

REDESIGN OF THE CDNH PORTAL

Mile Jovanov Marija Mihova Nevena Ackovska Smile Markovski

Faculty of Natural Sciences and Mathematics,
 “Ss. Cyril and Methodius” University
 Skopje, Republic of Macedonia

ABSTRACT

The main role of the Center for Digitization of National Heritage (CDNH) at the Institute of Informatics is to produce digital presentations of the cultural heritage elements and make them available on the web, through the portal of CDNH. This portal has been developed during the last four years, and this year we introduced a completely new design. In this paper we present the growth and the services that were offered by the old portal and the needs for the new design. We will also present the new offered features.

Key words: digitization, CDNH Macedonia, national heritage presentation

I. INTRODUCTION

The situation in Macedonia in 2005, where only the small amount of web sites and other digitized media concerning national heritage were present, was the most important reason for creating the Center for Digitization of National Heritage (CDNH) at the Institute of Informatics. One of the missions of CDNH is production of digital presentations of the Macedonian national heritage, which can be accessed on web. For that reason, web portal of the CDNH [1], and system for storing data about national heritage with advanced search techniques were created [2].

Most of the digitized material concerning the national and cultural heritage produced by CDNH is presented on the CDNH Portal (www.cdnh.edu.mk). Therefore we could claim that the Portal of CDNH represents a collection of multimedia presentations of the Macedonian national heritage. The portal also includes the presentations created by students [3, 6], which are created as Multimedia course assignments and as diploma projects.



Figure 1: List of projects

The concept of the Portal of CDNH is rapid production of presentations on the subject of Macedonian national heritage. Due to the availability of large amount of digitized material, there is a growing interest for the CDNH Portal itself [7]. Additionally, many of the localities that represent archaeological, historical and natural beauties, presented in the Portal, are becoming more interesting for tourists, students and researchers. There is also growing interest for the Macedonian culture, history and literature.

II. THE OLD PORTAL SOLUTION

The digitized materials included in the Portal of CDNH were incorporated in around 100 projects. Each project was a single web site concerning specific part of Macedonian national heritage. Through the given portal projects, many artifacts of the Macedonian cultural and national heritage, such as well known monuments, people and events were presented. Also, the tradition, the customs, the music and the folk dances, the natural beauties of Macedonia, historically important people, sacred object and archaeological sites were digitized and available for exploration to the Macedonian and the foreign community.



Figure 2: Random project (on the right in the interface)

The Projects were accessed through the list of the Projects (Fig 1), where beside the name of the project, a short description of its content was placed.

The right side of the interface offered a “random project” proposal, a feature that allowed quick access to some digitized content for the visitors of the portal that were not searching for anything specific (Fig. 2).

A. The structure of a project

Each project included in the Portal of CDNH contains materials about artifacts connected on principles of locality or homogeneousness. These projects cover different fields of national heritage.



Figure 3: The web site: National Heritage of Kavadarci

For example, in the presentation of the town of Kavadarci, the museum of the town, some of the archaeological localities, monasteries and churches near that town, artifacts found in the museum or at the sites, and other features are presented (Fig. 3).

Similarly, in the presentation of one of the famous poets from Macedonia, Kosta Racin, beside the presentation of his life and his literature, one can also see the specialized museum "The house of Racin" and literal manifestation "Racinovi Sredbi" dedicated to him (Fig 4).

Such a structure of the projects, does not allow one to find all topics of the same category of cultural heritage. So, if interest is shown only in archaeology, there will be a problem to find all the presentations concerning this particular topic.

More precisely, there are projects in which the main topics is not the archaeology, but there are some pages, pictures, videos or animations that present some archaeological localities, as in the presentation of Kavadarci. This was a downside needed to be resolved with some other technique.

B. Categorized search

In order to make the portal more available to the target groups of visitors that are interest only in the specific parts of the national heritage, we have created categorized search of the digitized material that we have. First, we've specified categories and subcategories that are covered by the projects.

The categories and subcategories were:

- Archaeology: localities, coins, mosaics, ceramic, sculptures, artifacts and buildings;
- Architecture: bridges and old buildings;
- History: famous places, monuments, persons and events;
- Ethnology: music instruments, garb, playing, national songs, traditions, manifestations, jewelry, trade and old town songs;
- Geography: natural beauties, cities, villages and regions;
- Literature: old Slavic literature, reformation literature, modern literature, drama, poesy, prose and national literature;
- Culture: theatres, movies, manifestations and orchestras;
- Religion: churches, monasteries, mosque, icons and frescos;
- Museums: museum of Macedonia, specialized museums, city museums.

Also we presented another approach to the search, by defining Multimedia category, with subcategories: pictures, videos, sound, 3D presentations and panoramas.

Whenever it was possible, the project was separated into parts that belong in different subcategories. A reference, containing short explanatory text, was made to that specific part. Then, we assigned one or more categories to each project (or part of the project). More precisely, each reference was placed in all corresponding subcategories mentioned above. In that way, the category search was available through the new page (Fig. 5).



Figure 4: The web site about Kosta Racin

This enabled the CDNH portal visitors to choose the field of interest, and then to obtain all projects in which themes of that field is elaborated. Again, the projects or parts of the projects were given as a list, but with reduced choices, that certainly contained themes of the specific interest.

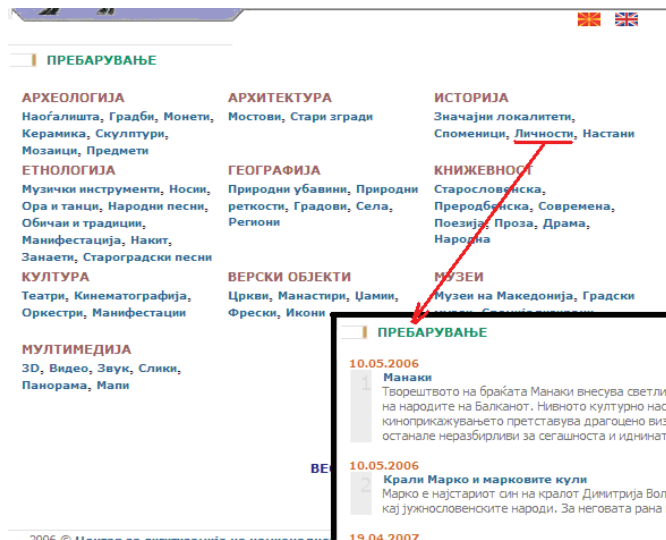


Figure 5: Category search

At the end, we realized that we should put a description for all multimedia objects in every project (pictures, animations, 3D models, panoramas, etc.). This was also done for the current project, and every object was classified in one of the above mentioned categories (archeology, architecture, etc.). But, the main problem was that this difficult task was supposed to be done for every additional project.

C. Another search feature

In order to allow visitors to access to specific kind of objects, if they were for example “just looking for 3D models” or “just looking for sacral object”, and to allow access to non-Macedonian speakers, we have developed a new search feature.

This search feature uses an effective way of data organization in order to achieve simple and reliable information access. It stored just 5 attributes of the artifacts, so the user can easily search in a matter of directory search.



Figure 6: A new search feature: Accessing specific object depending on some category or subcategory

Users were categorized into:

Digitizers as administrators (users that import data into the system, i.e. information about digitized objects they presented in their project);

Top level administrator (responsible for managing digitizers accounts);

Visitors (they are the target group of the system and they can access it via Internet and search for digitized material).

The visitors had a chance to access specific object (picture, 3D model, video, and panorama) depending on some category or subcategory (Fig. 6).

III. THE NEW DESIGN OF THE PORTAL

Given the old structure of the portal and the fact that it was difficult to extend the portal with additionally developed features without affecting the appearance, a new design was introduced. In this section we present the new solution and its features.

The home page of the new portal is presented at Figure 7. Produced using the latest technologies, the new portal, incorporates content of the old portal, presented in new, more appropriate manner. This is due to the fact that it was built having in mind the content, as opposite to the previous one which was built as a framework for the upcoming content.



Figure 7: Home page of the new portal of CDNH

The new design addressed some unresolved issues by the old one, like the possibility to upload projects directly, and the fact that the projects acted like separated sites.

Now, using the administrator access with limited privileges only, one can easily upload a complete project on the server. The project is automatically added to the list of projects, with the description given by the one that uploaded it (Fig. 8). After accessing a project, it is presented in a frame integrating a light ‘header’ that allows the visitor to return to the portal.

Analyzing the search features developed over the three year period, as extensions of the old portal, particularly the last presented search feature, it was easy to conclude that they required redundant upload of objects.

The new search feature allows indexing of all objects incorporated in each uploaded project. The feature offers a list of found objects as content of the project, to the one that uploaded the project and demands a short description for every one of them. In this way, for the first time a content based search was introduced to the portal (Fig. 9.)

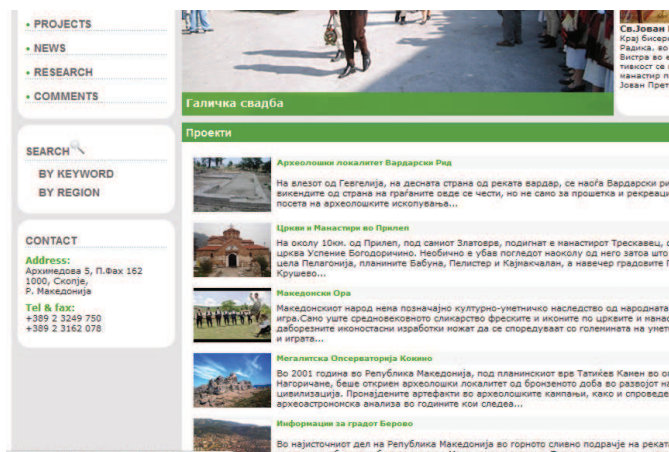


Figure 8: List of projects in the portal

In addition to the new enhancements introduced, the new portal also contains a research section. This section presents the research done at the Centre and the researches that give contributions to CDNH. We have also introduced space for the visitors to leave their comments. We hope that the visitor input will help us improve the CDNH portal.



Figure 9: The content search in the portal

IV. CONCLUSION

Here, we presented our new approach in building a portal that contains a lot of digitized content about national heritage compared to the approach used for the old portal. As opposite of the previous CDNH portal, which was built at the beginning of CDNH activities and was developed as a framework for expected content, the new portal was built having in mind the vast content already produced. We hope that the presented solution will shorten the efforts of other researchers in production of similar portal, given the experience we had elaborated in this paper.

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