

## KVK - a Meta Catalog of Libraries

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### THE BEGINNINGS OF THE KVK

Over the past years, the majority of libraries worldwide implemented interfaces to allow users to access to their bibliographic databases through the WWW. Usually these interfaces consist of HTML-pages with an embedded FORMS template where the search terms are entered. Thus for the first time it was made possible for the user to access almost every library using only one software: the WWW browser.

However, if the user has to search more than one library catalog, e.g. when searching literature for a PhD thesis, he has to access a multitude of catalogs deal with different search forms, different search syntaxes, wildcards etc. This is the case especially for users in Germany where a central union catalogue of library holdings does not exist because libraries as cultural institutions are run by the 15 federal states (Bundesländer). Libraries cooperate within the scope of the Bundesländer, and there are currently 8 union catalogues in Germany. A large-scale project called DBV-OSI commissioned in the first half of the nineties with the aim of integrating these union catalogues on a Z39.50 base (a national American standard for information retrieval, which is being used worldwide) but the project was only partially successful.

Faced with this situation in 1996, our team at the university library of Karlsruhe came up with the idea to create a virtual catalog enabling our library patrons to search several catalogs simultaneously. The idea was inspired by the successful introduction of meta search engines like metacrawler which perform the same function with internet search engines. So why not try to do it with library catalogs? The idea was discussed, and with support from the faculty of computer science, a prototype was built in July 1996. It proved surprisingly easy to do, so we included not only union catalogs but also bookshops. The meta catalog showed so much potential that we decided not to limit access to our local library patrons but to offer it as a service to the internet community as Karlsruher Virtueller Katalog (KVK, Karlsruhe Virtual Catalog). Once the KVK was announced in several mailing list, the usage peaked within a few weeks and has continued to do so.<sup>1</sup>



Fig. 1: KVK user interface

#### USAGE OF THE VIRTUAL CATALOG

The Karlsruhe Virtual Catalog is a meta search interface which allows users to access library catalogs via the WWW. The user selects a number of catalogs

(i.e. the target systems) and types in the search terms. On selecting the search button, the KVK first checks the availability of the selected catalogs, then converts the formulated search to the target systems' syntax and starts a simultaneous search. While the results are coming in, the KVK starts to build the short title list. The short titles are collected from the target systems and presented in a standardized form. As soon as the result of one target catalog is retrieved, it is formatted and displayed immediately. When selecting one of the short titles, the user's browser switches to the full title display provided by the target system.

In total, Karlsruhe's virtual catalog offers access to the title data of estimated approx. 60 million books and journals. Exact numbers cannot be supplied, all the more as there are numerous duplicate entries, which would distort any estimate given. So far, this sounds reasonably simple, and in fact it is. However, with the development of the KVK over the last few years, the system has become rather sophisticated and covers now features like session management, local load distribution management, asynchronous connection testing, English translation of search terms, and access to databases via Z39.50.

In addition to Z39.50 access, we offer special versions of the KVK, one for users behind a firewall, a javascript-free version, and a table-free version for old browsers. Using cookies, it is possible to store an individual selection of target catalogs. By now the KVK handles forms interfaces of several different library computer systems e.g. Ex Libris' Aleph, Biber, Pica, Amazon, Sisis, Control Data, Allegro.

Everybody who works with scientific literature benefits from the KVK. The catalogue helps save time as a series of research sessions can be converted into one. It also shields the user from the forms interfaces of the target systems, which can be rather awkward, and also bypasses the time-consuming procedure of logging in and selecting a database, a technique used by several catalog providers.

Librarians love the KVK because it gives them easy access to bibliographic data which they can use for cataloging. For this client type, we introduced a check box entitled „MAB-Link“. Checking this box will cause the KVK to return bibliographic data in MAB, a structured format and the German equivalent of MARC. In this way, the data obtained from the KVK can be automatically processed for usage in another computer catalog.

Also, the KVK is an important tool for interlibrary loan.

#### DEVELOPMENT OF THE KVK

Today the KVK has become an indispensable bibliographic tool not only for the German-speaking countries. For the first time, the KVK offers an easy and fast method to access the library holdings of all important German libraries (at least for the newer literature) via the internet. It is therefore the best ever approximation to a German union catalog. The KVK has received the INETBIB award for innovation in 1999 and is supported by the Deutsche Forschungsgemeinschaft (the German federal body for scientific research) as it is an important infrastructure for the scientific community in Germany.

Over the last four years, the KVK has been developed further by the library staff at Karlsruhe, and includes now not only the German union catalogs but also a number of important libraries in other countries. The union catalogs of Austria and Switzerland complete the number of German speaking countries. In Great Britain, the catalogs of the British Library and the Scottish National Library are accessible via the KVK as well as the British union catalog COPAC. Another catalogs of high importance are the Library of Congress and the „Catalogue BN-OPALE-PLUS“ of the Bibliothèque nationale de France in Paris with about 6 mio. titles. The KVK users can also search the modern titles part of ARIADNA, the OPAC of the Biblioteca Nacional in Madrid (1.6 mio. titles dating back to 1831). Another interesting catalog is the OPAC dell'Indice SBN provided by the ICCU (Istituto Centrale per il Catalogo Unico delle Biblioteche Italiane e per le Informazioni Bibliografiche), providing 3 mio. books. In addition, the KVK accesses three booktrade catalogs.

The KVK receives about 750,000 request per month; this amounts to an average number of 35,000 inquiries per day. The relationship between KVK inquiries and the resulting searches in the target systems amount to an average of approx. one to five, i.e. per KVK inquiry five target catalogs are queried. Most of the queries originate from academic institutions in Germany (60 %), Switzerland and Austria, Sweden, Italy and the Netherlands. (see Fig. 2)

As it hosts the KVK, the university library at Karlsruhe now has to run several servers to deal with the steadily increasing use of the KVK. The university library also receives numerous requests from users in search of German literature. These users mistake the KVK as a holdings list of the university library, which is in fact a rather small holding, i.e. less than a million books. In addition, a considerable amount of complaints about deficits of the target systems are erroneously sent to us. It is understood that the KVK cannot provide features that the target systems do not offer and it cannot speed up the response time of slow target systems. Neither are we able to eliminate duplicates in the hit lists, not only because that would create a tremendous load on the target systems, but also because the cataloging conventions differ too much between the target systems.

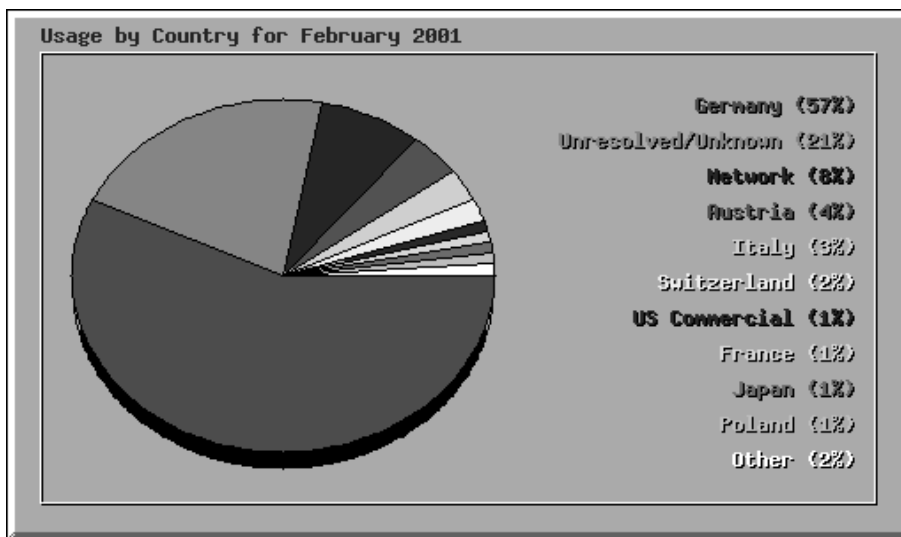


Fig. 2

#### OTHER VIRTUAL CATALOGS BASED ON THE KVK TECHNOLOGY

It soon became clear that a virtual catalog is an ideal means to integrate heterogeneous bibliographic data collections. Hence several institutions approached the university library Karlsruhe and asked if we could create a specialized virtual catalog for them. Consequently, there exist now several more virtual catalogs beside the KVK.

Out of these additional catalogs, there are several regional virtual catalogs combining the holdings of important libraries in a given region, such as the Virtual Catalog of Karlsruhe - Karlsruher Gesamtkatalog - or the Virtual Catalog of the German state of Rhineland-Palatine. An international one is the EUCOR OPAC. Eucor is the „Europäische Konföderation der oberrheinischen Universitäten / Confédération européenne des universités du Rhin supérieur“, a cooperation of universities in the Upper Rhine Valley. The EUCOR OPAC combines the catalogs of nine libraries in France, Switzerland and Germany.

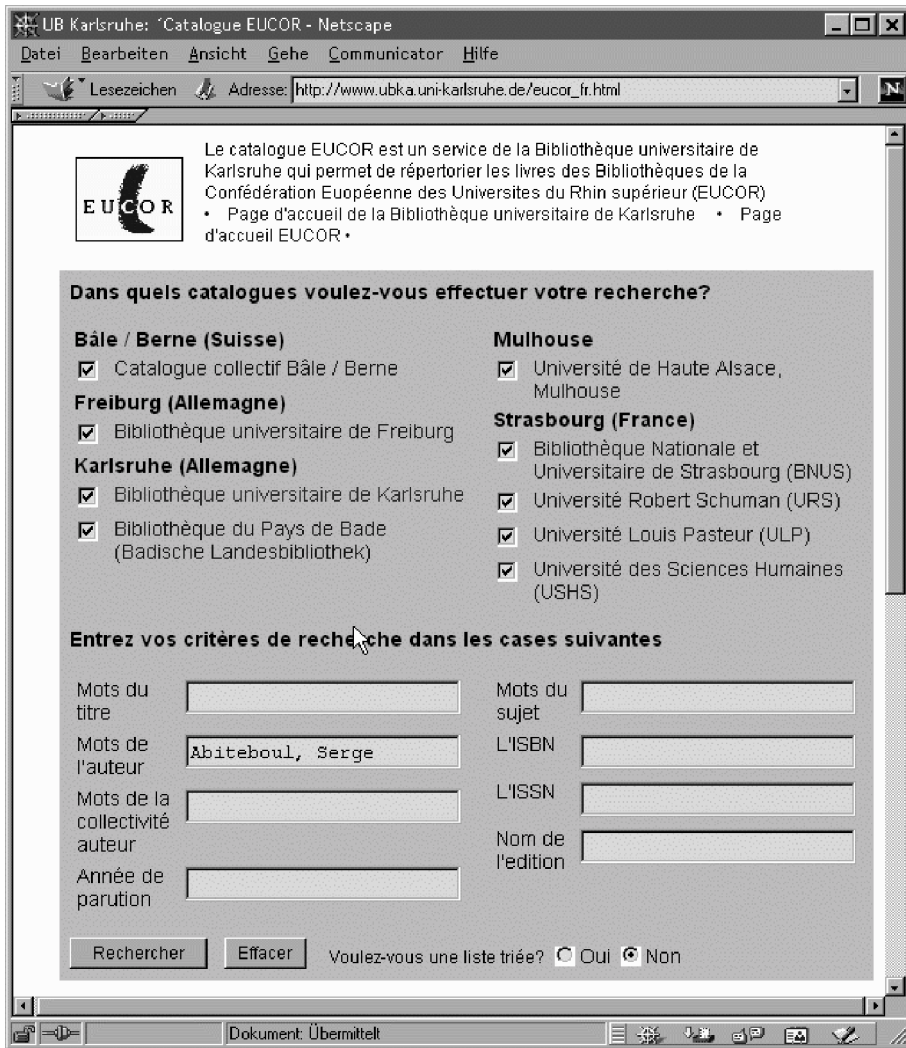


Fig. 3: .EUCOR OPAC

The next regional catalog will be the „Bodensee-Katalog“, bringing together libraries in Austria, Switzerland and Germany which are situated in cities along the shore of Lake Constance.

Another type of virtual catalog brings together libraries specializing in a certain field like the virtual catalog history of art or the Virtual Catalogue Neptune, the latter bringing together libraries specializing in maritime

research. Another example is the KVVK - Karlsruher Virtueller Volltext Katalog (virtual full text catalog of Karlsruhe). It includes only titles that are available as full texts. Currently, these are primarily text archives of several universities such as EVA at Karlsruhe.<sup>2</sup> The archives contain mostly PhD and diploma theses and scientific reports.<sup>3</sup>

#### FUTURE DEVELOPMENTS

We are continuously improving the KVK. On the one hand, we regularly include more catalogs, in the past mainly national libraries of different European countries such as Denmark, Sweden or Norway.

#### REFERENCES

- 1 The URL of the KVK is <http://kvk.uni-karlsruhe.de>. There is also an English version.
- 2 <http://www.ubka.uni-karlsruhe.de/eva>
- 3 A list of all virtual catalogs can be found at [http://www.ubka.uni-karlsruhe.de/hylib/virtueller\\_katalog.html](http://www.ubka.uni-karlsruhe.de/hylib/virtueller_katalog.html).