LIBRARY PORTALS

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Thousands of libraries worldwide have implemented a "library portal," a single user interface for access to a wide variety of electronic resources both within and outside of the library.

A portal is more than just a gateway or a way out to resources. What distinguishes a library portal from a gateway is that it augments the user interface with federated searching, patron authentication, and link resolution—the last of which gets beyond the sources of the content to the content itself.

The User Interface

A portal provides an easy-to-navigate interface that can be designed to match the look and feel of an organization's existing applications. While most portals are implemented with Web browsers, it is possible to use another client interface such as a GUI. The user interface can be personalized using users-profile information to deliver personalized content. Each user can gain a view that is tailored to his or her access privileges. The personalization can be for an individual or for a category of individuals.

Federated Searching

A portal makes it possible to access a wide variety of electronic resources with a single log-on and a single search rather than consecutive log-ons and searches. The electronic resources can include a library's own patron access catalog, the patron access catalogs of other libraries, subscription databases, selected URLs, and even specialized search engines.

Access may be from within the library or from home, school, or office. If a Web browser is supported, the remote peripheral can be a PC or even a mobile computer device.

A portal may support searching in multiple languages.

One of the potential drawbacks of portals is that they can bring too much information to

the user. The solution to that problem is "relevancy ranking," filtering for relevancy and ranking the search results according to pre-determined criteria. The simplest form of ranking is that which lists the results in order of the percentage of the search terms which are matched. That is why entering multiple terms is far more effective than entering a single term. Another way of structuring heaps of unorganized information is to maintain a thesaurus to serve as a navigational tool as well as an organizational tool to filter search results. Rather than providing a thesaurus, most vendors of library portals only provide the capability for building and maintaining a thesaurus.

Patron Authentication

Patron authentication authorizes access to the library portal and to the electronic resources targeted in a federated search that require that access be limited to specific individuals or categories of people. Rather than having each targeted resource undertake its own authentication, the patron authentication component of the library portal performs the authentication and certifies that the user qualifies to use a targeted resource. The single authentication saves the searcher considerable time.

Link Resolution

Link resolvers bring together information about a cited resource, the user, and the target document. For example, it enables the user to navigate from a reference citation to full-text, from an abstract in a database to a catalog search for materials about the same topic, or from a cited reference search report to an interlibrary loan request. The link resolver is activated when the user clicks on a link embedded in the user interface. As the various databases to which linkages are made have different interfaces, support different searching techniques, and have other unique features, the OpenURL standard (ANSI Z39.88) supports the mediated linking. For an excellent description of this standard go to http://en.wikipedia.org/wiki/OpenURL. Many library portals also support other protocols, including Z39.50.

The Development of Library Portals

A large majority of the libraries that have implemented portals have relied on a vendor that specializes in the library market because substantial tailoring of the portal is necessary, especially if the portal is to work with a library's integrated library system as well as remote resources.

Lexis-Nexis was a pioneer in developing portals with content management for use by libraries and law offices. It selected Plumtree's Corporate Portal 4.0 platform in the late 1990s and added a structured taxonomy to enhance and simplify navigation across legal resources, Web sites, news feeds, and local documents. Westlaw, Lexis/Nexis' major competitor in the legal market, subsequently developed a similar portal.

The Lexis and Westlaw portals were relatively narrow in their subject matter focus. There was a need for a portal that could cover the broad spectrum of subject matter of interest

to academic research libraries. In response to that need Endeavor and Ex Libris, now merged as Ex Libris, introduced their library portals in 2001. It soon became obvious to the industry there was a demand, and that many public libraries had as great a need as academic libraries.

By 2003, most of the major integrated library system vendors had introduced a library portal product. Many of the early offerings incorporated MuseGlobal technology into their portal. MuseGlobal is a "portal server" product specifically designed for retrieval of information by library users. MuseGlobal does not sell directly to libraries. Others used technology from WebFeat (www.webfeat.org), a company that merged with Serials Solutions in February of 2008; or Fretwell-Downing Informatics (www.fdgroup.com/fdi/company), a subsidiary of OCLC since 2005. The exception was Ex Libris (www.exlibrisgroup.com), a company that developed its own portal product and has sold it to several hundred libraries, including many that do not use its Aleph 500 integrated library system.

Over the past few years, most vendors of integrated library systems have reduced the role of third-party technology and built more of their own portal components. One reason for that is that the portal product is positioned between the browser and the vendor's patron access catalog. It is, therefore, necessary to write an interface between the portal product and the patron access catalog so that features such as placing a hold and other patron empowerment features are not lost. Another reason is that it limits the amount the vendor of the integrated library system has to pay in third-party licenses.

Increasingly, libraries are interested in portals suitable for specific clienteles, especially children. In 2006, SirsiDynix and INFOhio, a state cooperative school library and information network, launched a library portal for libraries serving K–12. Known as "School Rooms," it features library catalogs, databases, and selected Web sites.

Another development in portal technology has been the incorporation of search and discovery tools. The first search and discovery product designed for libraries was AquaBrowser, developed by Medialab Solutions BV of the Netherlands in 2003 for improved searching of patron access catalogs. The search component returns relevancy-ranked search results in a central panel; and a constellation of words on the left shows related terms, spelling variations, and translations. By clicking on any word, it is possible to focus or narrow the results.

The search and discovery concept was soon pursued as a way of improving the searching of a wide range of electronic resources through a portal. ExLibris introduced Primo, its search and discovery tool in 2007. It was designed to be used as a standalone search tool or as a fully integrated component of a library portal for searching "everywhere." A "did you mean" feature and faceted navigation help users focus the search and zero-in on the most relevant results. Innovative Interfaces launched its Encore search and discovery product in the same year.

Almost all of the other vendors in the integrated library systems market had introduced or started development of search and discovery products by the second quarter of 2008.

While there are advantages to working with the vendor of a library's own integrated library

system because it assures easier integration of the portal and the integrated library system, it is possible for a library to work directly with the portal developer. The exception is Muse Global, which licenses its products only to distributors.

Library Use of Portals

The majority of libraries use their portals solely to access the many databases to which they subscribe using the federated search, patron authentication, and link resolution a portal provides. A minority of libraries offer very broad access to the patron access catalog, special files the library may have created, the catalogs of other libraries, subscription databases, and useful Web sites selected by library staff. This has been called the "everywhere" option. A few libraries even include access to specialized search engines.

Not all products that are described as library portals meet all of the definition of a portal. Federated searching—the simultaneous searching of several electronic resources—is only one component of a library portal. The many libraries that have implemented only federated searching, but not the other components, should not use the term "library portal."

Link resolution is the least widely implemented portal component because it is the most expensive component. Not only must the software be purchased, but the linkages must be created and kept current. That can be a time consuming task. Endeavor Information Systems was the first vendor to extend basic portal capabilities by licensing software and a database from a vendor that creates and maintains such links. It adopted JournalSeek in 2002, a knowledge database developed by Openly Informatics, Inc., to link to over 7,700 electronic journals in the sciences and humanities, and Link. Openly, a system for generating links from bibliographic citation data. The offering, known as LinkFinderPlus, provides access to electronic resources with far less time required on the part of library staff to create linkages. Almost all of the other major vendors of automated library system had introduced link resolvers by the first quarter of 2004.

Costs

The start-up cost of a library portal product can range from as little as $7,500 for a small library purchasing software only for mounting on an existing server to well over $100,000 for a large library purchasing a system which includes hardware, software, and third-party link-resolution services. Hardware and software maintenance and a link resolver subscription that keeps the linkages up to date can cost several thousand dollars a year. Most subscription pricing is based on the number of linkages sought.

A library can reduce the start-up cost of a library portal by adopting an ASP (Applications Service Provider) or hosted solution that provides service over the Internet using a vendor’s server, software, and system management staff. While that does not save money over a three or five year period, it may make it possible to implement a library portal when there is not sufficient money in the capital budget and/or when there is no staff available to manage the application locally.

The best sources of information about library portals are the Web sites cited in this TechNote and the Web site of the library's integrated library system vendor.

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