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Guidelines for electronic national bibliographies: are they needed?

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Abstract:

Electronic national bibliographies (ENB) (online and on CD-ROM) have been around since late 80's. They differ substantially regarding the functions supported, access points and indexes, and the user interface. One of the results of the European 'National Libraries Project on CD-ROM' in 1993 was the first example of guidelines for ENB. While partly outdated now due to development of computer hardware and software, they could still serve as a good starting point for new guidelines which are needed both for development of existing ENB and planning of new ones. The need for and areas of new guidelines for ENB are discussed.

1. Introduction

Project MARC can be seen as the beginning of a widespread use of electronic bibliographic records almost 40 years ago. Since then more and more national libraries were preparing the records of their national imprint in electronic form. Interestingly enough, the printed form was still the preferred form of national bibliographies and for very long the electronic records were only used to facilitate their production. The real change was brought by two important developments: the widespread use of CD-ROM and development of computer networks, which prompted the production of electronic national bibliographies (mostly) in addition to printed versions.

In 70's and 80's many national libraries were exchanging their bibliographic records on magnetic tape, some started to offer also online access to their data. In 1986, soon after the introduction of CD-ROM, British and French national libraries started a project with the goal of producing a national bibliography on CD-ROM, which would support both searching and copying of the records into local library catalogues (Smith and McSean, 1989). The test CD-ROM was ready in 1988 comprising two separate databases with 30,000 records each. British records were in UKMARC, French in UNIMARC. The interface was available in English,

French, German, and Italian. The test CD-ROM was widely evaluated and the majority of reactions were positive, stressing that the electronic version was much easier to use than the printed one.

2. 'National Libraries Project on CD-ROM'

The success of the early pilot projects prompted the European 'National Libraries Project on CD-ROM', which started in 1990 and was funded by European Commission (DGXIII/E) under its IMPACT program and the Consortium of seven participating national libraries (Smith, 1994, Salomonsen, 1993). The objectives of the project were (National libraries project on CD-ROM, 1993):

- to promote better and easier access by more users to European national bibliographies
- to promote economies in library cataloguing through an improved interchange of bibliographic records between European national agencies irrespective of different MARC formats
- to develop shared approaches to strategies, applications, and formats for bibliographic data (especially national bibliographic data) on CD-ROM.

The project was divided into nine Workpackages which illustrate the scope of the project:

- Definition of requirements for a retrieval interface for bibliographic data on CD-ROM
- Tools for MARC conversion
- Definition of a basic European character set
- Multi-lingual interface
- Online links from CD-ROM
- Linking CD-ROM to local library systems
- Menu interface for multiple CD-ROMs
- Production of pilot CD-ROMs
- Distribution mechanisms/marketing agreements.

The project was successfully finished in 1993.

After ten years some of the results of the project are outdated particularly due to the dramatic development of computer hardware and software: DOS has practically disappeared and due to the widespread use of the Windows environment graphical interfaces are taken for granted. A recommendation for development of a graphical interface is now therefore unnecessary. On the other hand we would now expect a recommendation that the interface should be consistent with other widespread computer applications particularly in the area of menus, symbols used and screen layout.

Many findings and recommendations are still valid, though. It is still important that the interface caters to the needs of different types of users. An important contribution was the identification of four distinct types of users (and needs): the acquisition librarian, the cataloguer, the reference librarian, and the end-user. They have different needs regarding functions, access points, indexes, and output. Acquisition librarians need to be able to obtain sufficient information on an item quickly to be able to order it; generally this is done using a simple search strategy. Cataloguers search mainly for known items for cataloguing support or copy cataloguing; they need to download records individually or in groups for subsequent editing. Reference librarians search for items using partial, sometimes incorrect, information. The same is true for end-users. Occasional, inexperienced users rely on on-screen help, which should be context-sensitive.

The importance of well designed online help was noted in the conclusions and it stays an issue.

Many countries used the findings and recommendations of the European project in the production of their own national bibliographies on CD-ROM mostly in addition to printed versions. All countries which publish their national bibliography on CD-ROM also offer the same data online, some as a separate database, others as a part of their national library catalogue.

3. CD-ROM vs. online national bibliographies

The advantages of CD-ROM are its low price, accessibility, widespread use, and independence from the speed, quality and price of computer networks. The biggest disadvantage of national bibliographies on CD-ROM (which they share with printed versions) is that they are never as current as online versions. They are updated from twice a month to only twice a year.

The publication of a national bibliography on CD-ROM is justified only if it offers functions and services that are not available elsewhere, for example:

- specially designed interface
- functions that are specific for the searching of national bibliographies
- several output formats
- downloading and export of records.

4. Evaluation of electronic national bibliographies

The abundance of different CD-ROM databases and end-user searching prompted a lot of research in the ways these databases should be evaluated. Interestingly many authors take an approach which is similar to evaluation of reference sources in general, stressing the data quality, coverage and authority. The evaluation of user interfaces, focusing on usability and user-friendliness appeared only in the 90's.

An example of evaluation of national bibliographies on CD-ROM was published by Žumer (2000). Interfaces of six national bibliographies on CD-ROM (British, Spanish, French, Italian, Czech, and Slovenian) were evaluated and compared according to a framework, taking into account general recommendations for user-friendly design. Several aspects of interfaces were observed: dialog characteristics, general intuitiveness of the interface, consistency, searching options, manipulation of results, and help facilities.

There are five areas in the evaluation framework:

- dialog
- navigation
- searching
- results
- help

Each of the areas cover an important aspect of user interfaces of national bibliographies on CD-ROM. Under 'Dialog' general characteristics of interfaces were covered: type of dialog, language of the interface, existence of several levels of dialog, characteristics of icons and menus. 'Navigation' covered the general intuitiveness of the interface, movement within the system, consistency of terminology, consistency with similar systems, information on current

state of the system. 'Searching' is the central function of information retrieval systems, therefore this area was the most extensive. It covered all characteristics of searching from access points, Boolean and other operators, truncation, and indexes available. Following was an overview of characteristics of search results and functions available: sorting, displaying of the results, printing and downloading, and formats available. The analysis concluded with a study of user help facilities: types offered and a discussion of their general quality.

In general both the functionality and interfaces of the national bibliographies studied were similar, the differences could be observed in details.

Interfaces of all the bibliographies studied were rated as relatively good. Their quality could be attributed both to the expertise and tradition of their publishers – national libraries. Obviously the long tradition of publication of printed national bibliographies helped in the design of interfaces of electronic versions.

Occasionally a problem with the general intuitiveness was observed; that could be improved with better designed dialog. Icons could be improved in their recognizability and external compatibility, as well as some of the menus. The absence of sorting facilities was noted as one of major limitations of result manipulation. On the other hand the options of user-defined formats and editing of the results offer interesting additional options which could be more widely implemented in the future. The availability of downloading in ISO 2709 formats proved that designers are aware of one important function of national bibliographies: import of records into local library catalogs.

Help facilities were, a characteristic commonly shared with other computer software, one of the problem areas, although some improvement was noted. It seemed that designers had assumed that electronic national bibliographies were only used by skilled users. Taking into account the broad international use of electronic national bibliographies this assumption is wrong. Therefore more effort should be invested into improving the existing interfaces to make them more intuitive, ideally quite transparent. This may be an unattainable goal because of general complexity of information retrieval systems, but could result at least in better context-sensitive help.

5. The need for guidelines

The final recommendations of the International Conference on National Bibliographic Services (2002) already acknowledge that national bibliographies can be distributed in different formats: "Given the availability of a variety of formats with which to distribute the national bibliography national bibliographic services should use one or more as appropriate to meet the needs of their users,..." (Recommendation no. 6). No recommendation specifically applies to electronic versions. Recommendation 10 generally states that "the bibliographic records included in the national bibliography should be based on internationally recognized standards and be arranged in an appropriate manner and with access points which satisfy the needs of the users, in accordance with the characteristics of the format(s) used for distribution."

Many national bibliographic agencies have already started publishing national bibliographies in electronic form (online, CD-ROM or both). They would need guidelines in the future development. But the guidelines would be even more important for those who are in the planning process.

The most important goal of all computer programs is to serve the needs of their intended audience in an appropriate and user-friendly way. It is therefore essential to define the functionality required and to know the specific needs of the intended users.

It is a big disadvantage of the system if the functions offered are too numerous or too complex, therefore the needs have to be studied and only essential functions have to be included in the system. Although there are similarities between library catalogs and national bibliographies, the differences have to be noted. There are specific requirements for searching national bibliographies and they have to be applied. The results of 'National libraries project on CD-ROM' can be a good starting point in the definition of four user groups and their needs. The models are relatively simple and the interfaces should follow them.

On the other hand more emphasis should be given to the standardization in interface design. It should include adherence to guidelines and application of good practice which has proved to be effective. Users do and will always have to adapt to different systems, but they should not fail to achieve effective interaction as a consequence.

The most important areas of future guidelines for electronic national bibliographies are therefore:

- **definition of basic functions** (browsing, searching, presentation and manipulation of results)
- **access points and indexes**
The fields which are essential for searching and should therefore be 'mandatory' access points.
- **authority control**
The way authority control is implemented and for which access points. Future results of FRANAR are very important in this context.
- **guidelines for interface design**
In addition to general guidelines, applicable to all application software some specific guidelines could improve consistency. Guidelines should cover both screen layout (and use of fonts, colors...) and dialog characteristics (menu design, search forms...)
- **guidelines for record display**
Future results of IFLA Working group for Guidelines of OPAC displays could be used.
- **standards**
Compliance with national and international standards is recommended already in Recommendation 11. More specific guidelines would be needed e.g. for metadata, permanent naming of digital objects etc. In addition, adherence to standards is essential to enable interoperability.
- **interoperability requirements** (including multilinguality)
More and more electronic resources are used either as targets for distributed searching or are indexed centrally to enable users simultaneous searching of different resources. In order to enable that, certain standards have to be implemented (e.g. Z39.50, OAI protocol for harvesting metadata, ZING SRU (Search and Retrieve via URL...)).
The databases are also in different languages which is a big obstacle particularly in subject access. Some projects (e.g. MACS) are aiming to provide multilingual subject access to library catalogues.
- **direct access to digital objects**
National bibliographies will increasingly include records for electronic resources which will enable them to become access tools.

Last but not least: FRBR (Functional Requirements for Bibliographic Records, 1998). Recommendation 12 of *The final recommendations...*: "National bibliographic agencies should adopt the components of the Basic Level Record recommended in the final report of the IFLA Study Group on the Functional Requirements for Bibliographic Records". This recommendation only applies to the extent of the bibliographic record. Goal 1 of the Strategic Plan 2001-2003 of the IFLA Cataloguing Section is to "promote the Functional Requirements for Bibliographic Records (FRBR) study and its recommendations, and take follow-up action to develop new descriptive standards for access points and to develop a new approach to the bibliographic universe". FRBR was enthusiastically received by librarians worldwide, but mostly only as a theoretical model with little or limited practical use. Only recently a change has been noticed: research focused on implementation of FRBR (e.g. INWECA Expression of Interest, Žumer et. al. 2002) and first prototypes of FRBR-based catalogues (e.g. Chachra, 2002). Shouldn't electronic national bibliographies be the first testbed?

References:

CHACHRA, Krisha. *VTLS Inc. announces FRBR implementation* [on line]. Blacksburg, Virginia: VTLS Inc., June 14, 2002
<http://www.vtls.com/Corporate/Releases/2002/20020514b.shtml>.

The final recommendations of the International Conference on National Bibliographic Services .2002. <http://www.ifla.org/VI/3/icnbs/fina.htm> (17. 4. 2003)

Functional requirements for bibliographic records: final report .1998. München: Saur.

IFLA Cataloguing section. Strategic plan, 2001-2003,
<http://www.ifla.org/VII/s13/annual/sp13.htm> (20. 4. 2003)

National libraries project on CD-ROM. 1992. *Common approaches to a user interface for CD-ROM. Specification of requirements for a common retrieval interface for national bibliographic data on CD-ROM*. Copenhagen: British Library/Royal Library.

National libraries project on CD-ROM. 1993. *Definition of requirements for a retrieval interface for bibliographic data on CD-ROM (Workpackage one) Final report*. Copenhagen: Royal Library. CDBIB/WP1/RLD/DE/12.

SALOMONSEN, A. 1993. The European national libraries cooperative project on CD-ROM: Results, experiences and perspectives. *Alexandria*, vol. 5, no. 3, p. 193-200.

SMITH, R., & MCSEAN, T. 1989. Planning and producing the British National Bibliography on CD-ROM. *Program*, vol. 23, no. 4, p. 395-413.

SMITH, R. 1990. National libraries project on CD-ROM. *The Electronic Library*, vol. 8, no. 6, p. 412-414.

SMITH, R. 1994. National Bibliographies on CD-ROM: Development of a common approach. *International Cataloging and Bibliographic Control*, Jan. / Mar. 1994, vol. 23, no. 1, p. 15-18.

ŽUMER, Maja. 2000. User interfaces of national bibliographies on CD-ROM : results of a survey. *Program*, vol. 34, no. 3, p. 281-290.

ŽUMER, Maja ; HUSBY, Ole ; MATEI, Dan ; JØRGENSEN, Poul Henrik. *Network of excellence: INWECA (Implementing the New WEb CAatalogue)*: expression of interest. 6th June 2002. http://eoi.cordis.lu/search_form.cfm