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Towards an Internet Based Information Portal for Berlin and Brandenburg

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Abstract

The Cooperative Library Network Berlin-Brandenburg (KOBV) has set the development of a genuine library information portal for the two German Lander (federal states) Berlin and Brandenburg as its main task for the next years. This joined effort is driven by the vision of an user friendly Internet information portal which is accessible anytime, from anywhere in the world. The idea of a regional information portal can be understood as the logically consistent development of the basic ideas of the KOBV. Starting in 1997, the consortia has set the implementation of a virtual OPAC instead of a physical union catalogue as its goal. The result was the KOBV-Search Engine which already has some qualities of a portal itself.

The paper begins with initial remarks about the German library world, which do form the background for the project and its initiator - the KOBV consortia. After this preliminary part, different types of portals are introduced. The basic features of the KOBV-Search Engine as one of the cornerstones of the future portal are discussed in the following. The information portal will be much richer in content and services for the end-user. Two aspects are focused on in more detail: the presentation of resources, which becomes a compelling requirement because of the broader range of content and the personalization of services, as one important feature to suit user's individual needs.

Keywords: Bibliotheksverbund, Digitale Bibliothek, KOBV, KOBV-Informationsportal, Kooperativer Bibliotheksverbund Berlin-Brandenburg, Portal

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Library Consortia in Germany

The Cooperative Library Network Berlin-Brandenburg (KOBV) has set the development of a genuine library information portal for the two German Lander (federal states) Berlin and Brandenburg as its main task for the next years. This joined effort is driven by the vision of an user friendly Internet information portal which is accessible anytime, from anywhere in the world. The idea of a regional information portal can be understood as the logically consistent development of the basic ideas of the KOBV. Starting in 1997, the consortia has set the implementation of a virtual OPAC instead of a physical union catalogue as its goal.

Traditionally the Lander are responsible for the funding of library consortia. Set up in the seventies of the last century, these library consortia with their union catalogues are the successor organizations of the central card catalogues, which existed in each federal state as the regional basis of the national interlibrary loan policy. However, instead of having one consortia in each Land, there are manifold agreements of cooperation. Today there exist six library consortia in Germany.[1] The biggest German coalition in this field is the Gemeinsamer Bibliotheksverbund [Common Library Network], which covers seven federal states. Located in the very northeast, the Cooperative Library Network Berlin-Brandenburg (KOBV) is one of the smallest library consortia. The relation between all these autonomous networks is characterized by various, continuous collaborations.

More than 20 organizations including academic as well as public libraries are joined together in the KOBV, which is funded by the Lander Berlin and Brandenburg. Moreover, two independent associations of public libraries in the area were won as partners. In principle, all libraries are welcome, regardless of their type (academic, public, research), size or specialization. This regional consortia is supported by a small central office at Konrad-Zuse-Zentrum for Information Science (ZIB), which is an internationally renown research institute for applied mathematics in Berlin. The consortia's service unit consists of both librarians and computer scientists.

Information Portals

What is an information portal? Literally the term portal [Latin: portico] describes the large imposing entrance to an important building. In the figurative, abstract sense a portal is the point of entry to different areas of information. The history of such information portals is rather short. However, from the very beginning there was a clear trend towards individual views. In 1996, the Internet service provider Yahoo has started with its concept of individual customized link selections (MyYahoo). By this concept Yahoo was proposing to be a major starting site for users when they were getting connected to the Web. In case of Yahoo typical services were including: a directory of web sites, a

tool for searching for other sites, news/weather information, e-mail access, phone and map information, community forum. Soon other providers such as Netscape have embraced the idea of personalized sites. Two years later, in 1998/1999 the model has reached the business world. Enterprise information portals were set up in various companies. In 2001 the National Library Day in Bielefeld city, which is the leading conference of this kind in Germany, has held „Libraries – Portals to global information“ as its motto. Then also libraries were planning portal solutions, as an promised answer to the new challenges that the users are facing today.

Let us imagine a novice user nowadays who is looking for information about a certain problem in the Internet. He will face information resources in abundance, including free as well as licensed material. In this flood of information it could be a challenging task to find a central starting point and to locate the relevant resources for an area of interest.

Once he has discovered a relevant Internet resource such as a subject gateway, a database or a library OPAC, he has to learn a new interface and a new query language. Afterwards, he would like to compare the results retrieved from the different sources. Unfortunately, this is not an easy task, as not only the query language but also bibliographical formats are varying a lot. Vendor specific are often also the links which do lead to similar documents. The same is true for the sphere of document delivery. Of course, the global commercial players in the information market will rather connect to the own pay-per-view service than to a possibly more economical one of a certain library. In the end of such a retrieval, the user would wish he could save not only the search results but also his queries and visited databases in a search history for future efforts.

In this situation of overwhelming information, the information portals are making an attempt to help the users by offering a central framework to search heterogeneous resources via a single interface.

In general terms, a portal can be described as an integrated system featuring manifold services and heterogeneous resources under a single interface. In the library context a great variety of resources could be taken into account from the OPAC of a library to a document server maintained by a university and not to forget the licensed databases. Technically, a portal system has to deal with retrieval software from different vendors. Finally, the user virtually walks through the portal and easily explores different areas of information. The seamless integration of these “areas” is the true achievement, which adds value for the user.

Classification of Portals

In the world of libraries two types of information portals are rather often to be seen: horizontal and vertical portals.[2] Portals on the horizontal - abbreviated hortals - are covering a wide range of resources and services. They are usually built by the university libraries for the students and the staff

of the own establishment. However, the researcher's ties with his library, his university and research institute is getting looser the more publications are digital accessible from any point in the Internet. As a result, the university libraries are not only promoting their own services but acting as agents for external resources as well.

In a vertical plane to the attempts of the universities are situated the subject portals or gateways. Sometimes they are called "vortals" (vertical portals) in the literature. These are dedicated to experts in a particular subject by referring to resources and services of a particular discipline.[3]

Doubtless, the information portal of the KOBV will be the equivalent of an horizontal portal on a regional level. Aiming at the general improvement of the regional information infrastructure, its target group is characterized by the place of residence and therefore, naturally, this group is much more heterogeneous than in a university or subject portal. Without question here the resources of the partners that will be integrated. A holistic bundle of services is planned; ideally, the whole chain of information management starting from the resource discovery process to a document delivery request should be available in one-go within the same interface.

Nevertheless, the relationship between the many local portals and their vertical counterparts still needs to be defined. This ongoing discussion is guided by some general principles which were set up in the KOBV consortia in the very beginning. These basic ideas are borrowed from the philosophy of the Internet which is openness and decentralization. Applied to a system design that means to foster strong local units and to guarantee an open architecture by standard communication protocols (such as Z39.50, WWW).

KOBV-Search Engine as one Cornerstone of the Portal

The information portal of KOBV will probably base on several pillars. One corner stone will be the existing KOBV-Search Engine. This search engine itself – which was implemented with the help of the international company Ex Libris – has already some characteristic features of a portal system.

In 1997, KOBV consortia decided to dispense with a physical union catalogue in favor of a virtual OPAC. This choice is unique within the German library scene. The main reason for this unusual decision lay in the existing heterogeneity. The library scene in the two Lander Berlin and Brandenburg was fragmented in many respects. The institutions worked with different library management systems, were using different cataloguing rules and classification schemes and were not willing to give up their local independence. On the other hand, for the benefit of the user, a unified access to all the library holdings in the region was necessary. This should have been realized virtually with the help of a search engine.

Finally, the first version of this KOBV-Search Engine was available in 1999. Last year in November, the Search Engine was replaced by a second more powerful version. As a universal gateway, the KOBV-Search Engine allows a simultaneous broadcast search in heterogeneous catalogs. From the user's perspective the KOBV-Search Engine is hiding different information management systems under a single interface.[4]

[figure 1: KOBV-Search Engine - Home http://www.kobv.de/search]

In a concrete workflow, the user formulates his request and selects the catalogues he likes to search in. He is interested, for example, in material about "digital libraries". So he enters the corresponding search terms in the title field and checks his favorite catalogues. The search query is now automatically translated into query language of the targets. In most cases, the communication is based on the standard protocol Z39.50, which can be regarded as a kind of Esperanto among all the different query languages. While the request is processed, different status information are displayed, such as "still searching" or "fetching results". If one of the remote targets is temporarily not available, an error message appears. As soon as the first system responds, the first results are available. By clicking on one of the active tabs, the user gets to the short title information.

The bibliographical data could be sent back in various formats and character sets. Due to an internal conversion process, the short title display looks always the same. The distributed heterogeneous environment is unseen. From the short title information there is the option, either to go to a full view or to link to the original source. The later is a deep link into the database, where the particular record was retrieved. Clicking on this hyperlink, all the connected services offered by the external remote provider are available, for example special document delivery services.

The KOBV consortium originally started with a complete distributed conception. However, due to performance reasons, a central shared index storing bibliographical records was build additionally. It is worth mentioning that the KOBV partner libraries are willing their data to be stored in the shared index not at least because, through that, their information is found also by other Internet search engines and portals which normally search mainly large databases.[5]

Towards a true Information Portal

Whereas the KOBV-Search Engine integrates only “free” bibliographical databases such as library OPACs, the future information portal should be an entry point to all types of resources and media, including those which are liable to pay costs. Of course, access to licensed material should only be given to authenticated and authorized users. In this context, a conception for a remote, decentralized authentication is needed (idea of a single login). Besides an extension of the scope of resources to be integrated, additional service components are planned. Presumably the most important task for the new portal is to become a focal point for interlibrary loan services both within the area Berlin-Brandenburg and in the national cooperation. In the case of articles, a document delivery system could be conceived.

The Presentation of Resources

Which resources exactly will, in the end, be searchable via the KOBV information portal is still under discussion. Actually the number of targets will grow clearly. The richer the content of the portal, the more important becomes the question of organization, presentation and ranking of the resources themselves.

For the time being, the answer to this problem within the KOBV-Search Engine is a database of databases. This database is storing metadata about resources. An ideal set of metadata includes a formal description as well as classification marks. This means, for every OPAC there exists a record with a description of the library collection, including formal aspects as well as keywords and subjects. On this basis, the user can retrieve relevant library catalogues for his particular interest.

Concerning the KOBV Internet portal, a similar approach is conceivable for a broader range of resources. In this context a resource is understood as a collection of items. In a hybrid environment such as today's libraries, there are both virtual - like an aggregation of E-journals or links - and physical collections - such as a collection of printed books.[6]

The KOBV partners have raised several arguments in support of a regional catalogue of resources as part of the portal. It was stated: in consideration of shrinking budgets a single library is not in the position anymore to suit all his user's needs alone. Especially in a relatively small area, such as Berlin-Brandenburg, with a good public infrastructure cooperation between the libraries is what the user would have wished. On the other hand, libraries often do not know which electronic resources (including CD ROMS, licensed and free databases in the Internet) they exactly have access to. This situation is found especially in big institutions or university library systems with numerous rather independent branches. These arguments have mainly in mind the information about the existence of resources in a certain region. A significant progress and additional service would be a pre-selection of resources for example according to subjects or types, implemented on the basis of a database. The important point is, that this a valuable service also, if the resource is not fully integrated in the search but first of all appears as a link only to the original search interface.

The Personalization of Services

Which resource in the end turns out to be really relevant is up to the user's decision. It might depends on several aspects: the area of interest, the position of the user (he could be an expert in the field or a novice), his personal rights (an access could be allowed or denied), the language (a collection could comprise material in a language that the user does not understand) and many other considerations.

Personalized services are one attempt to suit the requirements of these different needs. By a reduction of the information overload, the personalization achieves a new shift away from the objects, the resources, towards the subject which is the user. As mentioned in the beginning, individual views were one of the major features of Internet portals, such as Yahoo, with the obvious motive to strengthen the customer relation. For a nonprofit information portal, with a regional orientation, it is not yet clear to which extent the trend towards personalization could be followed.[7] In this context, some aspects of the ongoing conceptual discussions will be presented.

For the KOBV information portal, one can think of two types of personalization: views according to a group and individual selections. The perspective of an institution such as a KOBV partner library can be understood as a group view. Especially small libraries in the region do not have the manpower to build and maintain their own institutional portal. For them, a customized view of the KOBV Internet portal, could possibly serve as a solution.[8] Such a view would include a tailored selection of resources and services and, of course, an individual interface design.

Supplementary are standing the selections by individual users. Of course, the user wants his own selection of resources and services according to his interests. He wants to save his search history, edit his results lists. Moreover, desirable are profile services such as active alerting systems informing

about new documents in a special area of interest regularly. Briefly, the user wants his own environment in the generic portal. However, in future there might be the risk of an explosion of portals with personalized "working places", which do not necessarily add to the user's comfort.

Additional to the personalization concepts mentioned before, further services are conceivable: such as more interactive components giving the portal community the option to communicate. A kind of community review process of certain material could be supported. These options are not yet discussed for an universal portal.

With the integration of resources, as well as services, the KOBV information portal is aiming at the improvement of the general information infrastructure in the two German Lander Berlin and Brandenburg. According to the project schedule, the information portal will start its operation by the second half of 2003.

For further information on the KOBV consortia and its projects please visit http://www.kobv.de

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[1] In geographical order from north to south the six German library consortia are :

- Gemeinsamer Bibliotheksverbund (GBV) [Common Library Network]; Central office in Göttingen; Partners of cooperation: The federal states Niedersachsen, Sachsen-Anhalt, Thüringen, Hamburg, Bremen, Mecklenburg-Vorpommern and Schleswig-Holstein; Homepage: http://www.gbv.de/en/
- Kooperativer Bibliotheksverbund Berlin-Brandenburg (KOBV) [Cooperative Library Network Berlin-Brandenburg]; Central office in Berlin; Partners of cooperation: The federal states Berlin and Brandenburg; Homepage: http://www.kobv.de
- Nordrhein-westfälischer Bibliotheksverbund Hochschulbibliothekszentrum des Landes Nordrhein-Westfalen HBZ [Hochschulbibliothekszentrum - Online Utility and Service Center for Academic Libraries in North Rhine-Westphalia]; Central office in Cologne; Partners of cooperation: Federal state Nordrhein-Westfalen, administrative divisions Koblenz and Trier in the federal state Rheinland-Pfalz; Homepage: http://www.hbz-nrw.de/home/home-engl.html
- Hessisches Bibliotheks-Informationssystem (HEBIS) [Library Network of Hesse]; Central office in Frankfurt/M; Partners of cooperation: Federal state Hessen, northern part of the administrative division Rheinhessen-Pfalz in the federal state Rheinland-Pfalz; Homepage: http://www.hebis.de/hebis/
- Südwestdeutscher Bibliotheksverbund - Bibliotheksservice-Zentrum Baden-Württemberg [South West Germany Library Consortium, Library Service Center Baden-Württemberg]; Central office in Konstanz; Partners of cooperation: Federal states Baden Württemberg, Saarland, Sachsen and southern part of the administrative division Rheinhessen-Pfalz in the federal state Rheinland-Pfalz; Homepage: http://www.bsz-bw.de/wwwroot/e.OPAC.html
- Bibliotheksverbund Bayern (BVB) [Library Network of Bavaria], Central office in Munich; Partners of cooperation: Federal state Bayern; Homepage: http://www.bib-bvb.de/bvb.htm

[2] An excellent overview of the typology of portals gives H. Rösch in his Power-Point-presentation: Portale in Internet, Betrieb und Wissenschaft. Slides available on: http://www.fbi.fh-koeln.de/fachbereich/personen/Roesch/Material_Roesch/Portaltypologie.ppt

[3] To raise just two good examples for subject portals: *Social Science Information Gateway SOSIG (http://www.sosig.ac.uk/)* or the *Enhanced and Evaluated Virtual Library* EEVL for engineering, mathematics, and computing information *EEVL (http://www.eevl.ac.uk/)*.

[4] The technical architecture of the KOBV-Search Engine is explained in detail in the German article by M. Grötschel et.al: Der Kooperative Bibliotheksverbund Berlin-Brandenburg. In: ABI Technik 19 (1999), 4, pp. 350-367. The electronic fulltext is available on: ftp://ftp.zib.de/pub/zib-publications/reports/SC-99-52.pdf

[5] For example among all the OPACs in the region Berlin-Brandenburg only the Shared Index is searched by German search engines such as Karlsruhe Virtual Catalogue http://www.ubka.uni-karlsruhe.de/hylib/en/kvk.html or the Gateway Bayern:
http://gateway-bayern.bib-bvb.de:9252/Digibib?FUNCTION=GENLOGIN&SERVICE=CON&LANGUAGE=en

[6] For a detailed description of different models of collections see M. Heaney: An Analytical model of Collections and their catalogues. Oxford 2000.
Fulltext available on: http://www.ukoln.ac.uk/metadata/rslp/model/amcc-v31.pdf

[7]An example for a personalized WEB environment offered by a library can be seen at Cornell's. See S. Cohen et.al: MyLibrary - Personalized Electronic Services in the Cornell University Library. In: D-Lib Magazine, 2000, Volume 6, Number 4. Fulltext available on: http://www.dlib.org/dlib/april00/mistlebauer/04mistlebauer.html

[8] A model for a regional library portal providing different local views is Digital Library North Rhine-Westphalia [Digibib NRW]. See: http://www1.digibib-nrw.de/Digibib