical repository while metadata is stored in ExistDB^[8]. Standard used for metadata is known as NCD Metadata standard^[9,10] or (National Center of Digitization Standard).

The Forum software allows multiple localization views of every digital item. Every cultural heritage item can have its digital representation in any language (current content is in Serbian and English only, but new languages can be dynamically added). Also the Forum software allows multiple visual templates, meaning different system interface for users who access via various addresses. For example, NBS (digitalna.nb.rs) and Visual Archive of Yugoslavia (mij.mi.sanu.ac.rs) have the same software platform but different user interface.

The whole project was conducted with the help of two sets of axioms, called primary and secondary axioms. The primary set of axioms, which are unique to Serbia forum, includes the following:

1. The content itself is chosen and controlled by national cultural and academic institutions, and content owners, such as the National Library of Serbia^[11], National Archive of Serbia or in this particular case Museum of Yugoslav History.
2. Licensing scheme is implemented. Each document is protected by some legal regulation.
3. Quality is more important than quantity.

A secondary set of axioms, which does not necessarily refer only to Serbia-Forum, has the following axioms:

1. Semantic search and content correlation.
2. Version tracking of every digitized object.
3. Information about authors of the content should be provided.

In this paper we will present amended secondary set of axioms. An interdisciplinary collaboration between computer engineering, mathematician and historians give as an outcome the following conclusions:

1. Result of the search should be equally correlated like content itself (for example: if someone does not actually know what is looking for, system should be able to provide similar searches)
2. Some digitized objects can be used as metadata for some other digitized object
3. Higher level of hierarchy should be included (see Figure 1)
4. Input metadata form should be more intuitive and more adjusted for wide use

Customized design

Sometimes application can work perfectly but graphic interface can be the problem which cause the low use of certain application. Misunderstanding between the customer and the programmer can lead to the frustration. Depending of the user, interface should be adjusted. Within this collaboration we succeeded to implement some new modules for graphic representation of the content.

The main module was graphic representation of the metadata input form. User interface for adding metadata for new digital objects as well as editing metadata of the existing objects) are automatically generated based on the content schema. The result of examination has shown that the old form is incomprehensible for non-programmers society. So we created the new metadata input form which is also automatically generated based on the content schema, shown on Figure 2.

The figure displays two versions of a metadata input form side-by-side. The left version, labeled 'old form', is a web-based interface with a menu bar at the top containing 'Pogledaj', 'Metarodataci', 'Dodati (14)', 'WebBook', and 'Informacije'. Below the menu, there are several buttons and input fields, including 'ncd_dokumenti_mij.xsd', 'place', 'Get form', 'Submit to database', and 'Get XML from database'. The form is divided into sections like 'place' and 'versionOfName', each with a 'hide' button. Each section contains multiple '+ ime mesta' and '+ zemlja' buttons, followed by text input fields. The right version, labeled 'new form', is a more modern and organized interface. It features a header with the logo of the 'NARODNI ARHIV JUGOSLAVIJE' and a search bar. The main section is titled 'META PODACI' and is divided into several collapsible sections: 'OPSTE INFORMACIJE', 'PROJEKAT', 'AUTORI', 'KONTAKTIRANI', 'OPIS', 'FIZICKI OPIS', 'TEMA', 'TEMA IZVEDICE', 'TEMA IZVEDICE', and 'SPOJNE VEŠTAČE'. Each section contains a few input fields, making the form much easier to navigate.

Figure 2 Metadata input form (left side representing the old form and right side representing new form)

Other major advantage of new customized design is that textual editor used for creating and editing pages is not needed anymore. For inputting digitized data massive import module is used. That means that the process of importing object and manually creating page for describing the object is no longer needed. Plugins are developed for graphic representation of groups of digitized objects in such manner that there is no longer need for manually editing page.

Conclusion

Through this collaboration authors have established some main shortcomings of developed system such as user-unfriendly graphic interface and not so modern appearance of web presentation. We succeed to overcome disadvantages through the team work and multidisciplinary cooperation. Also, some new axioms has been established : search result correlation, using some digitized objects as metadata for some other digitized object, including higher level of hierarchy, more intuitive input metadata form.

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