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DIGITIZATION PROCESS IN BELGRADE CITY MUSEUM

Abstract. The beginnings of digitization in Belgrade City Museum. ISIS, ACCESS, Unique Museum Database Project, Digitization of Museum Archives.

Keywords. Digitization, Database, Museum Archives.

About digitization from its beginning

Database forming was started in the Belgrade City Museum in 1990. Program package ISIS 2.3 distributed by UNESCO was used at the beginning. At that time the operative system was DOS and the code distribution YUSCII. The input data were not identical for all collections. A large part of the data set was common, but it contained different fields characteristic for given collections. Basically, Central Cards prescribed by the Rules on registers concerning works of art and history (follows from the Law of Cultural Goods, Službeni glasnik RS, 71/94). Electronic cards could be printed. The common data set concerned: designation, inventory number, object, place of creation, period, material, techniques, size, description, state of preservation, acquisition way, price, category, conservation, bibliography, note. The characteristics were reflected for given collections, like money. In such cases additional fields were: country, ruler, mint, axial ratio, front side, back side, site, reference, rarity. When a collection of engravings was treated, in addition to the general information one could also find the following fields: watermark, engraving text, the author's field is decomposed in: author, publisher, cutter, designer; the size information contains print length, print width, sheet length, sheet width, in the description there is the title of engraving and also the field on its history was added. In the case of archaeology there were fields: locality, more information about the terrain (sonde layer, square), excavation author. In the framework of each collection it was possible to search in all fields by using a given complicated formula which was not simple, but, practically, all input data could be reached. The basic disadvantages were the non-relational database and that any search had to be done individually within the collections. A single query was not enough to reach the item information on the level of the museum as a whole, but only in the framework of a collection.

In Decembar 2003 some of the data were implemented in CDS ISIS for Windows 1.5. In the new operational system the fields were referred to through their numerical designation. Due to the change of the code distribution a problem appeared in the search. In particular, it was impossible to reach any information on items for which the identifications and descriptions contained letters š, ž, ć and č. However, two of the museum collections were completely processed through this program (Antic archaeology- AA with 4867 items and Historical collection- SGI2 with 9594 items) and three of them partially (Prehistorical Archaeology- AP with 2.753 out of 10.133 items, Money and medal cabinet- NM with 2.254 out of 26.263

objects and Collection of urbanism- Ur with 7.700 out of 16.446 items). Totally, almost 30.000 items were processed.

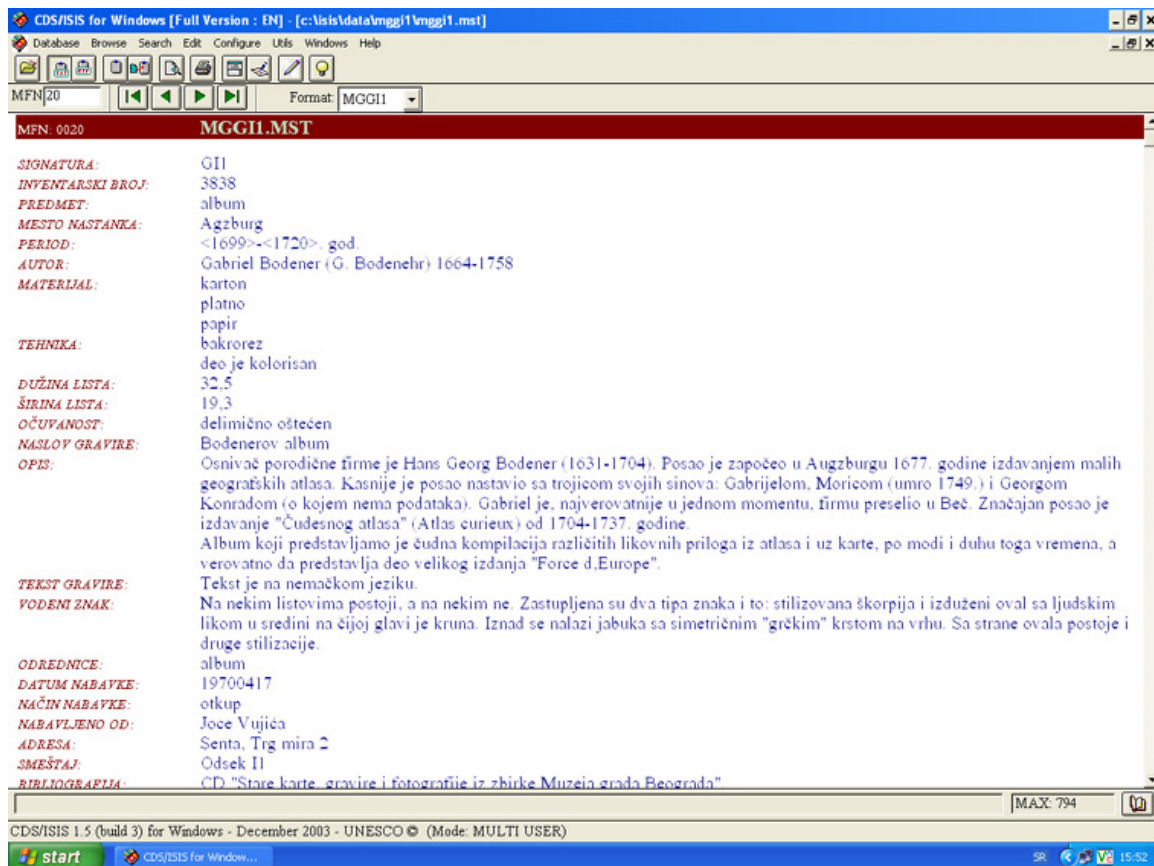


Figure 1. Screen appearance for CDS ISIS for Windows 1.5

Between 2004. und 2006. a list of all museum collections (about 100.000 objects) was made in ACCESS program, but it contained less data than the older, more complex database. It, in fact, should have been an electronic inventory of the remaining museum objects, unincorporated in the previous bases. The base mainly contained the following data: signature, inventory number, item. Some groups had more information: material, dating, position, acquisition, whereas some were treated more completely to also contain an item-description text.

Since 2008 the Belgrade City Museum has been working on Unique Museum Database Project, that will include all museum collections, more than 128.000 items. It is composed of 8 subsystems: Acquisition, Inventory 1, Inventory 2, Photodocumentation, Archives, Placement, Conservation, Publishing.

1. Subsystem Acquisition. It contains the data set concerning the way in which an item enters the Museum: from the reason or ground why an item enters the Museum, designation and type of the document on the basis of which the item enters the Museum, the number in the book of entering, primary description of the item, the author, date, curator, data on the bidder/supplier, site, whether the item was redeemed or given back to the owner and the like.

2. Subsystems Inventory 1 and Inventory 2. These subsystems basically contain the data which existed in ISIS. Subsystem Inventory 1 (or CR – Central Register) contains the basic data of the central-register card, as well as additional data (photographs, status and state of the

item, data on archaeological locality, etc) and it performs the basic item treatment. Subsystem Inventory 2 concerns above all numismatics, also extended item treatment which incorporates the technical and scientific treatment of a cultural well, also catalogues of persons and events, formation and activity of various commissions engaged in item categorising, handover of collections, formation of study collections, possibility of object surveillance through exhibitions and the like. The data on the Museum items can be obtained by using some collections and legacies, according to their authors, item type, key words from the description, or attribute, material, techniques and the like. In the case of many attributes there are codebooks making the search more easy.

Figure 2. Screen appearance for base in ACCESS

3. Subsystem Photodocumentation. The photo archive contains a number of data concerning the pictures of the museum material: whether they are in an analog or digital form, the placement of a record, picture author and the picture itself. This subsystem allows saving digital photographs for each object, together with textual data. Until now, 15% or approximately 20.000 items have been recorded, but not equally in every collection. Some of the collections containing only photographs exclusively were completely digitized (for example SGI2 with 9.594 items). But, in lack of three-dimensional scanners, it is more difficult with other items. When it comes to archaeological material, sculpture, items of applied art etc. recording have to be conducted with digital cameras, from several angles and that requires much more resources and time. Every treated item is followed by its low-resolution photograph, mainly 300 dpi. The disks bear the designation of the collection and the number.

The intention is to include these high-quality digital records in the system when the technological possibilities allow this. To search in the photo archive is possible in all fields. Also, every picture can be connected to Subsystem Inventory 1 and then printed together with the other data concerning the item on the Central Cards already mentioned, in A4 format.

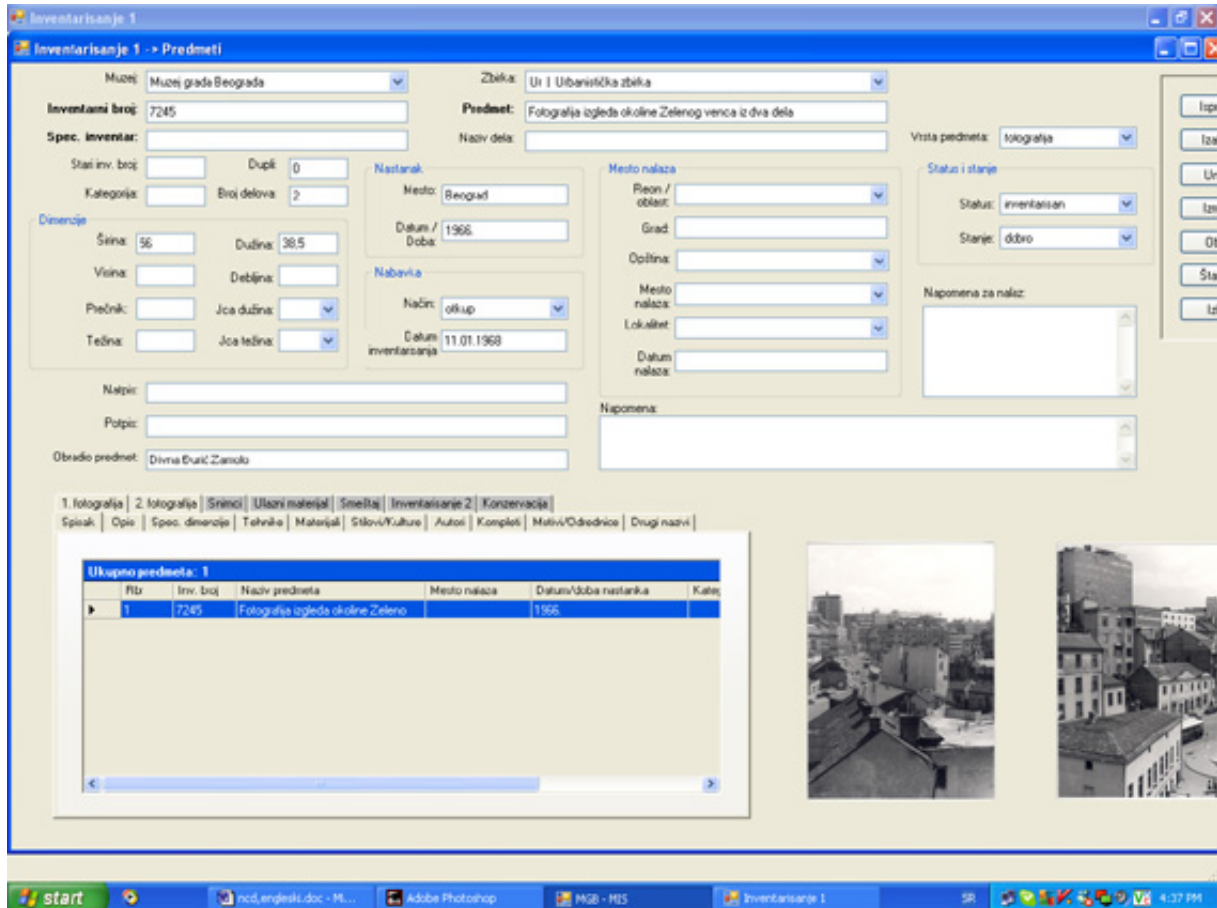


Figure 3. Screen appearance. Inventory 1, Unique Museum Information System

4. Subsystem Placement. Subsystem Placement concerns the data, as clearly seen from its name, about the placement of items. In this way it is possible to know where to locate an item: in the depot, at conservation, temporary exhibition, permanent exhibition, etc. The organisation complexity caused the necessity of making a map of the Museum in order to avoid any confusion (for instance, cabinet 1, shelf 2, box 3 are furniture designations which can co-exist in several different collections, i. e. rooms).

5. Subsystem Conservation. Subsystem Conservation contains a characteristic data set which follows this process, beginning with the conservator number, who brought and who took an item, the corresponding dates, the main data about the item, the descriptions of damage, degree of intervening, applied techniques, means and material, as well as the photographs of conservation process.

6. Subsystem Publishing. Subsystem Publishing covers the wide publishing activity of the Belgrade City Museum. It has been created in accordance with the international standards to make the automatization of business processes concerning the registering and control of all publishing phases possible. It allows to register publications, journals, monographs, texts,

publishers/co-publishers, authors and co-workers with their personal data, the language in which a text was printed, theme and field of the text, circulation, period, year and edition number.

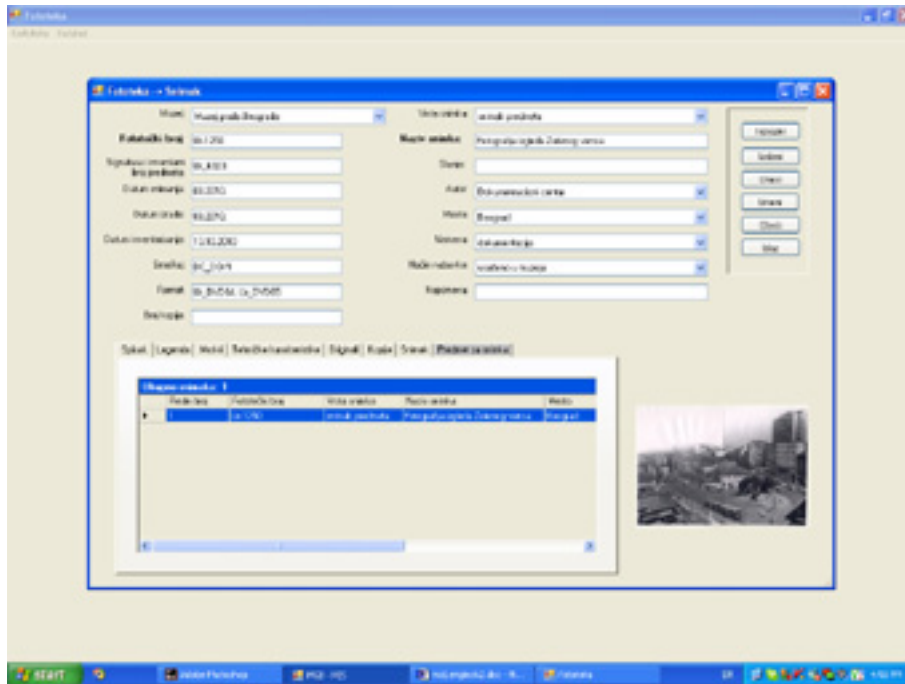


Figure 4. Screen appearance. Subsystem photo archive. Unique Museum Information System.

MIS MGB is attached to the museum network and all curators have access to the data. There are some limitations concerning the persons and data in the process of their entering and changing depending on the position of these persons in the Museum. The Belgrade City Museum has a very extended network of dislocated museum items which are included in the Museum, but via Internet users can access the Museum Information System, search or enter data for which they are authorised. The system has not been completed yet, some item information is still missing, but the system base is growing.

According to the Decision on establishing the jurisdiction of the Museum depending on the types of works of art and history and on the territory (announced in „Službeni glasnik RS“ No 28/95) the Belgrade City Museum as a complex one is under the jurisdiction of the five Republican Museums (National Museum, Historical Museum of Serbia, Museum of Applied Art, Museum of Contemporary Art and Ethnographic Museum). All these museums use the Central Register containing the following attributes: institution, collection, item, item identification, designation, inscription, description, place of finding, author, way of acquisition, acquisition date, dating, culture/style, technique, material, size and note. These attributes are also present in the framework of the Museum Information System of the Belgrade City Museum so that, in principle, a compatibility in the information exchange with the authorised institutions has become possible.

The Belgrade City Museum has been publishing, during last 15 years, some digital recordings of museum items and has made them more available to the public:

1. *Old maps, engravings and photographs, collection of the Belgrade City Museum*, CD with recordings of 176 museum objects, published in 1997. *Groman's photo album*, CD with recordings of 81 museum objects, published in 2003.

3. *Belgrade City Annual*, CD with numbers I to X, published in 2006.

4. *Belgrade City Annual*, CD with numbers XI to XX, published in 2006.

Main museum documents, Inventory Books of museum objects (74 out of 118) and both Acquisition Books of museum items were transferred to microfilm and digitized in 2004.

Equally important part of the Belgrade City Museum is its library. It has seven Inventory books which were transferred to microfilm and digitized. Also, the digital catalog of Museum library fund (over 20.000 items) has been made. The library inventory has been made under ACCESS and it can be used for an inner search of books only. It contains the following data: ordinal and inventory numbers of a book, the letter and designation, the author and title, the place and year of publishing, note and price. There is intention to introduce Cobiss in the Library of the Belgrade City Museum when the conditions allow it.

Digitization of museum archives

The Center for Documentation of Belgrade City Museum was established as a separate department in 1968. Its aim was to collect and save the documentation about museum items. At the same time an Archives of museum exhibitions and other manifestation (promotions, tribunes, workshops, documentation of Club of Belgrade history admirers, etc.) was formed as part of the Center. It has contained documentation even since the 1950s. The importance of this Archives is that it provides opportunity to follow the public activity of the Museum and observe its history.

The Museum Archives is organized in the way that for every event its own file is formed which contains a variety of material. Files are grouped in registries using the following criteria: chronologically, by the type of manifestation and by the type of location where manifestation was held. Material in these files is very different and these files could contain invitations for the opening ceremony or other invitations, photos of opening and exhibition, newspaper texts, catalogs, texts of exhibition concept, contracts, different lists, posters, legends, impression of visitors, etc. Usually these are paper-objects and they differ only by their dimensions, that can be from just few centimeters to the whole meter.

Museum Archives is very well organized and material is saved adequately. However, there has appeared the need to save this material in digital form. This will allow faster and easier use of this kind of information, and also, they will be better protected.

Digitization of museum Archives was started in 2009. Until now, around 50% Archives or 310 files have been digitized. Scanners A3 (UMAX Powrlook 2100XL) and A4 (hp scanjet 3690) and computer program Adobe Photoshop were used for digitization. Material was scanned in RGB colour mode, 300 dpi and saved in JPEG format, except posters that were saved both in JPEG and TIFF format (altogether 134 posters, largest even 100x70 cm in size).

After scanning, digital copies of files were made, formed in the same way as originals and placed in digital copies of registries. They were stored on hard disks, buck-up disks, and also on separate disks that were placed in every registry.

During 2010 subsystem named Archives was added to Unique Museum Database. The aim was to join this type of material. It is possible to store every file, every object inside of files, together with their digital recordings. It is possible to include two data groups:

1. Exhibitions and Events. Here the data concerning exhibitions and any other manifestation organised by the Museum are entered: title and type of exhibition/event, the place and precise location, duration, opening date (if an exhibition is concerned), description of event and opening, enumeration of the programme, hemerotheque, names of authors, file content and placement and note. Every item contained in a file can be registered and related to its event. Also,

by including the Photo Archives subsystem the pictures of all items of a file can be entered and related to a particular event.

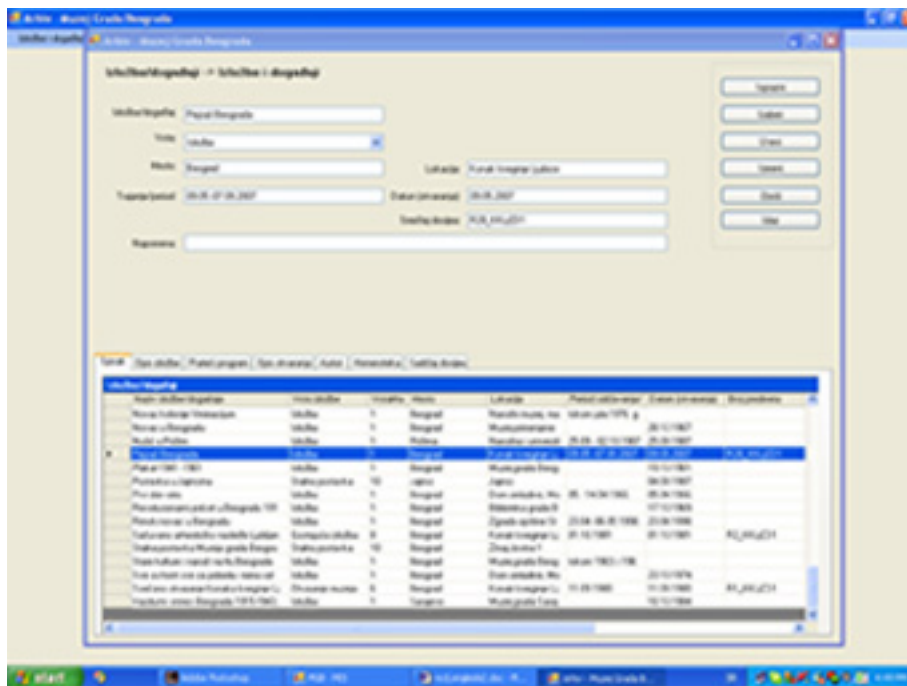


Figure 5. Screen appearance. Subsystem Archive. Unique Museum Information System.

2. Material using. In this way it becomes possible to register the activities carried out between the Museum and parties. Before becoming allowed to use the museum material any user ought to send a request to the Museum. The requests are registered so that the registration contains the user's personal data and the data on the item(s) given to the user. System Photo Archive makes it possible to relate the picture of any item to the corresponding request. The following data are necessary: request number, user's names (first and family), user's occupation, user's address and phone number, e-mail address, personal code, data on user's employer, the dates of request sending and approving, the name of the person who approved the request and note. As for the picture, other data can be entered: the purpose of using it, the department, branch, legacy, description and note.

Any material entering Subsystem Archive is available to the staff of the Belgrade City Museum only; it is not foreseen for a general use. The files, as well as their digital copies, are stored in the Documentation Centre; it is possible to search them either by hand or by using the Unique Museum Information System.

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