Snežana Pejović (Historical Archives of Kotor, Montenegro) Sanja Bauk (Faculty of Maritime Studies, Kotor, Montenegro)

## DIGITIZATION OF ARCHIVAL CULTURAL HERITAGE AND PREPARATION FOR EXPORT TO THE INTERNET

#### Introduction

Available information and the surveys preformed until now by the State and Regional Institutes for Protection of Cultural Monuments indicate that around 40% of Montenegro movable cultural monuments are located in Kotor. The oldest archival and library material in the country is preserved in Kotor state and church institutions and private collections. Although this heritage is largely a product of the centuries-long presence of other states and rulers on territory what is today the coastline of Montenegro, it is at the same time an extremely important source for Montenegrin and wider regional history. In view of the quantity and importance of this cultural heritage, it might be expected that the state takes organized and comprehensive care with regards to its protection, appraisal, processing and access. Unfortunately, it is not so in reality. Especially during almost twenty years' long transition period, due to the well-known political instability both in and around Montenegro, accompanied by economic collapse and financial difficulties, we may say that already minimal funds allocated to the care for archival and library treasures were further reduced.

Reacting to the inadequacies in the protection of this cultural heritage, in the end of 1999 an association was founded in Kotor, named "Notar", the Center for the Preservation and Presentation of Kotor Documentary Heritage.<sup>2</sup> Its primary goal is to appraise and protect that archival and library material of which the state has not taken sufficient care. According to the indicators of the degree to which the abovementioned cultural treasure is endangered based on the international standards of protection of archival and library material<sup>3</sup>, the group most seriously threatened is the very valuable collections created and preserve in the churches at Kotor and its area surrounding.

The subject of this paper is not to list the factors resulting in the lack of proper appraisal of church archival and library material in Montenegro, nor to warn of the consequences of such unorganized protection or point out those responsible within the government structure and among the church authorities. Our intention is to draw attention to

<sup>&</sup>lt;sup>1</sup> Since 1979 Kotor is on the UNESCO List of World Natural and Cultural Heritage.

<sup>&</sup>lt;sup>2</sup> For more on this association, its program and activities see: <u>www.cdknotar.cg.yu</u>.

<sup>&</sup>lt;sup>3</sup> ISAD(G), General International Standard Archival Description, Second edition; ISAAR(CPF), International Standard Archival Authority Record for Corporate Bodies, Persons, and Families; ICA-ISDF, International Standard for Describing Functions; ICA-ISDIAH, International Standard for Describing Institutions with Archival Holdings, First edition; International standard bibliographic description (ISBD); International Standard Book Number (ISBN); International Standard Serial Number (ISSN); International Standard Music Number (ISMN); etc.

certain improvements in the field of protection and processing of this church treasure in Kotor, especially regarding the application of modern computer technologies. So far, such projects have been launched and realized exclusively as part of the activities of the "Notar".

# **Projects of Digitization of Archival** and Library Material in Kotor Churches

Archival and library material preserved in the Kotor churches has been and is still being created through the activity of two religious communities – the Orthodox and the Catholic. The material is located in several important central church archival depositories, which we conveniently call church archives or libraries<sup>4</sup>, but also in the very churches and monasteries as well. In addition, some of Kotor church archival and library material can be found at the Kotor Historical Archives.<sup>5</sup> Scientific research performed has also established that some of this material is located outside Montenegro and is being preserved in similar institutions in other countries. These include some of the oldest and most valuable sources created on what is today Montenegrin soil.<sup>6</sup> It should be emphasized that the churches of Kotor contain archival material from the 11<sup>th</sup> century until today. The most complete is the collection of the Kotor Diocesan Archives, possessing archival funds that run continuously from 1434 until today.

In spite of the turbulent past of the region and continued exposure of monumental treasure to destruction and devastation, Kotor has preserved a fair quantity of valuable material dating back as far as the Middle Ages, when the town autonomously developed its municipal life with all the accompanying institutions. Certainly, the church was playing a key role there and all vital events happened in and around that institution. Documents created as a result of its activity therefore do not only contain information on the history of the church or individual sacral objects; at the same time they are an important primary source for the study of the political, social, economic and cultural life of the town and its immediate vicinity. This is why it is of utmost importance to make the archival and library material of the Kotor churches available to experts, scientists and the wider public in the most acceptable way.

At a time when the financial situation of both the state and the churches is poor and when the church staff in church archives or libraries is inadequately trained, it is difficult to

<sup>&</sup>lt;sup>4</sup> It must be emphasized that neither in Kotor nor in Montenegro as a whole there is not a single church archive or library registered as an independent institution according to modern international standards. Accordingly, the terms church archives and libraries can be used only conditionally, in the meaning of depositories where church archival and library materials are kept. Since this material, especially which is the oldest one, has been partially appraised, usually according to the significance of the church in Montenegrin historical perception and the age and quantity of archival material, some such depositories containing larger quantities of material have been conveniently named church archives or church libraries among experts and scientists and in their publications. For example, the Archives and Library of the Serbian Orthodox Church in Kotor, the Kotor Diocesan Archives, the Arch-parochial Archives of St. Nicholas Church in Perast, the Kotor Diocesan Library, etc.

<sup>&</sup>lt;sup>5</sup> For example, the Collection of Church Archival Material (*Zbirka crkvenih arhivalija – CAZ*).

<sup>&</sup>lt;sup>6</sup> For example, the *Pontifical of the Diocesan of Kotor* (1090–1123), a text produced in one of Kotor scriptoria and today kept at the Library of the Russian Academy of Sciences in Saint Petersburg (*see*: Dušan Sindik, *Pontifikal Kotorske biskupije u Lenjingradu*, "Istorijski časopis" XXXI/1984, pp.53-66; Richard Francis Gyug, *An Edition of Leningrad, B.A.N., F. no 200: The Lectionary and Pontifical of Kotor*, Ottawa 1985), or the *Gospel of Miroslav* from the second half of the 12<sup>th</sup> century, which is assumed to have been written in one of Kotor scriptoria, located in the National Museum in Belgrade today, (*see*: Petar Momirović, *Naši stari ćirilski skriptoriji na području Crne Gore i Srbije u srednjem vijeku i turskom periodu*, "Skriptoriji i manastirske biblioteke u Crnoj Gori (Zbornik radova sa naučnog skupa na Cetinju održanog 26. i 27. oktobra 1987. godine)", Cetinje 1989, pp.33-41; Vojislav P. Nikčević, *O lokaciji nastanka Mirosljavljevog jevanđelja*, "Skriptoriji i manastirske biblioteke u Crnoj Gori..., pp. 363-368; Rajko Vujičić, *Romanička tradicija srednjovjekovne Duklje*, "Pobjeda", Titograd, 28. XII 1986, 15, Vojislav Nikčević, *Bokokotorski srednjovjekovni skriptorijumi i njihovi uticaji*, "Arhivski zapisi" 2/1994, pp.105-118), *Istorija Crne* Gore, 2, Titograd 1970, pp.96-101, etc.

expect the launching of any complex or comprehensive projects of computerization in the near future. The bad prognosis is made worse by the costs of such undertakings, which can be calculated on the basis of information and comparison with the budgets allocated to these purposes by other countries. This is why the first attempts to launch and realize such projects in Montenegro, that is, in Kotor, have remained in the sphere of volunteer activities.

## First "Notar's" Project of Digitization of Oldest Kotor Archival Material

"Notar", non-governmental association, judged that within its project *Archives, Libraries and Cultural and Historical Monuments of Kotor on CD-ROM*<sup>7</sup> it would be very useful to supplement the presentation of the oldest archival material from the Kotor Historical Archives with archival and library material of church origin, in order to provide a more complete picture of the life of this medieval commune. The material included here was selected from the most important church depositories of archival and library material in Kotor: the Kotor Diocesan Archives, the Archives of the Serbian Orthodox Church in Kotor, the Arch-parochial Archives of the of St. Nicholas Church in Perast, the Library of the Franciscan Monastery of St. Claire, the Kotor Diocesan Library and the Library of the Serbian Orthodox Church in Kotor. It was the first project of digitization of church archival and library material in Montenegro.





**Fig. 1**. Cover of CD-ROM: "Archives, Libraries and Cultural and Historical Monuments of Kotor"

The selection included about a dozen of archival documents and books from each of these church archives and libraries, represented by scans of selected pages with accompanying text (description with a historical comment or, if it is an archival document, brief). In the main menu of the CD-ROM, a special link was set up for the presentation of church archives and libraries. Following this link, the user can arrive at the page where he/her chooses which archive or library he/her wishes to visit. After that, a list with documents and books of the

<sup>&</sup>lt;sup>7</sup> "Notar" undertook to complete the project launched by the State Archives of Montenegro – Historical Archives of Kotor in 1998. This first edition of the CD-ROM was created only as a working version and was included in the cultural presentation of Kotor and Montenegro at the EXPO 98 World Exhibition in Lisbon. The State Archives did not show sufficient interest to complete this, at the time in many respects unique project. Thus, "Notar" took charge of it in the hope of finding a way to provide funds for a second, supplemented edition. However, at several competitions for financing projects in the field of culture, this project did not catch the financers' attention.

chosen archive or library available on the CD-ROM appears on the screen. Choosing from this list gives access to the presentation of the desired document or book.



Fig. 2. Contest of the CD-ROM

Part of the material from this CD-ROM was presented on the Internet and this was also the first such presentation of a cultural institution, i.e. an archive, in Montenegro. However, because the site was constructed in the first phase of the project, before it was expanded to include material from church institutions, the section with digitized church material can still be found only on the working sample of the second, expanded edition of the CD-ROM, and thus there was no opportunity for its export to the Internet.

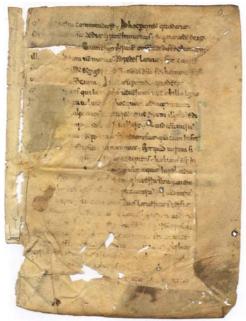
With this project of partial digitization, "Notar" intended to undertake the first steps in the protection of church archival and library cultural heritage by modern methods. Moreover, in accordance with the demand of modern-day users to get the information needed or desired easily and quickly at any time in any place and the resulting new role of archives and libraries as important centers of information, a digital presentation makes these sources accessible not only to the scientists and experts, but also to every interested individual around the world.

# The Project "Digitization of Manuscript and Early Printed Fragments from the Library of the Franciscan Monastery of St. Clare in Kotor"

In accordance with the demands of the new age and computerized society, "Notar" has in the meantime launched another project, the *Digitization of Manuscript and Early Printed Fragments from the Library of the Franciscan Monastery of St. Clare in Kotor*. The project comprises expert processing – including application of modern technology – of a collection of documents (fragments from liturgical books, manuscript or early printed, as well as other documents of both sacral and profane origin), which was subjected to detailed examination by "Notar" members towards the end of 1999 at the request of the late padre Dinko Vlašić, then Guardian of the Franciscan monastery in Kotor. It should be noted that until this examination conducted by "Notar" only certain individual documents from this archival collection were known to some scientists and experts.

<sup>&</sup>lt;sup>8</sup> See at the address: www.matf.bg.ac.yu/iak.

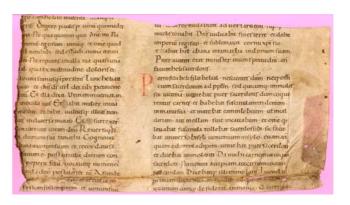
Through analysis of some fragments, it was established that they date from the 11<sup>th</sup> century. This makes them for the time being the oldest documents preserved in Montenegro. Insight into the collection and its systematization established that there are **167 documents**,



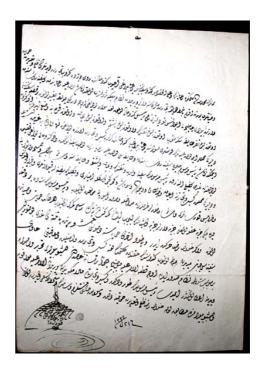
**Fig. 3**. Fragment of a codex from 11<sup>th</sup> century written in Beneventan script



Fig. 5. Breviary, a page from the illuminated manuscript with the hymn *Proles de celo*, probably written in Italy, 13<sup>th</sup> or 14<sup>th</sup> century



**Fig. 4**. Fragment of a codex written in Carolina script with the text from the Vulgate: *I Samuel, 2:9-2.16 (Praise of Haanah-Eli's Sons)*, second half of 12<sup>th</sup> century (Inv No 17/1)



**Fig. 6.** One of the Turkish documents, (Inv. No 137

some of which consist of several fragments or pages. During the arrangement, every item, whether part of a liturgical book or an individual document (papal bulls, charters, notary documents, Turkish "firman"s, literary texts and similar), was given an inventory subnumber

(foliation was preformed), so that there are all together 351 items. The documents are mostly written in Latin, but there are also some in Italian, Turkish (Ottoman), German, Greek, as well as in vernacular language. They encompass a long period, from the 11<sup>th</sup> to the 18<sup>th</sup> century, and contain examples of almost all medieval scripts – Beneventan, Caroline, Caroline-Gothic, Cursive Gothic, Book Gothic, Humanistic and Baroque handwriting, Arabian script, Germany Gothic. There are early printed fragments too.

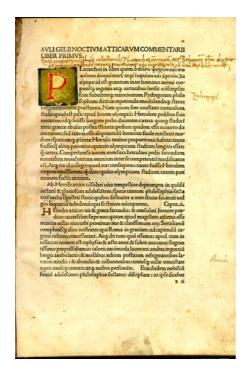




Fig. 7. Auli Geli, Noctium atticarum commentarii, printed by Andrija Paltašić of Kotor in Venice 1477

Based on what has been discovered so far, it can be justly claimed that the cultural and historical value of these fragment is great. Along with the other movable and immovable monumental heritage, they provide another undeniable proof of the high cultural level of medieval Kotor, which received Western and Eastern cultural influences and passed them on to other parts of what is today Montenegro, as well as to other areas with which it was in contact. Apart from attracting interest as archival and library material, there is every indication that these document can provide valuable information for various other multidisciplinary researches and discoveries of importance to Kotor and Montenegro. As final confirmation it should be said that this material, made accessible through the efforts of "Notar" on its processing and presentation, has already attracted support of several international experts.

<sup>&</sup>lt;sup>9</sup> The musicologist, late prof. Marija Radulović-Vulić has studied the musical past of Kotor and Montenegro from documents in the Franciscan Library in Kotor. See her book *Drevne muzičke kulture Crne Gore*, I–II, Cetinje 2002.

On July 2, 2003 "Notar" organized a lecture in Kotor by Prof. Luigi Pellegrini from the University of Chieti (Italy) entitled: An Italian 13th Century Codex and the Ties Between the Franciscans from the Two Shores of the Adriatic. The attention of Prof. Pellegrini was especially drawn to a manuscript fragment from the Franciscan Library in Kotor, which he identified as part of a very characteristic codex containing the biography of St. Francis of Assizi written by St. Bonaventure. Prof. Pellegrini studied it carefully and published a lengthy paper about his findings in an Italian periodical. Describing his scientific research of the Kotor manuscript at the conference in Kotor, Prof. Pellegrini set out the important conclusion to which he had arrived – the Kotor fragment with Bonaventure's Legends is identical to Codex No. 334 kept at the library of the monastery in



**Fig. 8.** Codex fragment, end of the 13th century, made in Assisi

Realizing the potential importance of the existing archival collection in Kotor Franciscan Library, not only for Montenegro but also for wider research, the priorities, goals, timetable and execution plan for this project were drawn up.

#### **Goals of the Project**

The main goal of the project is to identify, protect, arrangement and process the discovered fragments, with the aim to present them as well as possible to scientific circles and the wider cultural public at home and abroad. It has been resolved to digitize the entire collection of documents, primarily in order to remove the need for further use of the originals and thus significantly reduce the possibility of future physical damage. In addition, digitization would mean preservation of the collection integrity by preventing potential alienation and migration of individual documents, as has been known to happen before.

Of special importance is the intention to create an Internet presentation in order to make the collection accessible to a wide circle of researchers both at home and abroad. On line accessibility of these documents would stimulate scientific researchers and experts to analyze types of documents, writing materials, scripts, contents, and thus establish a multitude of relevant facts – for example, the place of the documents' origin, the routes of migration of hand-written and typed material in our region (this may be indicative of the routes of dissemination of cultural and religious influences) or, perhaps, a scientific confirmation of the hypothesis that there were active scriptoria in Kotor and its vicinity in the Middle Ages.

Assizi. This codex from Assizi is composed of 14 sheets and has a characteristic schedule of readings from the *Legenda Maior* and the *Legenda Minor*, the same as the codex from Kotor, making them both very rare samples among preserved codices around the world.

Such a presentation of this material at home and abroad would also serve to provide the financial support for their permanent physical, chemical and biologic protection, which cannot be provided in Montenegro.

Finally, and perhaps most importantly, realization of this project would demonstrate what kind of values churches possess and preserve in their treasuries and how important it is to open up those church collections in a professional manner, making use of the latest technologies in the service of science and in the general popularization of Montenegro rich cultural past.

The project is interdisciplinary in its structure, demanding coordination between paleographers, archivists, experts in other auxiliary historical sciences, librarians, bibliographers, historians, literature and art historians, philologists, musicologists, experts in computer technologies, theologians, priests and other individuals well versed in religion. According to the plan, the project has seven phases and its realization should take 15 months. The main point was placed on application of new technologies, and especially on the creation of a database 12 and the Internet presentation.

#### **Procedure of Digitization and Storage of Digitized Documents**

Until the end of 2006 digitization was completed for documents with inventory numbers from 0 to 96, as well as those with inventory numbers 99, 104, 114, 115 and 122. This was done using *HP Scan Jet 6300C* with the resolution of 400 dpi. The reason for scanning in a resolution larger than 300 dpi is that some fragments are very small, faded and physically damaged – in such circumstances digital images obtained with higher scanning resolution make it possible to notice more details. After scanning, images are stored in a very low degree of JPEG compression to preserve as much information as possible about the appearance of the original documents. Every document is scanned separately, front side and back. Earlier, during the process of classification according to script and handwriting, documents were systematized into groups forming characteristic entities, for example, fragments from the same liturgical book, rotulus, etc. Because there is a number of fragments with dimensions larger than the scanner screen, it is necessary to scan them in segments. Several extremely large formats (inventory numbers 137–139, 154) were digitized using the *Canon EOS 300D* camera. This procedure will be used in such instances in the future.

Files containing digital images of the fragments are organized in accordance with the assigned inventory numbers. One inventory number represents part of a codex, charter or document and can contain several fragments. For this reason, every inventory number has a folder containing files with fragments belonging under that inventory number. Every fragment has two markings – the inventory number and the subnumber of the fragment within that inventory number, with the letter t (tergo) used to mark the image of the back of the document. Thus, within the folder where the fragment is placed, the name of its file contains the number of the fragment and the number of the scanned image of the fragment.

<sup>&</sup>lt;sup>11</sup> "Notar" has managed to raise around 15000 euros for this project at the tender of the Montenegrin Parliament Committee for Allocation of Funds to NGOs. The funds were allocated first for part of the project and then a larger share for the project and a whole. These funds, however, are not sufficient for such a large and demanding project, and this fact will dictate both the size and the quality of the Internet presentation.

<sup>&</sup>lt;sup>12</sup> The database to be built for the presentation of the fragments found should include all relevant information for each fragment – a link to the scanned digital image of the original, the subgroup to which the fragment belongs, its place within the subgroup, type of script, dating, electronic browsing of the fragments' texts, information on the originality of the sample and the like. The database would also enable the posing of questions regarding the information represented in it.

### Digitization of the Material and Preparation for Export to the Internet

The Internet presentation has been conceived as containing two entities. The first would concentrate on the historically and culturally most important documents (around 20 of them). This means that from the digitized collection of archival material a selection must be made. The criteria would be the age of the document, its present state and readability and its contents and visual expressiveness. Then, physical descriptions of the selected documents must be prepared (date and place of creation of document, type of script, brief, type of material, dimension, ornaments, damage et al.) with a link between the image of the document and its description.

The second part of the presentation would be constructed as a database. Due to the size limit imposed by an Internet presentation, only part of the database would be presented on the Internet, as is usually done with presentations of this type.

In the following section, this paper will address the basic issues involved in preparation of archival material for export to the Internet, choosing from the conglomerate of modern computer technologies those solutions which best correspond with the capabilities and funds available to the project executor.

All projects of preservation of archival material are based on some application software, whether a simple text editor or a highly complex system of relational database management. It is a fact of life that companies in the computer industry *come* and *go*, that software standards are constantly being perfected, frequently leaving behind old standards without possibility of upgrading. Therefore, good choice of software, data format and protection standards are the most important aspects in preparing (and, later on, executing, reusing, expanding and/or upgrading) projects concerned with preservation of archival material at a local memory unit and its export to the Internet.<sup>13</sup>

#### The Software Being Chosen

The software we chose for protection, export to the Internet and various forms of reuse of the archival material from the churches of Kotor, in this case of the collection from the Franciscan Library, is the Windows operation system and Access SQL-oriented application software for relational database management. This choice is based on the medium size of the project and the limited means at the disposal of "Notar" as the organization in charge of the preparation and execution of the project.

The chosen program for working with relational databases contains advanced support for writing original applications on the part of the client. In addition, newer versions of Access include various ways of posting information from Access to the Web.<sup>14</sup>

An Access database can be posted to the Web in one of the following three ways:

- Export of data to a static HTML (Hyper Text Markup Language) page. Access tables, queries, forms and reports can easily be converted into static HTML pages adapted to direct export to the net. Moreover, Access can generate differently formatted HTML pages depending on the type of data being converted into HTML code. This is convenient when posting to the net data that is rarely altered.
- Creating on the server a form with reports from the database. Access is capable of generating ASP (Active Server Pages) that can be added to a basic Web presentation and thus provide to the user or client dynamic database information. This information the user can view but cannot alter. Thus, the original ASP code is

<sup>&</sup>lt;sup>13</sup> Internet address: http://hds.essex.ac.uk/g2gp/digitising\_history/sect43.asp#table3.

<sup>&</sup>lt;sup>14</sup> C. Prague – M. Irwin, *Microsoft Access* 2000 – *Biblija*, Mikro knjiga, Beograd 1999.

- generated by the programmer and executed by the Web server, remaining inaccessible to the end user. 15
- *Using a database access page*. A database access page is a Web page directly linked with information from the base. It can be used for viewing, editing, updating, deleting, filtering, grouping and sorting data from Access or SQL Servers, through the Web by the means of Internet Explorer.

These are the advantages of Access,<sup>16</sup> although we are very well aware about its shortages. First of all the number of records Access can manage is limited, it usually requires interventions through writing modules in VBA<sup>17</sup> and creating SQL queries in design form, etc. Its compatibility with other data base oriented software can be problematic. It may cause some shortages in network environment requiring high performance PCs and operating with rather robust DEO<sup>18</sup> tools in some cases, etc. Despite these shortages Access allows relatively easy and quick creating base at the logical level, its realization, and it leaves also some opportunities for interventions in its structure later.

Assuming that within the project of protection and Internet posting of archival and library material from the churches of Kotor, and firstly of the archival collection of the Franciscan Library, use will mostly be made of textual and graphic fields, we will list their characteristics within Access. <sup>19</sup>

- Entering standard textual data. In the simplest cases the text is simply typed and it can also be displayed in formatted form.
- Entering of memo type data. This type of data enables entering text tens of thousands of characters long (Access, version 2000). The command *Shift* + *F2* opens the window *Zoom*. The window is capable of showing around 1000 characters and there is a scroll bar to enable movement through the text.
- Entering OLE type data. The OLE (Object Linking and Embedding) field can contain Word and Excel files, Web pages and hyperlinks, sound recordings and graphic files of various types (.tif, .jpg, .gif, .png, etc). That is of great importance for this project, which includes preparation and export of a large number of graphic files representing the visually most significant segments of the archival material preserved in the churches of Kotor or, more precisely, of the archival material from the Franciscan Library.

It is to be mentioned that newer versions of Access have built-in support for XML (*eXtensible Markup Language*), meaning that data from an Access base can be exported to the Internet as XML documents. Because of the currency and flexibility of XML it might be a good idea to export original data related to the given archival material to the Internet as XML, using XSL (eXtensible Style Language). As far as the project we are talking about is concerned, this idea is still under consideration.

#### **Conclusion**

Preparation of archival and library material of the Kotor churches or, more precisely, of the archival collection of the Franciscan Library, for export to the Internet comprises, first,

<sup>&</sup>lt;sup>15</sup> D. Buser – J. Kauffman et al., Active Server Pages 3.0, Wrox Press, Ltd., 2001.

<sup>&</sup>lt;sup>16</sup> J. Buyers, *Razvoj baza podataka na Web-u*, CET – Computer Equipment and Trade, Beograd, 2001.

<sup>&</sup>lt;sup>17</sup> VBA – Visual Basic for Applications, eng.

<sup>&</sup>lt;sup>18</sup> DEO – Data Environment Objects, eng.

<sup>&</sup>lt;sup>19</sup> C. Prague et al., *o. c*.

<sup>&</sup>lt;sup>20</sup> Microsoft Office Assistance: Exporting to XML from Access, Internet address: http://office.microsoft.com/en-us/assistance/HA010345611033.aspx

its evaluation, then, selection and detail archival processing of the most representative samples, and finally, *computer processing*. This computer processing includes choice of software and data format, and consequently an appropriate computer platform and material protection standard. In accordance with the needs of the project of digitalization and Web presentation of the archival collection of the Franciscan Library in Kotor, as well as the means at the project's disposal, due to our personnel and material capabilities, we choose Access application software for relational databases management, making use of Access Web extensions, either in the sense of HTML, ASP or XML support. Combinations of these are also possible, but this is still being considered. Data should be of the classic textual or memo type and graphic type (.gif, .jpg or .png format), adapted in terms of the memory space they occupy to export to the Web. Also, we are of the opinion that it would be very useful to create a pilot base with a limited number of entries, in order to test its functionality before embarking upon realization of the project as a whole.

### **Bibliography**

- [1] C. Prague, M. Irwin, *Microsoft Access* 2000 *Biblija*, Mikro knjiga, Beograd, 1999.
- [2] D. Buser, J. Kauffman et al., Active Server Pages 3.0, Wrox Press, Ltd., 2001.
- [3] D. Elder Brock, D. Karlins, FrontPage 2002 Biblija, Mikro knjiga, Beograd, 2002.
- [4] Internet adresa: http://hds.essex.ac.uk/g2gp/digitising history/sect43.asp#table3
- [5] J. Buyers, Razvoj baza podataka na Web-u, CET, Beograd, 2001.
- [6] S. Kordić, S. Pejović, Manuskripti u Biblioteci Franjevačkog samostana sv. Klare u Kotoru (Manuscripts in the Library of the Franciscan Monastery of Santa Clara in Kotor), Church Archives and Libraries. International Experiences on Protection, Appraisal, Description and Presentation of Cultural Heritage, Kotor 2004, 323–328.
- [7] S. Kordić, S. Pejović, *Digitalna zaštita arhivske i bibliotečke građe iz crkvenih fondova opštine Kotor*, Sodobni arhivi, Maribor, 22, 2000, 240–250.
- [8] S. Kordić, S, Pejović, *Manuskripti u franjevaškoj biblioteci samostana sv. Klare u Kotoru*, Godišnjak Pomorskog muzeja u Kotoru, 50, 2002, 265–274.
- [9] S. Kordić, *Fragmenti četiri Biblije pisane Karolinom iz Franjevačke biblioteke sv. Klare u Kotoru*, Godišnjak Pomorskog muzeja u Kotoru, 50, 2002, 392–422.
- [10] Microsoft Office Assistance: Exporting to XML from Access, (<a href="http://office.microsoft.com/en-us/assistance/HA010345611033.aspx">http://office.microsoft.com/en-us/assistance/HA010345611033.aspx</a>)
- [11] S. Pejović, S. Bauk, *Priprema arhivske građe iz kotorskih crkvenih arhiva za eksportovanje na Internet*, Arhivska praksa, 8, 2005, 226–237.
- [12] S. Pejović, Jedan italijanski kodeks iz 13. vijeka i veze Male braće franjevaca sa dvije obale Jadrana, Sodobni arhivi, Maribor, 22, 2003, 150–153.
- [13] S. Pejović, *Jedan značajan projekat digitalizacije kulturnog blaga Kotora*, Godišnjak Pomorskog muzeja u Kotoru, 52, 2004, 419–430.
- [14] S. Pejović, *Mediteranski putni pravci*, Pobjeda, 28. decembra 2002, 37.
- [15] M. Radulović-Vulić, Drevne muzičke kulture Crne Gore, I–II, Cetinje, 2002.

pejsib@t-com.me bsanja@cg.yu