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National Libraries as Access points: the role of TEL and MACS

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Abstract

For many years, the public image of national libraries has been that of closed institutions open only to researchers as a place of last resort. National libraries are seeking to change that image and, through cooperation, establish themselves as access points for information, nationally and internationally. TEL, The European Library, is an example of how this may be achieved.

Introduction

The core of most national library mandates is to collect, preserve and make available to the public the published output of their country. Access has in the past in practice been confined mainly to researchers and has led to the public image of national libraries as more custodians of national heritage, museums of published materials than access points to information. The reality is, as we know, quite different. Many national libraries have long been available for public access or closely linked to the university environment: one example is that of the Swiss National Library whose mission includes making its collection available to the public, to the extent of lending out its unique copies, including by post. In recent years, national libraries have been closely involved in the development of new technologies and networking at a national and international level to increase access and efficiency.

At Bielefeld in 1998 (<http://www.kb.se/Sekr/Bielefeld.htm>, National Libraries as a resource for the future provision of information) Tomas Lidman described the national library of 10 years in the future, and made the following prescient points, among others:

- "The national libraries will have to take measures to improve access to their collections"
- "International cooperation between libraries will increase on all fronts"
- "In the light of cuts at university libraries, the role of national libraries as important research libraries will be strengthened."

Only 5 years later, we can see that this vision is becoming reality. The concept of life-long learning, the informed citizen and peoples' networks – specifically addressed in the UK but becoming important themes in other countries means that wider access to the resources of national libraries is seen as essential, not just at a national but at an international level.

The mission statements of libraries increasingly reflect this, for example the British Library website (<http://www.bl.uk>) states

- "Our vision is to make the world's intellectual, scientific and cultural heritage accessible, and to bring the collections of the British Library to everyone's virtual bookshelf - at work, school, college, home
- "The British Library serves business and industry, researchers, academics and students, in the UK and worldwide."

The IFLA National Libraries Section, the Conference of Directors of National Libraries (CDNL), and the Conference of European National Librarians (CENL) all serve to underline the growing interest of national libraries in cooperation, networking and promotion of access to their resources. The creation of Gabriel, *Gateway to Europe's National Libraries*, (<http://www.kb.nl/gabriel>) the World Wide Web service for Europe's National Libraries who are members of the CENL is a first step towards this in Europe. Gabriel's mission is:

- "to provide information about Europe's National Libraries, their collections and their services in order to facilitate access to them, and to foster the development of new services based on a shared infrastructure"

On average two and a half million hits per year are registered in Gabriel and the Guestbook comments show the appreciation of users. However this is only a first step: users are informed about the existence of the libraries and can connect to the catalogues but cannot directly access the content found there. As one visitor writes:

- "Sehr gut, wenn ich alles, was ich brauche für meine Arbeit in anderen Bibliotheken finden kann"

And perhaps even better, when it is not necessary to travel to the institutions to access that information! The growth of digital output and technical advances in networking mean that national libraries are in the position to evolve into access points to their countries' cultural heritage nationally and internationally. In Europe, TEL aims to address that challenge.

TEL: the European Library

TEL (<http://www.europeanlibrary.org>) is partly funded by the European Commission as an accompanying measure under the cultural heritage applications area of Key Action 3 of the Information Society Technologies (IST) research programme. It started on February 1st 2001 and was originally planned to run for 30 months until July 2003, but has now been extended until the end of 2003. The final conference will take place on September 24th 2003 at the National Library of Lithuania, Vilnius just before the CENL annual conference in the same city.

The project participants are:

- The British Library (Co-ordinating Partner),
- Die Deutsche Bibliothek (Germany),
- Koninklijke Bibliotheek (Netherlands),
- Helsinki University Library (Finland),
- Swiss National Library (Switzerland),
- Biblioteca Nacional (Portugal),
- Biblioteca Nazionale Centrale Firenze (Italy),
- Istituto Centrale per il Catalogo Unico (ICCU) (Italy),
- Narodna in Univerzitetna Knjižnica (Slovenia),
- Conference of European National Librarians (CENL)

TEL aims and vision

TEL is essentially a feasibility study but the partners are committed to moving towards an operational service and incorporating other partner institutions. The project aims to lay the groundwork to establish a pan-European service enabling interoperability across national boundaries, to be an access point to the digital and other resources of Europe's national libraries for users in Europe and worldwide. The partners aim to offer access not only to digital legal or voluntary deposit and digitised treasures, but also to the print holdings of the partner libraries. Initially this will mean access to the catalogue record but some of the partners, including the Swiss National Library, are interested to investigate digitisation and print on demand (depending on copyright) in order to improve access to the vast print heritage. Some partners wish to provide access to licensed material, sound or image collections or multimedia: one of the TEL objectives is to minimise the technical barriers to participation and to allow partners to choose what part or parts of their collections will be made available. The subject areas covered will be mainly the humanities, law, social sciences, economics and natural sciences, reflecting the tradition collection areas of the partners.

TEL target users

Until the TEL service is operational it is difficult to be sure who will use the service. One of the TEL activities has been to conduct focus group interviews to develop a consensus on the target audience. In addition, a Gabriel questionnaire has been carried out in Spring 2003 to determine more closely who are the Gabriel users and to what extent they are interested in the TEL service (results not available at the time of writing). The TEL partners see their main users as the 'classic' national library clientele: academics and researchers first and foremost, but also higher education students and the informed citizen or "lifelong learner". In addition, it is felt that potentially all users of libraries and museums and the book trade could find the TEL service a useful access point to information. The service will be inclusive rather than exclusive, although depending on access rights some services may not be offered to all users, and some may be free of charge to some segments of the population and fee-paying for others.

The TEL partners see advantages for both libraries and for the end-users: TEL will enable national libraries to play a bigger part in improving access to European cultural heritage, thus promoting their own image and, hopefully, ensuring continued (or even increasing) funding. The development and testing of open standards and their adoption by TEL partners now and in the future should facilitate cooperation and lower the barriers to participation. For users TEL will offer not only access to national library content but also links to other services offered by partner libraries. At the same time the partners must be careful not to overshadow individual national library brands nor to conflict with the business interests of partner libraries.

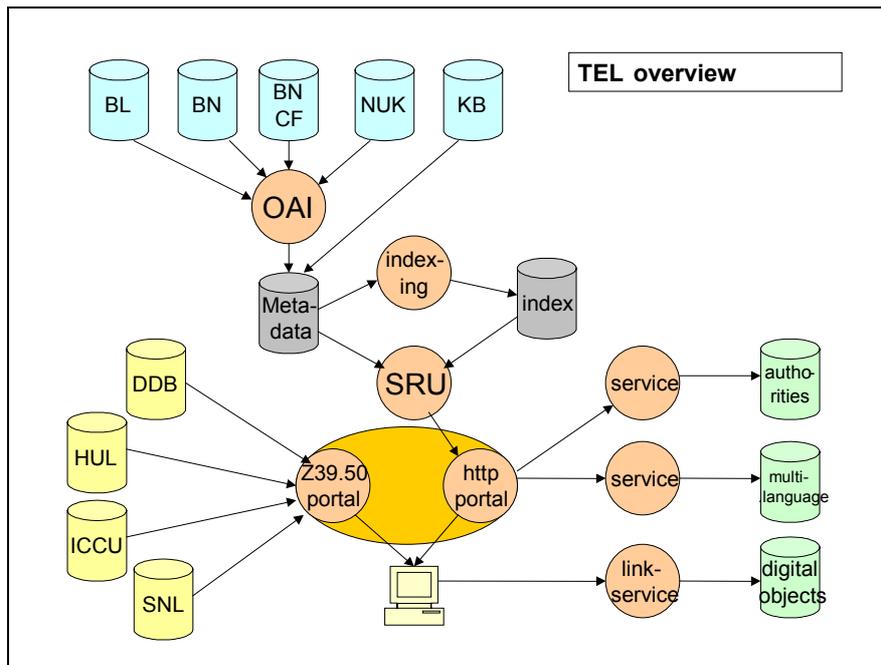
Achieving the goals

The partner libraries all have powerful information systems and online catalogues, efficient user services and a growing collection of digital publications and objects but need to build on these strengths to offer an integrated access point to catalogues, collections and services, complementary to the Gabriel gateway. In order to reach the TEL goals, work needs to be carried out in areas of content, systems, metadata and business planning. The work packages of the project reflect these task areas:

- Work package 1 "Publisher relations" aims to establish common approaches to negotiation with publishers in the area of legal or voluntary (electronic) deposit, and also cooperate in licensing and copyright. The current situation is very varied: replies to a questionnaire sent out to European National Libraries revealed a variety of application of legal and voluntary deposit across Europe. In some cases electronic material is included, in others voluntary agreements need to be made in addition to legal deposit, different approaches are taken with hand-held (offline) and online electronic publications. Use of electronic material is generally restricted to within the premises of the deposit institution,

and publishers questioned about access to such material expressed understandable concern about the risks of digital material being widely distributed and copied. TEL must therefore consider ways to authenticate users and apply tariffs for use of some material if the project is to receive the support of publishers.

- Work package 2 “Business plans and models” has concentrated on market research to investigate the TEL user base described above, and on funding models. Ideally user access to the metadata describing TEL contents should be free of charge, but funding must be found to run the service. Partner library subscription models are under discussion.
- Work package 3 “Metadata development” aims at agreeing on common standards for metadata to support access to distributed collections. The current TEL partners use MARC21, Finmarc, Dublin Core, Unimarc, Pica3, COMARC and custom built datamodels to describe the content of their collections and each additional partner will undoubtedly add more formats. The partners therefore agreed to create a common data model, DTD and XML-schema to share metadata. Using XML and the Dublin Core Library Application Profile as a starting point, the partners listed all the metadata elements, then drew up possible TEL functions and checked in each instance whether the metadata are usable, needed or not relevant or whether additional metadata are required. Partners will subsequently map their own metadata to the agreed list thus providing the end user with a coherent set of data in response to queries. This set of data will be documented in the TEL metadata handbook and kept up to date by the partners. The initial set of data has been kept limited in order to keep the barrier for joining TEL as low as possible: there must be enough data to provide the user with useful access points but not so much that the task of creating or mapping to it impedes participation. The mapping exercise identified a number of missing elements, one of the most important being collection level description elements, and work has been carried out on defining collections and defining metadata to describe them.
- Work package 4 “Interoperability testbeds”. In the long term, TEL aims to provide access to partner libraries via a central portal, and as part of the study functional requirements have been drawn up and a request for information sent out to portal suppliers. In parallel, two testbeds have been developed to investigate two different search approaches that will ultimately be combined in one portal. The two approaches again reflect the TEL philosophy that the barrier to participate should be kept low and therefore different approaches are feasible. Some partners plan to provide access to their metadata via the Z39.50 protocol, with format conversion ‘on the fly’, while others will provide metadata in XML via the OAI protocol. These metadata will be indexed in a central index and subsequently searched for and retrieved via the SRU-protocol. Links will be offered to digital objects or other services (e.g. authentication, authority services, multilingual facilities, on-line ordering, ILL)



Overview of the TEL infrastructure

Multilingual services

TEL partners, current and future, use a variety of different systems, formats and of course languages. In order to cross the language barrier and improve access, a number of approaches may be considered. The multilingual question may be subdivided into display and access.

- **Display:** the portal itself should be available in the languages of the partner institutions. This is already a standard practice in most library systems and the infrastructure is in place to provide help screens, tagged displays etc. in different languages. Each partner should be prepared to maintain the language files appropriate for its users.
- **Access** is more complicated. Different institutions use not only different languages to describe their documents, but also apply different rules to the creation of author names.
 - o Corporate author names, and especially multinationals are particularly difficult e.g. United nation / Nations unies, or the names of federal institutions in Switzerland (Schweizerische Landesbibliothek, Bibliothèque nationale Suisse, Biblioteca nazionale svizzera and Biblioteca naziunala svizra are all valid headings). Distributed searching rarely if ever incorporates authority control management and if partners supplying metadata to the central index are required to harmonise headings the barrier to entry would be significantly higher than that achievable by most participants. Wherever possible, TEL plans to build on available services and is therefore awaiting with interest the results of the LEAF project (<http://www.leaf-eu.org>) which will link variant authority forms from different sources that may subsequently be used as search terms. The project does not specifically target multilingual headings, nor corporate authors but it is hoped that the approach may be applied to all types of variant headings.
 - o While it might seem anomalous to consider translating title keywords since if documents are retrieved in another language the user may not be able to understand them, such an activity may be useful from two points of view. Translating the title or abstract of a retrieved document may enable the user

to ascertain its pertinence and decide whether it is useful or not to obtain it. Translating keywords at the time of searching may be a valid approach if the user can understand documents in another language (passive knowledge) but have difficulty in providing search terms. There are well-known difficulties, which apply to monolingual and multilingual searching: in titles they are among others, synonyms, ambiguous titles (less so for articles than for books), morphological questions (singular/plural/conjugations). While truncation or wild-card searching may help with the latter, it is not clear how many users will want to (consciously) make this effort (or understand it). Matching problems may arise with compound terms in one language (pomme de terre) leading to one-to-many links. Systems exist that analyse such input and carry out a number of tasks: normalizing terms to one form (e.g verbs to the infinitive); detecting multiword concepts; dissecting compound words (particularly useful for German). Experiments have shown so far that the best results are retrieved in specific subject areas rather than general encyclopaedic collections and in abstracts or full-text rather than the relatively sparse bibliographic records. However there are some interesting options available that could be analysed for incorporation into TEL. There will be at a later stage decisions to be made concerning the ease of searching versus the quantity of results retrieved.

- Subject access. Many national libraries have invested considerable time and effort in subject indexing their collections, and in some cases are responsible for the coordination and maintenance of a Subject Heading Language at a national or international level e.g. RAMEAU at the Bibliothèque nationale de France, SWD/RWSK at Die Deutsche Bibliothek. Recognising the value of these controlled vocabularies, some CENL partners have been working together since 1997 investigating the feasibility of linking Subject Heading Languages to provide multilingual access to their collections in the MACS project (<http://infolab.kub.nl/prj/macsl/>). The partners – Die Deutsche Bibliothek, Bibliothèque nationale de France, Swiss National Library and The British Library – tested their approach by creating links between Library of Congress Subject Headings (LCSH), RAMEAU and the Schlagwortnormdatei (SWD) in the fields of sport and theatre. These were subsequently loaded into a prototype for link management and searching. The encouraging results of the prototype have led to the clarification of organisation principles and the preparation of a production system into which approximately 70'000 RAMEAU/LCSH links provided by Bibliothèque nationale de France will be loaded. Subsequently links to SWD must be established. Given the widespread use of the Subject Heading Languages involved, such a series of links could improve cross-language access not only to the national libraries involved but also to the many university and even public libraries across Europe who use these headings. Naturally, the TEL partners will investigate ways to use MACS as an additional access point in the TEL service. It is recognised however that not all current or future TEL partners use subject indexing, that those who do may use other lists and that the creation and management of links may demand significant resources. It is felt that MACS may show users and future partners how the language barrier may be crossed and encourage further efforts, either in adding new Subject Heading Languages or investigating the use of other tools such as classifications if the same are available across several institutions.

The future

TEL, MACS, and LEAF all aim to improve access to national (and in the case of LEAF also other) collections. The three initiatives have important points in common: using standards, they build on existing infrastructure and data and seek to maximise the investment carried

out in the creation and maintenance of collections. They bear out Tomas Lidman's predictions: they will help improve access to collections, they are a practical demonstration of increased cooperation among national libraries and by bringing together Europe's national libraries they serve to illustrate that not only singly but also collectively national libraries are an important research resource and access points to a variety of services and information, at a European level but also within their own countries where they will seek to coordinate with other national resource centres.

Genevieve Clavel, April 10th 2003