Usability and responsibility

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1. Introduction

This paper examines some traditional information searching methods and their role in Hungarian OPACs. What challenges are there in the digital and online environment? How do users work with them and do they give users satisfactory results? What kinds of techniques are users employing? I am going to examine the user interfaces of the UDC, thesauri, subject headings, etc. in Hungarian libraries in this paper. The key question is whether a *universal system* or *local solutions* is the best approach for searching in the digital environment.

The possibilities of integrated systems mean not only automated processes within libraries, but also shared catalogues linking different library systems and extending resources considerably. For users, *shared catalogues are the realization of the distributed library.*

When integrated library systems appeared, these questions arose:

- How do earlier methods like classification and retrieval systems apply in the new environment?
- How can users avoid the confusion arising from more user interfaces in the OPAC environment?
- How can maximum satisfaction be obtained from information retrieval systems and management of knowledge in organizations?
- Do we keep any or all parts of earlier and classical information retrieval systems or abandon them?
- Different search techniques (conceptual, object-based, browser-based) apply to various levels in the same record. Is it worth separating these different techniques into different fields of the record? Or would it be better to compare them and establish “new” information retrieval language dictionaries from the separate segments?

On the list above is one apparently *unreal question*: Do we keep any or all parts of earlier information retrieval systems or abandon them?

It would seem *we must keep* them, because as things stand we cannot manage information effectively.

There are five possibilities:

- compare the outcomes of different search techniques and establish “new” information retrieval language dictionaries from the separate segments of concepts;
- transform and reconstruct existing systems according to current needs;

- change information seeking technology and devise new types of search engines. For instance, one could combine the UDC codes (or any hierarchically structured, universal system) with some new technological solution. The Totalzoom technology is only one possibility, because it would be able to map and spatially display hierarchy, tables, codes, and common and special auxiliaries. This method not only would manage the UDC codes in OPACs, but it also could integrate other structured databases, especially hierarchically structured ones. Naturally we can use other methods that are able to visualize information systems. All possibilities should be given a trial;
- combine the previous three solutions;
- combine the information retrieval languages (e.g. thesaurus based on UDC) and build upon the advantages of the former system. Generally we use them alternatively.

2. Why the UDC?

I have spoken about it, but I think to revive memory of these points very important. I have studied only the UDC in different OPACs and Internet databases, although any similar structured, hierarchical and universal system would be suitable. The use of classical classification methods is a strong tradition in Hungary. One of the most widely used systems has been (and still is) the UDC.

What advantages has the UDC?

- Universal system. Standardization.
- Meaningful notation.
- Clarity and transparency.
- Rich network of relationships.
- Well-defined categories.
- Ability to describe special and .general concepts with free movement between the different levels.
- Efficient retrieval, relevant hits.
- A long tradition, found widely in many libraries – as the result of Szabó Ervin´s activity, librarians knew and used the UDC very early, and most libraries use it today.
- The concept system is our common cultural heritage and value.
- Significant potential.
- Well-developed hierarchies, able to visualize information and conceptualize it independently within its structure [Hajdu Barát, 2004 A].
- Last, but not least: UDC is nice. With a nice philosophy, a rich collection of concepts, clear principles, understandable structure, easy to survey, and logical relationship.

You can see the structure and can visualize the relationship in the UDC (see Figure 1). There is the Ural-Altaic language group in the UDC and although you don’t know the language (it is Hungarian) you are able to understand the concepts and relationships.

Figure 1. ***Structure of Ural-Altaic language group in the UDC*** **[Egyetemes 2005, p.20]**

=51 Urál-altaji (turáni) nyelvek

=511 Uráli nyelvek
=511.1 Finn-ugor nyelvek
=511.11 Finn nyelvek
Utolsó revízió: 1997. 10. hó
=511.111 Finn
=511.112 Karél
=511.113 Észt
=511.114 Livón
Új jelzet! Bevezetés: 1997. 10. hó
=511.115 Vepsze
=511.116 Vót
Új jelzet! Bevezetés: 1997. 10. hó
=511.117 Ingri (nyelv)
Új jelzet! Bevezetés: 1997. 10. hó
=511.12 Lapp
=511.13 Permi nyelvek
=511.131 Votják. Udmurt
=511.132 Zürjén. Komi
=511.14 Ugor nyelvek
=511.141 Magyar
=511.142 Osztják. Hanti
=511.143 Vogul. Mansi
=511.15 Volgai nyelvek
=511.151 Cseremisz. Mari
=511.152 Mordvin
=511.152.1 Erzä
=511.152.2 Moksa

UDC's potential

There is marked interest in the UDC's potential to assist growing numbers of Internet users. The UDC can play a role of integration in knowledge organization. Thus the answer to the earlier "unreal question" is "Definitely, yes!" We should keep the UDC in our retrieval systems. However, this answer brings with it some other questions:

- Are there any methods that can search hierarchies while changing levels easily?
- Will the UDC codes become more user-friendly?
- Can we utilize the powerful structure of UDC in OPACs or other electronic environments?
- Should UDC codes become non-terminal scores, and can that structure show the way to retrieval? [Hajdu Barát, 2004 B, 175]

Minimum expectations are:

- Users should be able to navigate easily and unequivocally in permanently variable circumstances.
- Not only librarians but users should be enabled to work and search with UDC codes.
- A user-friendly and user-oriented system is needed.
- The expertise, craft, knowledge, and practice of librarians, professionals and scientists should remain important in the UDC system and UDC MRF.
- User satisfaction is a general expectation and topmost priority. [Hajdu Barát, 2004 B, 175]

We have heard several times from the leaders responsible for libraries that if the users use the IRL they will keep them, e.g. UDC codes; if they don't, the management will leave them. Usage and satisfaction are the keywords. The *quality and perfection* of hits don't determine these decisions. It is our responsibility to focus on these elements.

3. Visual Imagery + visualization = usability

User interfaces are "communicational surfaces" or channels between human information researchers and information retrieval systems. Relevant and irrelevant, clear and not clear, sufficient and adequate… – these are the worlds to which information-seekers are accustomed, particularly on the Internet. When users approach a known or unknown information system they often feel a muddy and fuzzy understanding of the system's basic operation. They may be satisfied without knowing any advanced functionality like archiving their results. They cannot see the whole cake, but rather only one small piece.

Visual imagery plays an important mental or intellectual role, quite like information (or data) processing, memory, learning, abstract thinking, and linguistic comprehension. Visual perception is a complex process. Visualization begins with the sensation of physical stimuli, but after that it becomes quite individualized. Perception depends, for example, on experience, knowledge, cognition, or one's system of symbols. The process is an explicit, multilevel and symbolic work of the mind.

Images and Visual Information

People are easily attracted to images and visual information. Pictures, graphics, menus, icons, buttons, graphs… etc. can help users understand, navigate, and query information systems. Information-retrieval systems equipped with computer graphics provide more accessible interfaces.

Hereinafter, I focus on the Hungarian user interface and the role of UDC in the various integrated library systems (ILS) in use in Hungary. The role for visualization with UDC takes many forms.

Possibilities of searching UDC codes

- Simple Levels (see 3.1)
- Translation for subjects or index forms (see 3.2)
- Lead the users to continue their searching with links (see 3.3)
- One solution outside Hungary Catalogue Openbare Bibliotheken Antwerpen (see 3.4)

3.1 Simple Levels

3.1.1 Searching UDC codes is impossible

Unfortunately there are several libraries which abandoned work with UDC after the beginning of OPAC. This article does not study these catalogues.

3.1.2 Searching UDC codes is impossible, but we can browse them

Example:

OPAC of the Pázmány Péter Catholic University
(http://hunteka.itk.ppke.hu:8080/jak/index.jsp?page=browse)

Users can query title, author, place of publication, publisher, subjects… etc. The UDC code is not searchable, but hits show UDC codes in the record. This is the case with the TINLIB system in use at Pázmány Péter Catholic University (see Figure 2).

You can browse via UDC codes and see all used UDC numbers in the collection (see Figure 3).

Figure 2. ***OPAC of the Pázmány Péter Catholic University***

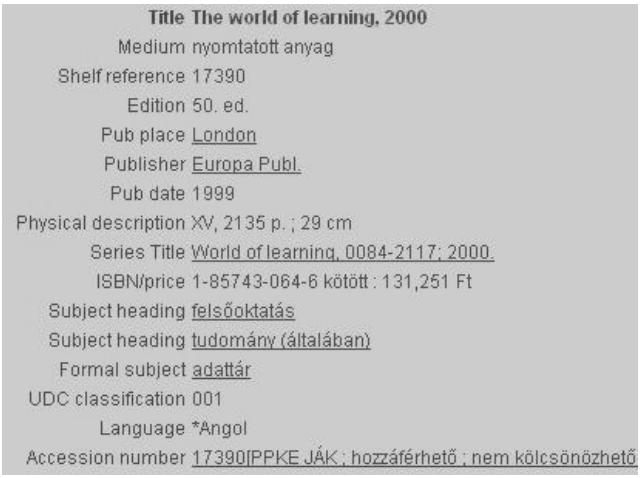
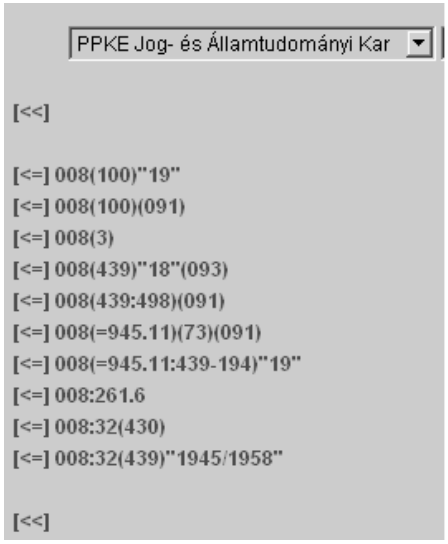


Figure 3. ***Browser in the same OPAC***



3.1.3 Searching UDC codes is possible

Example:

OPAC of the National Széchényi Library (http://www.oszk.hu/index_hu.htm)

In the system of the National Széchényi Library, AMICUS software is in use, and users can search for concrete UDC codes, usually by exact, complex and high standards.

The elements and fields searched appear highlighted in red[1] (see Figure 4). Software vendors have not incorporated all levels of the classification hierarchy into the integrated library systems. For instance, if we are looking for 51 Mathematics, the hits show only the records with the 51 codes accurately. Hit lists exclude 510 Fundamental and general considerations of mathematics, 511 Number theory, 512 Algebra, 514 Geometry …519.1 Graph theory, 519.878 Search theory. This is unsatisfactory and in opposition to the philosophy of UDC, because hierarchy disappears from this solution.

[1] Figure 4 is reproduced here in greyscale: please note that the entry highlighted in red (in the original screen) is “943.6” under the heading “Classification”

Figure 4. ***OPAC of National Széchényi Library***

Main entry:	Poór János, 1953-
Added entry:	Nagy Béla. ill.
Title:	Az osztrák örökösödési háború Poór János [a térképeket rajz. Nagy Béla].
Publication:	Budapest Maecenas cop. 2006
Physical Description:	227, [11] p. 19 cm 2 térk.
Subject:	történelem. 18. század. hadtörténet.
Classification:	7 943.6 "171/174" 940 "171/174" 355.48 (4) "171/174"
ISBN:	963-203-146-6 fűzött
Location:	B1
Self list number:	B 203.843 MB 203.843

There are some OPACs that use UDC codes with the complete hierarchy to a maximum length (3–4 numbers, 1–2 auxiliaries).

3.2 Translation for subjects or index forms

3.2.1 Simple translation

Example:

Hungarian Electronic Library (http://mek.oszk.hu/00700/00769/html/eto056.htm)

In some databases and catalogues, UDC codes are translated into searchable subject terms. Although this is very convenient for users, the terms lose every advantage of UDC classification (see Figure 5).

Figure 5. ***One part of MEK (Hungarian Electronic Library)***

629.546.2
M: *Ömlesztett árut szállító hajó*

629.546.4
M: *Ércszállító hajó*

629.546.6
M: *Érc-ömlesztett áru-folyadékszállító hajó*

629.55
M: *Folyami (folyó és csatorna) vízijármű*

629.552
M: *Folyó- és csatornakomp*

629.553
M: *Folyami és csatorna- utaszállító (séta-, kiránduló)hajó*

3.2.2 Structured Translation

Example:

National and University Library of Debrecen
(http://fulltext.lib.unideb.hu/weblist/intranet/eto/kategoriak.php3)

Corvina software is used in the National and University Library of Debrecen (DEENK). In its "Subject Category System" there are many graphically structured sites and sub-sites with UDC concepts in natural language form. Users can search several databases and several types of documents together.

They can see their hits before clicking the links to full descriptions of records (see Figure 6). This solution helps users to refine their searches by narrowing or broadening them. This is a clearly useful capability given subjects that are not highly esoteric.

They can see a hit by the UDC code in the OPAC, but it is only a result and they cannot advance except by the name of author and participants (see Figure 7).

Figure 6. ***OPAC of DEENK***

Figure 7. ***Hit in the same OPAC***

3.3 Lead the users to continue their searching with links

In some systems UDC codes are searchable and it is possible to take further steps. Users navigate subject relationships via links and interactive forms. Searchers can combine different subject terms, classification codes, descriptors and bibliographic elements. They have the flexibility to refine strategy or revise their search completely as they go.

3.3.1 National Document Supply System (ODR) (http://odr.lib.klte.hu/corvina/odr/wpac.cgi)

This system uses relatively simple, searchable UDC codes. The search history that is displayed following the actual hits helps guide searchers toward more relevant results (see Figure 8). Unfortunately not every field contains searchable links, including the UDC codes. Searching UDC codes results in translations to subject terms, which can be feedback into the search to refine it. One can combine keywords and subjects in the same search, for example Classification – books and Classification, Universal Decimal. Locations for hits are displayed as well (see Figure 9).

Figure 8. ***Hit in database of ODR***

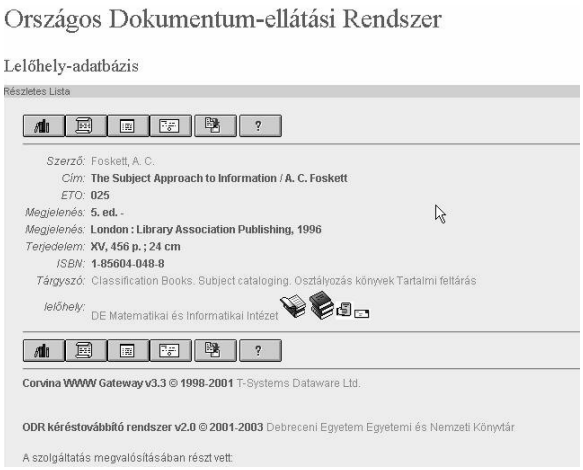


Figure 9. ***Database of ODR***

3.3.2 University Library of University of Szeged (SZTE)
(http://opac2.bibl.u-szeged.hu/szteek/opac)

With Corvina software, UDC codes are searchable here, too. The codes are very relevant, complex and well constructed, as this institute has a great tradition in the field of classification and has specialized in using the UDC system in catalogues. One drawback is that refining the search using UDC codes is not available. There are two parallel screens, the first column with hits and the second with the full record in different formats (see Figures 10 and 11).

Figure 10. ***Hits in the OPAC of SZTE***

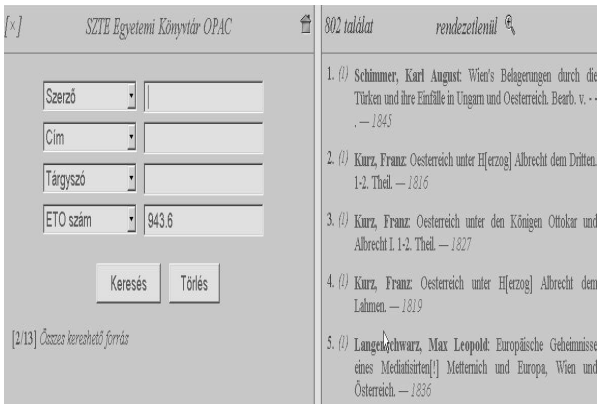
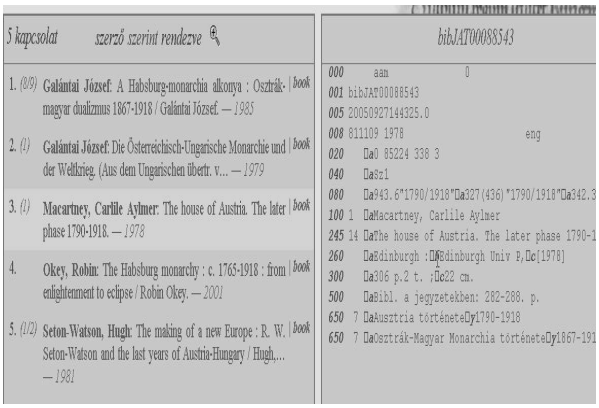


Figure 11. ***Marc format with UDC code***



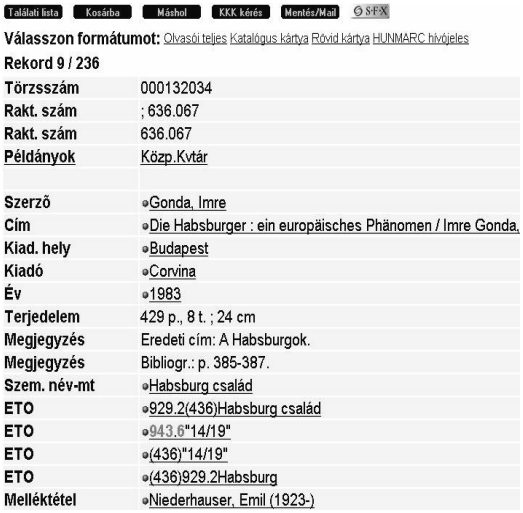
UDC codes participate in only the MARC and XML forms and are not in every type of record. There are links for refining the search but the UDC codes are not searchable at this stage or after, although subjects, authors, titles, etc., are.

3.3.3 Library of the Hungarian Academy of Science (MTA)
(http://ds20e.mtak.hu:4545/ALEPH/RG29V7DB6NR1V37IEEHQ9H97P1IQSTF3Y7TQRUBGGND6BEFPIM-00691/file/start-0)

One of the best applications of UDC codes in an electronic environment in Hungary uses the Aleph system. High-standard, searchable UDC codes are used (see Figure 12). One can refine the search with the help of hits and the flexibility to combine different elements of descriptions (see Figure 13).

One can browse and search with UDC codes as well as with classification terms. The searched parts of records are visible and lead the searcher to further steps. Naturally, locations for hits are displayed.

Figure 12. ***Hit in the OPAC of MTA***



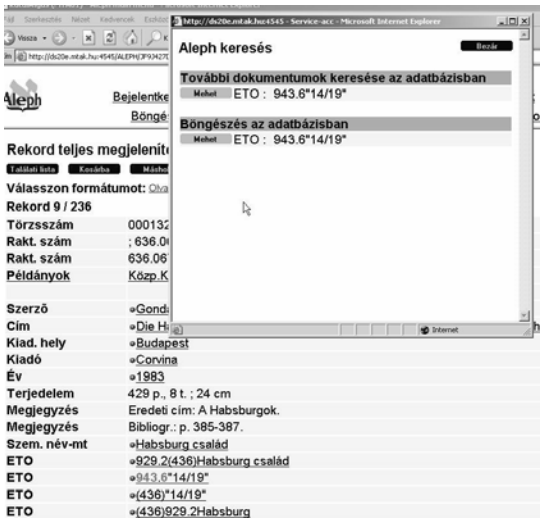
Találati lista | Kosárba | Máshol | KKK kérés | Mentés/Mail | SFX

Válasszon formátumot: Olvasói teljes Katalógus kártya Rövid kártya HUNMARC hívójeles

Rekord 9 / 236

Törzsszám	000132034
Rakt. szám	; 636.067
Rakt. szám	636.067
Példányok	Közp.Kvtár
Szerző	Gonda, Imre
Cím	Die Habsburger : ein europäisches Phänomen / Imre Gonda.
Kiad. hely	Budapest
Kiadó	Corvina
Év	1983
Terjedelem	429 p., 8 t. ; 24 cm
Megjegyzés	Eredeti cím: A Habsburgok.
Megjegyzés	Bibliogr.: p. 385-387.
Szem. név-mt	Habsburg család
ETO	929.2(436)Habsburg család
ETO	943.6"14/19"
ETO	(436)"14/19"
ETO	(436)929.2Habsburg
Melléktétel	Niederhauser, Emil (1923-)

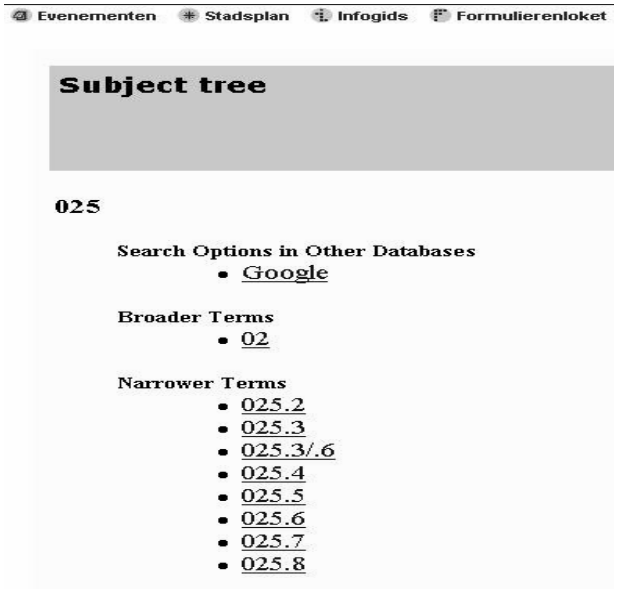
Figure 13. ***Browse with help of hit***



3.4 One solution outside Hungary - Catalogue Openbare Bibliotheken Antwerpen (http://bibliotheek.antwerpen.be/MIDA/)

This system helpfully guides users to narrow or broaden their concepts and topics (see Figure 14). Subject hierarchy is apparent and formatted attractively. The structure (classes, subclasses and subdivisions) is clear and classical. This solution is expressive, keeps the UDC tradition, but depends upon the users' patience and/or knowledge. One feature is simultaneous searching in separate databases.

Figure 14. ***Browse in the OPAC of Bib***



4 Conclusion

The UDC is an artificial information-retrieval language. Users who do not know the semantics of classification codes encounter difficulties and, in the past, reference librarians were the

chief aides to users and visitors in information seeking. Today searchers also use catalogues and databases unmediated via the Internet; therefore, the databases themselves should help users in information retrieval. In the extreme case, databases might take over the tasks of reference work by exploiting the strengths of visualization (structure, methods, different search engines etc.).

Most solutions involve OPACs. There is a wide variety of ways of using UDC codes in combination with subject terms and other elements of descriptions. We should study these varieties and discover which methods, especially visualization-related ones, will make OPACs more user-friendly and effective. This paper raises only the classical possibilities. However, the relationship between usability and visualisation is fundamental. From among all the varieties of visualisation methods, librarians and information specialists should intensively seek the best and most effective way forward.

Our personal responsibility is significant, too. We should find the best solution, combine modern visualization solutions and common values, knowledge etc. There is so wide a variety of quality of searching UDC codes that there would even be differences in the same integrated library systems. Usability doesn't depend on the type and tradition of usage of UDC. We have to await a high level solution of UDC visualization in different systems, because there is a good chance of keeping our value. Thinking of my favourite flower, the nice, small, blue flower "forget-me-not": should we not forget our responsibility!

References

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[End]