## The AARLIN project

A national virtual research library system...

cademic libraries spend thousands of dollars on library systems and information resources to support the teaching, learning and research programs of their parent institution. It is therefore a matter of great concern that in the last five years or so, there is increasing evidence that users are using the internet more than library systems to search for information. A recent study has revealed that the majority of users use an internet search engine to seek information. About forty-five per cent of the users surveyed use Google 'as their first port of call', with only ten per cent using the Library's OPAC (ED-NER Project, Issues paper 8, 2002). One reason for this is that search engines are easy to use, are familiar and have previously provided successful results. Another is that users frequently do not know of alternative sources. A study of database users at Monash University in 2001 showed that many users confront a multitude of problems in using the databases. These problems include the following:

- Users have difficulty in determining which databases are relevant.
- They are confused by the multiple search interfaces.
- They find that the multiple sign-ons required are a barrier to use.

The major aim of AARLIN (Australian Academic and Research Library Network) is to provide users (especially researchers) with a resource discovery tool that emulates the ease of use of internet search engines, while at the same time guides them in choosing the relevant databases, using a single signon. To quote the original grant application to the Australian Research Council, 'The long term vision of [AARLIN] is to

develop in a coherent way, a national virtual research library system that will provide unmediated, personalised and seamless end-user access to the collections and resources of Australian libraries and document delivery services.'

The AARLIN project is being developed in two stages. The first or pilot phase covering the period from June 2000 to June 2001 was funded by the Australian Research Council, with cash contribution and in kind support from nineteen universities and the National Library of Australia. Its aim was 'to research, design and test among the project partners, a way to implement a national portal access framework to the Australian research library system.' Because of time constraints, the pilot project only managed to establish a demonstrator system with six universities as test sites, and to survey the views of approximately eighty researchers from these universities with respect to the usefulness of the features offered and planned for in the pilot system. The pilot found that no off-the-shelf software met all the core criteria and expected functionality, learned some useful lessons with respect to the collaborative approach to building a national access framework, and discovered a great deal about the information-seeking and information-access patterns of researchers, and how the core functionality of the project would enhance their information-seeking activities.

The second phase, funded under the Systemic Infrastructure Initiative of the Department of Education, Science and Training, and with the support of twenty universities and the National Library of Australia, is aimed at rolling out the system to all academic and research libraries that wish to participate in the project. Currently, some twentyone universities have committed to the implementation of the system.

The technology adopted by AARLIN is the portal, which will make use of a combination of off-the-shelf software and local developments to provide the following features:

- Links to the local authentication system of the participating institutions.
- Personalisation of the portal environment using profiling information from the institution user's when the user logs on.
- Customisation of the portal interface by the user.
- A search engine that provides:
  - a single search interface and uniform navigation;
  - a single search syntax (obviating the need for users to remember the varying search syntaxes of different datasets); and
  - parallel searching of heterogeneous 'targets' (such as library catalogues, subject gateways, indexing and abstracting databases, web-based search engines) using HTTP, Z39.50 and OpenURI. protocols.
- · Auto alerting or SDI services.
- Appropriate pathways to additional information and resources, such as context-sensitive links to fulltext or document delivery services based on the rights of the user, the library's rules and subscriptions to specific databases.

Because of the rapid development of current commercial software, the AAR-LIN management committee decided that it would be inadvisable to assume that the software used for the pilot was

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World Book Encyclopedia — 2003 Print Edition

necessarily the best product for the implementation phase, and that a Request for Proposal (RFP) should be issued to evaluate the best available software currently in the market place. It is expected that the whole process from issuing the RFP to the conclusion of contract negotiations with the preferred vendor would be completed by the end of October. Roll-out of the system to the twenty-one universities would commence in 2003, and hopefully be completed by the end of that year. To ensure the sustainability of the system, a business plan would be developed towards the end of 2003.

AARLIN was funded to provide support for researchers in Australia. But the service model is flexible enough to be extended to support undergraduates and e-learning. Because the protocols used are international, there would be no difficulty for the system to interoperate with university-wide portals, other portal systems, local authentication systems, e-learning systems and so on. To ensure that components of the portal work, various standards and protocols have to be adopted. The important protocols used by AARLIN include the following:

For interfacing with local authentication or authorisation systems,

- for example, LDAP, EZProxy, SIP, Shibboleth (planned).
- For distributed searching and resource discovery Z39.50, HTTP, SQL, XML.
- For document delivery services
   ILL protocol.
- For context sensitive services
   — OpenURL.
- For interfacing with e-learning systems IMS

There is no doubt that the AARLIN portal will enhance the resource discovery process. The streamlined process is of particular benefit to a new researcher or a researcher embarking on a new area of research. The researcher can opt within the portal to use a uniform search-syntax to search a range of datasets with which they may be unfamiliar (either in content or mode of delivery). In the absence of the portal, that researcher would be required to search each dataset using its native interface. This would require gaining familiarity with and use of numerous search syntaxes, and numerous interfaces within which to navigate to gain access to the cited material. Thus researchers would have more rapid and effective access via the AARLIN portal. Furthermore, the system would permit library staff to 'push' relevant information resources to targeted user groups and so make them quickly aware of resources and services of relevance. The opportunity for users to customise their environment (by saving searches, storing citations, creating a list of 'favourite' resources) means that as their research scope expands, they are able to modify their environment to suit their changing needs.

The AARLIN service in schematising ways to streamline the information seeking processes, creates stronger links to research in the wider community, thereby enhancing the possibility of greater collaboration. The fundamental underpinning of the AARLIN project is to establish an infrastructure that can be a mechanism for researchers to initiate, foster or maintain collaboration, not least to facilitate greater awareness of other researchers' efforts. Future developments with the AARLIN service will provide further opportunities for collaboration through the development of closed newsgroups, shared online drawing boards, online tutorial and online video conferencing.

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