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THE CENTRAL ELECTRONIC MARITIME CATALOGUE – A SEGMENT OF MONTENEGRIN CULTURAL INHERITANCE DIGITALIZATION

Abstract: Central Electronic Montenegro Maritime Catalogue (CEMMC) is multimedia electronic data base. It represents, by the contemporary technology and due to the bibliographic standards, a described and processed library, archival (and partly museum) materials related to the maritime affairs, from the earliest written and printed documents to the newest official materials and publications placed in the variety of libraries, archivals and museums (government, private and church), maritime organizations, institutions, agencies and associations located in Kotor, Boka Kotorska and Montenegro.

Key words: Central Electronic Montenegro Maritime Catalogue (CEMMC), archive, library and museum materials, international standards for cultural heritage description, digitalization

1. Introduction

The aims of CEMMC creating are: the realization of an objective insight into the present condition of the materials about maritime affairs in Montenegro, gathering information, enabling uninterrupted and quick users' access to the information, defining and applying adequate measures of preservation for all owners of the materials.

The CEMMC is supported by Access. We assumed this software satisfies the catalogue requirements, offering solid searching spectra, and it is open for searching techniques upgrading by SQL and VBA software tools, through the concepts of usability and users' evaluation. In the domain of the data base exporting to the Internet, typically, besides IIS, ASP has been used as an active complement of the presentation platform created in HTML. Within the next phase, the CEMMC shall be upgraded by the digitalizing the most important maritime hand-written and early-printed documents, and museum artifacts. The multimedia dimension of the CEMMC will be encircled by adding sound records, like "Bokelian fleet dance" (Bokelian fleet is a maritime organization, from 9th century).

The project primarily has the educational dimension, as a logic supplement to the maritime educational, scientific, and research processes in the maritime affairs. The project is suitable for integration with the similar data bases, firstly from the Mediterranean countries.

2. The central electronic Montenegro maritime catalogue (CEMMC) and its historical *background*

By the Project entitled „Central Electronic Montenegro Maritime Catalogue“, justified by the organization the “Centre for the preservation and presentation of Kotor documentary heritage

– Notar¹, there is an intention for virtual syncretism, professional processing, adequate presenting and preserving of the archive, library and museum materials of maritime provenience in Montenegro, from the earliest times to the current moment [5;6]. The cooperativity of the catalogue means participation of all owners of the maritime materials: starting from the government, church and private archives, libraries and museums, to the economy maritime organizations and firms, maritime schools, associations, agencies, to the government institutions and bodies, which offer the data about their own materials, in a way that they for themselves engage cataloguer among their employees, or in a way to use the Notar's cataloguer.

It is to be pointed out here the maritime affair in this region for centuries was the basic economic activity upon which the worth and very diverse cultural superstructure was based. The oldest mentions of Montenegro seaside towns are present in the works of Greek writers and are related to the Greek colonization of Adriatic region, which has as an aim disposal of their trade goods along the Adriatic coast and deeper inside the continent, within the territory of the Balkans, and over it to the East and North, even to Scandinavia.

The patricians, and latter, during the medieval and new century, the urban layer of seamen, traders, craftsmen, like their contemporaries in Venice, under the governance of which was the bigger part of Montenegro seaside for centuries, built magnificent stone palates, churches, set the first schools, hospitals, pharmacies, orphanage etc. Most of them became famous humanism and renaissance poets and artists, famous builders or craftsmen, eminent social representatives and businessmen, in reaching their environment with the spirit of humanism and renaissance.

Owing to such creative production and cultural climate, the Montenegro seaside, and primarily the Bay of Boka Kotorska, cultivate the style of life and behavior similar or identical to those in Venice and other developed Mediterranean towns in that time. In the towns at the Montenegro seaside, with the flourishing of maritime affairs, the development of municipality life occurred at the same time, similarly to the situation in other cultural nuclei of the Mediterranean. In the early medieval period notary offices worked actually in several towns.

In the preserved documents of Kotor's notary office, dated from the 14th century, there are data about shipbuilding, sea trade and fleet, accidents at the sea, maritime insurance, education, etc. Besides, the Bay of Kotor was for a long time the center of trade not only for economy products, artistic and expensive Eastern goods, but also for the first valuable printed books by which the Montenegro background was supplied. Kotor, Perast and Budva markets and squares were particular stages of renaissance theatre performances, carnivals, processions, etc. About all that, numerous artifacts are preserved through the written documents of profane and church provenience, and through other material and non-material forms.

In the archives deposits, church, private, public and professional libraries, as well as in museum collections in the Bay of Boka Kotorska, the Montenegro seaside and its continental side, there are numerous documents and artifacts which are thematically, due to their origins and/or purpose, connected with maritime affairs. For the illustration purpose, we shall mention some documents, books, exhibits, folklore melodies, like: The Statute of the Bokelian seafarers brotherhood (13th century), St. Tripun's dance, seafarer contracts (about shipbuilding, buying, selling, or chartering ships, etc.), Perast's folk poetry about marine-military accomplishments of Bokelians, annals, chronics, or intimaie lyrics notes, professional

¹ Upon this organization, its program and projects, in some more detail at: <http://www.cdnotar.cg.yu>.

maritime textbooks (Balovic's five languages maritime dictionary), etc.[9] All of this represent a huge material and sources for overall Montenegro maritime historical analysis.

3. The project purpose(s)

As it was said in the introductory part, the project has primarily the educational dimension. It will be located (really and virtually) in the Maritime Library of the Maritime Faculty in Kotor [7;8], and it's Web location will be a part of the Notar's official presentation. This means that the CEMMC is to be professional supplement to the educational process in this branch, by which generally the overall level of educational and research work should be improved. Additionally, to the other applications and secondary maritime information, the CEMMC shall enable Maritime Library in Kotor, as a professional and academic library, to realize more qualitatively, and more completely its prime function in the maritime domain.

Through the electronic data base of the CEMMC, the user shall get the basic information about the object in which she/he is interested in and about that where this object is located in Montenegro. In that way the CEMMC has the character of a virtual library. Via Internet the CEMMC shall be available to the researchers and professionals in Montenegro and abroad (it will be translated into English) what shall contribute to the versatile maritime research activities on comparative base and through exchange of complementary sources.

Besides its educational function, the CEMMC has its wider cultural purpose. Collected data about the maritime activities are to pointed out publicly the contribution of this multi-century lasting, vital and developed economic activity, which used to build culture, artistic, health and general social infrastructure. On the other hand the attention is to be paid on that preserved archival and library records and/or museum exhibits are mostly its product and that they are to be undoubtedly the base for any serious professional, research or educational activity in the maritime domain.

The CEMMC undoubtedly points the importance that have archival, library and museum sources for the society when they are presented in the professional, modern and attractive way. The electronic catalogue of such type contributes to the valorization and preservation of the documentary heritage, as well as to the rising the consciousness about the importance and actuality of library and archival professions, that is about the importance of library and archival institutions in the contemporary society, particularly in the actual information environment.

4. The CEMMC Access model and its up-loading to the Internet

Technically, the CEMMC has been realized in Access [1;2;3]. The CEMMC data base is consisted of following modules, or entities: UDC (Universal Decimal Classification), Monograph List, Serial Publication List, Paper List, Archive and Other material. The records within these modules have been formed of below listed fields:

- **UDC:** UDC and Description;
- **Monograph List:** MID (monograph identifier), UDC, Author, Title, Publisher, Place, Year, ISBN (International Standard Book Number), Key words and Annotation;
- **Serial Publication List:** SID (serial publication identifier), UDC, Title, Subtitle, Editor, Editorial Board, Place, Year, Publishing frequency, ISSN (International Standard Serial Number) and Annotation;
- **Paper List:** PID (paper identification), UDC, Author, Title, Publication, Volume, Number, Year, PP (papers' numbers), Abstract and Key words

- **Archive:** AID (archive identifier), Author, Title, Year, Owner and Annotation, etc.;
- **Other material:** OID (other material identifier), Type (charts, old and rarity books, musical accessories, visual projections, films, videotapes, etc.), Description, Place, Year, Owner and Annotations about pure material and its owner.

The module – Other material, is not yet accomplished, and it will probably require more precisely field specification, or, maybe even separate data base, and it is to be mostly devoted to the museum objects. This separate data base and the basic CEMMC data base formed by: UDC, Monograph List, Serial Publication List, Paper List and Archive entities, could be connected in one user interface by means of Visual Basic for Application Data Environment Object Tool [4].

The relations between UDC and all other modules are of 1: ∞ type, for the library materials. All of these modules have primary (UDC, MID, SID, PID, AID or OID) and joint keys (UDC), table 1. Searching the CEMMC, for library items, is enabled by: full monograph (serial publication or paper) title, the first author surname and (or) name, author index, UDC, key words, publisher, year (e. g. by the first two or first three input figures of publishing year) and (or) place of publishing, etc. The reports are created in datasheet view separately, or within the appropriate users' forms and sub-forms. The similar approach has been used for archival objects and is to be used for museum objects.

User interface, that is the adequate forms and sub-forms, are connected with inquiry results by means of the appropriate macros. The usages of thesaurus (key terms index) and author index are of up-most importance for data base searching process. Thesaurus and author index are organized as list boxes with macros in the background which activate related queries and show the results. The list box representing thesaurus consists of the most frequent words in monograph and paper key words lists, while the list box, representing author index, consists of the first letters of authors' surnames.

User requirements, during the CEMMC implementation phase, should undoubtedly expand these data searching possibilities. Forthcoming development of this preliminary CEMMC data base should be oriented toward open data base connectivity protocols, possibilities of server - multi client services and, of course, it's up-loading to the Internet [10].

| Monographs | Serial publications | Papers |
|--------------------------|----------------------------|--------------------------|
| MID (primary key) | SID (primary key) | PID (primary key) |
| UDC (joint key) | UDC (joint key) | UDC (joint key) |
| Author | Author | Author |
| Title | Title | Title |
| Publisher | Subtitle | Publication |
| Year | Editor | Editor |
| ISBN | Editorial board | Volume |
| Key words | Place | Number |
| Annotation | Year | Year |
| | Publishing frequency | pp(s) |
| | ISSN | Abstract |
| | Annotation | Key words |

Table 1. The CEMMC main data base segments for library materials

The CEMMC is already prepared for up-loading to the Internet. The only problems are technical in nature and are related to precise domain and hosting definition. We expect these problems will be resolved shortly with “Notar” and/or Maritime Faculty of Kotor support. It is to be emphasized that the Web site content will be translated into English, as one of the forthcoming steps in the project realization and its development.

9. Conclusions

The Central Electronic Montenegro Maritime Catalogue (CEMMC) is going to present the wealth of library, archival, and museum materials, which confirm that navigation has always been the country’s key economic branch, activity and skill that has contributed to establishing social and particularly cultural superstructure which belongs to the cultural heritage of the Mediterranean, Europe and world in general. On the other side, this project will contribute to raising the awareness of the importance of library, archival and museum institutions for scientific, professional and general public. It is prepared for up-loading to the Internet, as the library “without walls”, to researchers, scientists and other interested persons all over the world. With this project, it is aimed Montenegro to be involved into the actual tendencies of gathering the activities of the so called “human memory” institutions - libraries, archives, and museums.

References

- [1] C. Freeman, *Microsoft Access 97 – Korak po korak*, CET Computer Equipment and Trade, Beograd, 1997.
- [2] C. N. Prague, M. R. Irwin, *Microsoft Access 2000 Biblija*, Mikro knjiga, Beograd, 1999.
- [3] F. Wempen, *Access 2002 – Brzo i lako*, Čačak, 2002.
- [4] M. Halvorson, *Visual Basic 6.0 Professional – Korak po korak*, CET Computer Equipment and Trade, Beograd, 1998.
- [5] R. Danilović, Centralni catalog pomorstva Crne Gore u Pomorskoj biblioteci, *Zbornik radova Fakulteta za pomorstvo u Kotoru*, 19(20) (2003), 477–484
- [6] R. Danilović, Pomorska biblioteka kao dokumentarno-informacioni centar, *Pomorstvo*, 9(9) (2002), 12–13
- [7] S. Bauk, R. Danilović, Cental Electronics Library Catalogue – A New Educational Approach at Maritime Faculty of Kotor, *46th IEEE International Symposium Electronics in Marine – ELMAR, Conference Proc.*, Zadar, Croatia, 2004, pp. 525–530
- [8] S. Bauk, S. Pejović, R. Danilović, Digitalization of Montenegro Historical Heritage through Maritime Central Electronic Library Catalogue, *Techno-ocean '04 MTS/IEEE, Conference Proc.*, Kobe, Japan, 2004, pp. 941–947
- [9] S. Pejović, Arhivi, blioteke i muzeji u informacionoj infastrukturi, *Godišnjak pomorskog muzeja u Kotoru* 47–49 (2001), 257–267
- [10] S. Pejović, S. Bauk, Digitalization of Archival Cultural Heritage and Preparation for Export to the Internet, *Pregled NCD* 12 (2008), 103–113

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