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PUBLIC LIBRARY SERVICE FOR ACCESSING RECORDS FROM THE AP VOJVODINA GOVERNMENT SESSIONS

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Abstract. This paper suggests the development of a public electronic service for accessing session records within the framework of the public library service in eGovernment. In the paper, a detailed description of the proposed bibliographic cataloguing of records from the sessions of the Government of the Autonomous Province of Vojvodina is given. Cataloguing is implemented in the fourth version of the library software system BISIS as a preparatory module for the electronic service aimed at public electronic access to the records from the AP Vojvodina Government sessions. That service was put in operation at the beginning of 2011.

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1. Introduction

The development of the information society, i.e. a knowledge-based society, is a political commitment of the EU [1]. Activities related to this development are carried out on two levels- on the level of the Union itself and the level of EU member states. Common goals and principles are defined on the level of the European Union [1–3] and a portion of resources for financial and professional support of the program for the development of information society is provided, especially in the candidate countries for EU membership [4]. The European Union is putting significant financial and organisational efforts into the research related to information and communication technologies (ICT) through various program financed from the joint EU funds [5,6]. One of the major goals in the development of eGovernment in European Union (EU) is establishing public electronic services for citizens and business entities. There are 20 standard services defined (12 for citizens and 8 for business entities). One of those services intended for citizens is a public library service.

Based on the analysis of the current state of affairs in the Autonomous Province of Vojvodina (APV) in the first half of 2005 it was concluded that the

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development level of eAdministration in APV was significantly below the development level of eAdministration in the EU countries. Using these countries as models, an implementation plan for the eAdministration in APV was adopted in the second half of 2005 under the name of eVojvodina. This program is one of 14 programs of midterm economic development of APV. In the paper [7], an approach of introducing eAdministration which was verified by its introduction to APV was proposed. One of the results of the program is the software application for electronic managing of the APV Government sessions that was put in practice in March 2007. Since this application has been introduced, all documents related to the Government sessions are available only in electronic form (including records).

At the end of 2006, the APV library started to use the library software system BISIS (version 3). At the beginning of 2009 they moved to the version 4 that supports complete electronic business of the library. That version of the system has an XML editor for cataloguing by UNIMARC and MARC 21 format [8, 9] that uses the component for generating catalogue cards [10] and text server described in the paper [11]. The paper [12] describes the XML editor for searching and retrieving bibliographic records by Z39.50 standard, and the papers [13, 14] describe a circulation subsystem which is a part of the BISIS. The BISIS system constitutes the basis for public library service implemented through the Library network of Vojvodina. As BISIS is customizable to specific needs of the library, the APV Government library has defined its own processing type with the name *Session material*. It covers session records and appendixes of the agenda of the APV Government sessions. This material was stored in paper form and catalogued in BISIS till 2007. After 2007, all session materials have been available only in electronic form, which was a nice backdrop for introducing public electronic service aimed at accessing records from the APV Government sessions

This paper presents the development of a public electronic service for accessing session records that was implemented within the framework of the public library service in eGovernment. The development of the service was verified on the example of records from the APV Government sessions within the library software system BISIS.

2. Software requirements of the electronic service for accessing records from the APV Government sessions

The software requirements were specified mainly on the basis of the previous experiences gained by librarians while working with individual users requesting records search/retrieval, the reports required by the APV Government, and the legislative which is in effect in the APV. These requirements are categorized in two main categories, functional and non-functional requirements. Functional requirements are mainly due to search/retrieval functions, while non-functional ones are due to the support of the multilingualism.

The search requirements are further categorized in two subcategories. The first one pertains to searching session records that contain all specified words, exact phrase, at least one of the specified words, or not containing any of the

specified words.

The second subcategory pertains to searching by metadata such as: Proposer; Chairman; Agenda; Signatories; Date from-to; Number of sessions held during the period of one Assembly composition. In addition, it is necessary to generate Intranet reports for time periods specified by the user on the following matters: total number of Government sessions, total number of agenda items, total number of agenda sub-items, total number of the material items classified by the material type, number of the delivered material items (to the APV Assembly, Government of the Republic of Serbia, to each Ministry of the Republic of Serbia and each local self-government of APV), number of the material items submitted by each provincial body (classified by the material type), the presence of each member of the APV Government at the sessions, and the frequencies of session chairing for each Government member.

As a non functional requirement the user interface of the application is requested to support multilingualism – an option to select the language of all menus and messages presented to the user with changing neither the source nor the execution code of the application. The default application language is Serbian (Latin or Cyrillic scripts) but the application provides menus and messages for other six languages which are officially used in AP Vojvodina governmental bodies (Paragraph 26 of the Statute of APV).

3. Cataloguing records from the APV Government sessions

For the complete processing of the session records it is necessary to enter all relevant data. Some of those data are entered in the coded form (such as language of the text or country of publication), while some comply with the defined format (such as year of publishing). The other data are entered as a free text. The cataloguing proposal for the records from the APV Government sessions in the software system BISIS that is based on UNIMARC bibliographic format [15] is described in the following paragraphs.

The field 001 of the UNIMARC format is used for coded data about publication. Since the session record is a monograph publication and it is a textual material, it is necessary to enter the appropriate codes in the subfields *b* and *c*:

001 - Record identifier

[b] – type of record

Code a - textual material, printed.

[c] – bibliographic level

Code m – monograph publication.

In the subfield *c* of the field 100 we need to enter the year of record publishing as a four-character string.

100 - General processing data

[c] – year of publishing Year of the record publishing.

The language of the text is entered in coded form into the subfield *a* of the field 101:

101 - Language of the item

Ind1- translation indicator

Code 0 – item is in the original language.
[a] – language of the text
Code *scc* – Serbian, Cyrillic.

The country of publication of the record is entered as a code in the subfield *a* of the field 102:

102 - Country of publication or production
[a] – country of publication Code
srb – Serbia.

Coded data for textual materials, monographic is entered in field 105:

105 - Coded data field: textual material, monographic
[c] – conference and meetings code
Code 1–conference publication.

Data about title of the publication and responsibility are entered in the field 200 as follows:

200 – Title and statement of responsibility
Ind1 - title significance indicator
Code 0– title is not significant.
[a] – title proper
Example: Record from the *46th* session of the Government of the APV.
[e] – subtitle Date of the session.
Example: 15. September 2010.
[f] – first statement of responsibility Chairman.

Information about publishing is entered in the field 210:

210 – Publication, distribution, etc.
[a] - place of publication, distribution
Novi Sad.
[c] - name of publisher, distributor
Government of the APV.
[d] - date of publication, distribution
Year of the record publishing.

Physical description of the publication is entered in the field 215:

215 – Physical description
[a] - specific material designation and extent of item.
The name of the specific type of material to which the item belongs and/or an indication of the number of pieces or constituent parts.
[d] - dimensions
The linear measurements of an item and/or dimensions relevant to the use of the item.

Notes are entered in the fields of the block 3. In the repeatable field 300 we enter general notes, while the notes pertaining to intellectual responsibility are entered in the field 314. When cataloguing the record from the APV Government sessions these fields are used in the following way.

300 – General notes
[a] - text of the note
First field 300: the ID number of the record in the Records

and Archive Office
Second field 300: date of the session.
Third field 300: beginning and ending time (hours.minutes) of the session. Example: 11.00-14.00.

314 – Notes pertaining to intellectual responsibility
[a] - text of the note
First field 314: people who are present at the session.
Second field 314: signatories.

For the description of the agenda items, as well as their sub-items we use repeatable field 469 that is meant to analytical description of the parts of the publication using embedded fields. Field 469 is repeated for each item of the agenda. We use the field 200 as embedded field and its subfields for describing the number and name of the item and sub-items of the agenda.

469 - Piece-analytic

[1] -	*tag* Embedded field 200.
200[a] -	*title proper* Number and the title of the item of the agenda. Example: Item 8. Request for approval of the division and exchange of agricultural land.
200[e] -	*subtitle* Type of the item.
200[*f*]-	*first statement of responsibility* Proposer.
200[*h*]-	*number of the part* Number of the sub-item.
200[i] -	*name of the part* Name of the sub-item.

Chairman, session attendees, signatories, and proposers of the session items are all also entered in designated fields and subfields (200f, 314a and 4691-200f). Data about these people are additionally entered in the field 702. This field contains structured data where the first name, the last name and the type of intellectual responsibility are entered in separate subfields. In order to have proper cataloguing of the record from the session it is necessary to extend the code list for type of authority (relator code) by some codes such as chairman of the session, session attendee, signatory and proposer. Entering data in this way enables efficient searching by the criteria that include those persons.

702 – Personal name - secondary intellectual responsibility

Ind2 –	*form of the name indicator* Code 1 – name entered under surname.
[4] –	*relator code* Appropriate code.
[a] –	*entry element* Last name.
[b] –	*part of the name other than the entry element* First name.

Data about corporate body that convene the meeting, as well as about meeting itself is entered in the field 710.

710 – Corporate body name - primary intellectual responsibility
- *[a] – entry element*
  Name of the body. Example: Government of APV.
- *[b] – subdivision*
  Type of meeting. Example: session.
- *[d] – number of meeting*
  Example: 38/46, where 38 is the number of assembly of the APV Government, and 46 is the ordinal number of the session in that assembly.
- *[e] – location of the meeting*
  The place where the session was held.
- *[f] – date of the meeting*
  The year when the session was held.

4. BISIS implementation of the session records cataloguing

Figure 1 shows the screen form for cataloguing of the records from the APV Government sessions as implemented in the BISIS system. The screen form consists of two parts. The left side displays the tree of the UNIMARC format description of the selected processing type. The root element is the name of the processing type and in this case it is Session material. The format tree contains those elements of the UNIMARC format that are included in the selected processing type. For the session records cataloguing these are the fields and subfields that are described in the Section 3 of this paper. Session material data are entered in the right part of the screen form that contains the UNIMARC record tree. This tree also contains only the elements designated for session material cataloguing. As depicted by Figure 1, the subfield *a* of the field 200 is open for entering text. Following the instruction for session records cataloguing given in Section 3 one should enter the title of the session in this open element.

5. Public electronic service for accessing records from APV Government sessions

The software system for managing sessions of APV Government was put into practice in March 2007. This system enables work with electronic documents, defining business workflows and their controls. The system is used for:

- preparation of the documents from the sessions of the working bodies of the APV Government,
- electronic managing of the sessions of governmental bodies (boards, committees, working groups), and

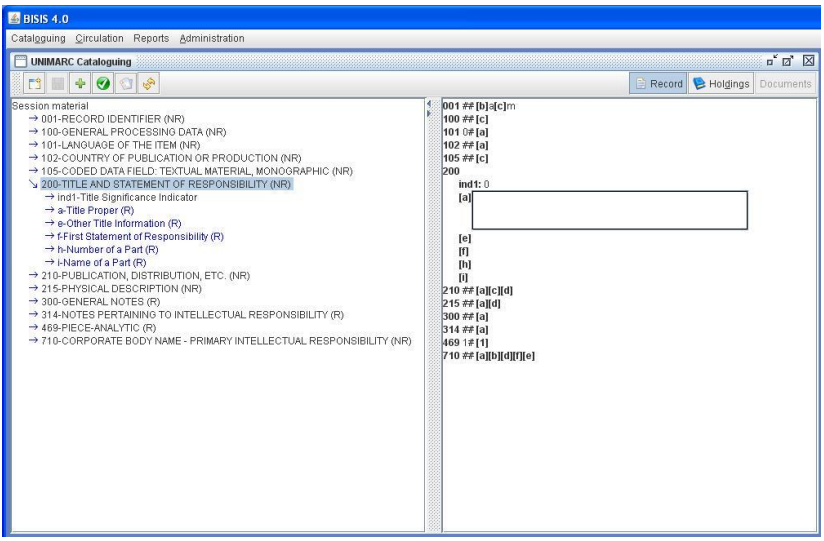

Figure 1: BISIS screen form for cataloguing of the records from the session

- electronic tracking of the APV Government sessions.

Forasmuch as all materials from the APV Government sessions are now available only in electronic form, within the framework of the BISIS project the software for public electronic access to the APV Government sessions records is developed. The service provides basic and advance search of the session records and the creation of all relevant reports to the APV Government.

Within the BISIS project the migration of data about records to the software system of the public service for accessing the records of the APV Government is provided in the following way. The BISIS supports export and import of bibliographic records to XML documents created according to the XML schema of the UNIMARC records. Migration of the data from BISIS into the public service system includes transforming of the XML document of the UNIMARC record to the XML document of the records from the APV Government session. This kind of migration provides that the records are available through the public service immediately after they are catalogued in the BISIS.

A test version of the service was put into use as of December 2010. The main practical value of the service is its ability to provide transparency of the work of the Government bodies (provides public insight into the work of the Province Government).

The final goal of the implementation of this electronic service is to provide access to all records from the APV Government sessions as from the establish of APV, which was in 1945. For achieving this goal it is necessary to catalogue all the records available in electronic form while the records that exist only in paper form need to be scanned and, at least, bibliographically processed in the BISIS. By the extensions concerning data availability, and some advances concerning document formats and search/retrieval functions, we will get a public service

that provides metadata based search, as well as retrieving records in PDF format. In this way it is possible to create an electronic archive available on-line on the Internet that can be used not only for reporting purposes or transparency achievement, but also for other purposes, like historical or sociological research.

6. Conclusion

This paper suggests the development of a public electronic service for accessing session records within the framework of the public library service in the eGovernment. The paper gives the proposal for cataloguing records from the session of the Autonomous Province of Vojvodina Government. Records are catalogued by UNIMARC format in library the software system BISIS. It is shown that all relevant data from the records can be mapped to the UNIMARC fields and subfields. That way we get the rules for cataloguing records from the session in any software system that uses UNIMARC format. In addition to the cataloguing model, the records cataloguing in the library software BISIS was described. Within the BISIS project, the migration of data about records to the software system of the public service for accessing the records of the APV Government is also provided. The implemented way of data migration provides that the records are available through the public service immediately after being catalogued in the BISIS.

A test version of the service was put into use in December 2010, and the experiences gained so far proved a twofold practical value of the service: firstly, the service provides for the transparency of the work of the Government and its bodies, and secondly, it is useful for creating diverse reports which summarize the activities of the APV Government.

Apart from the implementation focusing mainly on practical aspects, there is a plan to extend the system in order to provide access to all records from the APV Government sessions as from the APV establishment. This extension will result in an electronic archive available on-line on the Internet that could be used for other purposes like historical or sociological research. For achieving the both goals it is planned to implement a "real-time" cataloguing of all records from the current sessions, while the records that exist only in paper form will be scanned and bibliographically processed in the BISIS. Due to the large volume of the data available only in paper form, one of the mainstreams of further research will be the acceleration of the data capturing process through its automation.

References

[1] The European Council (2002), "eEurope 2005 – An Information Society for all", Europe's Information Society Thematic Portal, `http://ec.europa.eu/information_society/eeurope/2005/index_en.htm` (August, 2011).

[2] The European Commission (2000), "eEurope 2002 Action Plan", Europe's Information Society Thematic Portal, `http://ec.europa.eu/information_society/eeurope/2002/index_en.htm` (August, 2011).

[3] The European Commission (2005), "i2010 - A European Information Society for growth and employment", Europe's Information Society , http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm (August, 2011).

[4] The European Commission (1999-2006), "eTen Projects", Europe's Information Society Thematic Portal, http://ec.europa.eu/information_society/activities/eten/projects/index_en.htm (August, 2011).

[5] The European Commission (1998-2002), "The Fifth Framework Programme (FP5): User friendly information society", http://cordis.europa.eu/fp5/ (August, 2011).

[6] The European Commission (2002 - 2006), "The Sixth Framework Programme (FP6): Information society technologies", http://cordis.europa.eu/fp6/ist.htm (August, 2011).

[7] Paroški, M., Konjović Z. and Surla, D. (2011), Implementation of e-Government at the Local Level in Underdeveloped Countries: the Case Study of AP Vojvodina, The Electronic Library, accepted for publication.

[8] Dimić, B. and Surla, D. (2009), "XML Editor for UNIMARC and MARC21 cataloguing", *The Electronic Library*, Vol. 27., No 3, pp. 509-28, http://www.emeraldinsight.com/journals.htm?articleid=1795985&show=html& (August, 2011).

[9] Dimić, B., Milosavljević, B. and Surla, D. (2010), "XML schema for UNIMARC and MARC 21", *The Electronic Library*, Vol. 28, No. 2, pp. 245-62, http://www.emeraldinsight.com/journals.htm?articleid=1853060&show=html (August, 2011).

[10] Rađenović, J., Milosavljević, M. and Surla, D. (2009), "Modelling and implementation of catalogue cards using FreeMarker", *Program: Electronic Library and Information Systems*, 2009, Vol. 43, No.1, pp. 63-76, http://www.emeraldinsight.com/journals.htm?articleid=1771568 (August, 2011).

[11] Milosavljević, B., Boberić, D. and Surla, D. (2010), "Retrieval of Bibliographic Records Using Apache Lucene", *The Electronic Library*, Vol. 28, No. 4, pp. 525-39, http://www.emeraldinsight.com/journals.htm?articleid=1878366&show=html (August, 2011).

[12] Boberić, D. and Surla, D. (2009), "XML Editor for Search and Retrieval of Bibliographic Records in the Z39.50 Standard", *The Electronic Library*, Vol. 27, No. 3, pp. 474-95, http://www.emeraldinsight.com/journals.htm?articleid=1795983 (August, 2011).

[13] Milosavljević, B. and Tešendić, D. (2010), "Software Architecture of Distributed Client/Server Library Circulation", *The Electronic Library*, Vol. 28, No. 2, pp. 286-99, http://www.emeraldinsight.com/journals.htm?articleid=1853063 (August, 2011).

[14] Tešendić, D., Milosavljević, B. and Surla, D. (2009), "A Library Circulation System for City and Special Libraries", *The Electronic Library*, Vol. 27, No. 1, pp. 162–86, http://www.emeraldinsight.com/journals.htm?articleid=1771208 (August, 2011).

[15] UNIMARC manual, http://archive.ifla.org/VI/3/p1996-1/sec-uni.htm (August, 2011).

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