Though Google has its serious detractors, no one can deny the slow but steady Googlification of today’s Web culture. Google has three plusses besides a cool name that is noun, adjective, and verb in one: major acceptance in the market, a simple interface, and a steamroller-like approach to diversifying its technology.

Libraries generally accept the ubiquitous nature of Google and the unthreatening way it quickly searches resources, offers topical browsing, and includes special searches by topic or format. But Google has begun to push the envelope with several new ventures that arguably encroach on the information gateway role that librarians have become accustomed to serving in the Internet age.

The first foray came with Google Answers. For a user-selected fee, answer-hungry people can set their own price for answers provided by myriad self-appointed experts. “Why pay for answers when libraries will give them to you for free?” some asked. Still other librarians saw a good moonlighting opportunity.

What started as an experiment in the Google Labs (a staging area for new Google technology) has come under critical scrutiny from library professionals in the last months. Both the profitability of the business model and the quality of answers provided are still in question. So far, professional researchers have little to fear from the competition posed by Google Answers.

Then Google combined a link to its Answers service with the free Google site search that many libraries and universities are offering on their homepages. If libraries or universities have chosen the Google search mechanism that does not require a click-through license agreement, a failed search will direct users—even library users—to try Google Answers to find what they are looking for. This unlicensed option is not what libraries want for their patrons.

Google also has started to provide news search and news alert services. Though many licensed databases
To move toward the vision of a single-user interface for searching library materials, almost all library automation vendors have expanded their product lines to include the capability to search across multiple information products. As libraries consider adding metasearch—the common term for this feature—capabilities to their websites, be aware of the technologies that underlie the products.

Library automation companies take differing strategies in offering this capability. A few create their own capabilities from scratch; most license technology from a third-party developer and hope to differentiate themselves from others licensing the same software.

As shown in Table 1, software from MuseGlobal, WebFeat, and iXmatch power most of the metasearch applications offered by library automation companies.

Libraries have invested heavily in subscriptions to electronic resources. A typical library may license dozens, if not hundreds, of Web-based information sources. Librarians can organize their electronic collections into groupings, preselecting specific resources when a user wants to search in a specific subject area. Metasearch applications let library users search disparate electronic resources simultaneously through a single user interface.

Searching multiple library catalogs, regardless of which library automation system it is based on, can be easily accomplished since all the systems support the Z39.50 search and retrieval protocol. No such single, common search and retrieval protocol, however, exists in the broader realm of electronic resources licensed by libraries.

### TABLE 1. METASEARCH APPLICATION SOURCES

<table>
<thead>
<tr>
<th>Company</th>
<th>Product</th>
<th>Metasearch technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autographics</td>
<td>AGenet</td>
<td>Developed in-house</td>
</tr>
<tr>
<td>COMpanion Corp.</td>
<td>Alexandria SearchAll</td>
<td>MuseGlobal</td>
</tr>
<tr>
<td>Dynix Corp. (formerly epixtech, inc.)</td>
<td>Horizon Information Portal</td>
<td>WebFeat</td>
</tr>
<tr>
<td>Endeavor Information Systems Inc.</td>
<td>ENCompass</td>
<td>Hybrid developed in-house plus MuseGlobal</td>
</tr>
<tr>
<td>Ex Libris (USA), Inc.</td>
<td>MetaLib</td>
<td>Developed in-house</td>
</tr>
<tr>
<td>Follett Software Co.</td>
<td>Find-It-All</td>
<td>WebFeat</td>
</tr>
<tr>
<td>Fretwell-Downing, Inc.</td>
<td>Z Portal</td>
<td>Developed in-house</td>
</tr>
<tr>
<td>GIS Information Systems</td>
<td>Polaris PowerPac</td>
<td>Developed in-house</td>
</tr>
<tr>
<td>Innovative Interfaces, Inc.</td>
<td>MetaFind component of Millennium Access Plus (MAP)</td>
<td>MuseGlobal</td>
</tr>
<tr>
<td>Lib-It</td>
<td>Libero OpenSearch</td>
<td>MuseGlobal</td>
</tr>
<tr>
<td>The Library Corp.</td>
<td>YouSeeMore</td>
<td>WebFeat</td>
</tr>
<tr>
<td>Mandarin Library Automation</td>
<td>M3 Web OPAC Deluxe</td>
<td>MuseGlobal</td>
</tr>
<tr>
<td>Sagebrush Corp.</td>
<td>Sagebrush Pinpoint</td>
<td>iXmatch</td>
</tr>
<tr>
<td>Sirsi Corp.</td>
<td>Sirsi SingleSearch; Sirsi Rooms</td>
<td>MuseGlobal</td>
</tr>
</tbody>
</table>
Metasearching applications need to engineer a set of procedures that communicate with each resource, taking advantage of any search and retrieval procedures supported, such as Web services, SQL, an applications programming interface (API), XML gateways, or by simply intercepting and parsing the HTML. Creating and maintaining the procedures for communicating with each resource is a key component of most multiprotocol metasearch applications.

MuseGlobal, the current leader in the library metasearch arena, offers its technology to developers of library automation systems and only rarely sells it directly to libraries.

Another major metasearch provider is WebFeat Inc. Its flagship product, the WebFeat Knowledge Prism, underlies the metasearching capabilities in the Horizon Information Portal from Dynix Corp., YouSeeMore from The Library Corp., and the Find-It-All service from Follett Software Co. WebFeat markets its products directly to libraries and library consortia, in addition to licensing its technology through library automation companies.

Although Dynix is currently using WebFeat, it is working on its own technology using search and retrieve Web services (SRW), a new implementation of Z39.50 built on modern technical components such as Simple Object Access Protocol (SOAP) as the basis for metasearching in the Horizon Consolidated Searching component of the Horizon Information Portal.

Sagebrush Corp., specializing in school library automation, recently announced its partnership with iXmatch, Inc., to offer its customers metasearching capabilities for its research tool, Pinpoint. iXmatch develops search and matching software products for many industries—the deal with Sagebrush is its first foray into library automation.

Expect continued advancements in the metasearch technologies. Demand for this capability by libraries is strong and expectations are high, yet the products available have limited capabilities.

As the products mature, more resources will be effectively supported within the various metasearching environments. Although much of the metasearching capabilities rely on practical yet inefficient methods such as HTML parsing, librarians should expect wider adoption of standard search and retrieval protocols in the future.—Marshall Breeding

MEET THE AUTHORS

Marshall Breeding, the library technology officer for the Jean & Alexander Heard Library at Vanderbilt University, Nashville, Tenn., is responsible for strategic planning for technology and digital library projects. In his 18 years at Vanderbilt, he has been involved with network design and administration, library automation, database development, and many technology projects.

Breeding also is an independent networking and library automation consultant and a regular speaker at library conferences. He has written and edited more than five technology books and several regular columns for various library and computer magazines such as Library Journal, Network Computing, Information Today, Computers in Libraries, Journal of Library Administration, Library Hi-Tech, Library Software Review, CD-ROM World, and CD-ROM Professional. Breeding created the Library Technology Guides (www.librarytechnology.org) and lib-web-cats (www.librarytechnology.org/libwebcats) websites.

Andrew K. Pace is head of systems at North Carolina State University Libraries, Raleigh, N.C., where he has been on the forefront of several technology initiatives, including Web catalog development and design, e-book circulation, a laptop lending program, electronic resource management, and state-of-the-art systems hardware architecture. Pace is passionate about libraries and systems librarianship. He believes that the careful application of technology in the world of content and information discovery can lead libraries, vendors, and publishers to a relationship of fruitful co-development.

Pace holds a B.A. in rhetoric and communication studies from the University of Virginia and a master's in library and information science from The Catholic University of America. He currently writes a column titled "Coming Full Circle" for Computers in Libraries. His first book, The Ultimate Digital Library: Where the New Information Players Meet, was published by ALA Editions in January 2003.
Googlification from page 1

offer alert services for subscribing patrons, Google has taken this service further by offering news alerts culled from more than 4,500 resources. Users can provide Google with keywords to be searched regularly, with results e-mailed once a day or as the news appears.

A future for micropayments?

The most interesting development, however, came with the unveiling of Google's agreement with the Institute of Electrical and Electronics Engineers (IEEE). As of September 2003, Google indexed the abstract records of all IEEE technical documents. Users can freely view abstracts and bibliographic information. Full-text is available for a fee.

This agreement could show that Google is striking on the first feasible pay-by-the-drink model for broad access to electronic content. But IEEE content is already available through library subscription so libraries now need to increase discovery of those resources. Libraries not only need better public relations and marketing to compete with Google, they need search technology that works as quickly and easily as Google does.

The concept also should pique the interest of content owners wishing to capture the huge market for information outside libraries. While libraries continue to demand better technology and better content from database and full-text providers for their constituents, those very providers have been seeking new ways to expand their markets beyond traditional academic or public library users. Google offers the possibility for just such a customer expansion. The only question remaining—and the one that the Google/IEEE partnership might answer—is how much consumers are willing to pay for discrete pieces of information.

This IEEE-Google agreement arrives on the heels of NISO’s efforts to examine the possibility of standards around metasearching library resources. Librarians can only hope the simple Googlification of full-text databases and abstracting services will not replace the effort of developing new standards for search and retrieval of library resources.

On the other hand, better descriptive, deep-linking, and cross-reference efforts on the part of publishers and full-text aggregators could mean better service for libraries and better content retrieval for Google users—corporations, librarians, and academics win.—Andrew K. Pace

Google options

For a complete list of Google's options, see www.google.com/options/

Google Directory http://directory.google.com
Use Yahoo-like categories to browse to the information you're seeking.

Google Glossary http://labs.google.com/glossary
Find the meaning of a word or phrase as defined by myriad websites.

Google Groups http://groups.google.com
Browse, search, or post to Usenet groups going back to the 1970s.

Google University Search www.google.com/options/universities.html
Narrow your search to a specific school website.

Google Images http://images.google.com
Crawl the Web to find that perfect .gif, .jpg, or .png file.

Google International www.google.com/language_tools
Limit your search to specific countries or translate search results into the language of your choosing.

Google Answers http://answers.google.com
Ask your question and tell the self-appointed experts how much you're willing to pay for the answer.

Froogle http://froogle.google.com
Search or browse for items for sale on the Web.

Google News Search http://news.google.com
Find news from thousands of news sites on the Web. Content is updated every 5 minutes.

Google News Alerts www.google.com/newsalerts
Sign up for e-mail delivery of news based on keywords.

Google Special Searches www.google.com/options/specialsearches.html
Limit your searches by topics, such as government, Microsoft, or Linux websites.

Google Catalogs http://catalogs.google.com
Search and browse hundreds of online shopping catalogs.—AKP
E-books neither down nor out

Almost five years after the so-called e-book revolution began, the e-book market has replaced hype with hope for a stable and steady-growth industry around e-books in libraries. The activities of the Open eBook Forum (OeBF), as well as continued interest in the library community among publishers, distributors, and e-book middleware companies such as NetLibrary and OverDrive, show that the evolutionary nature of the e-book market might be slow, but it is hardly dead.

E-books got a strong show of support recently by a publishing segment that would be traditionally thought of as one of the last to embrace e-book publishing. While the rest of the industry grapples with new business models, digital rights management (DRM), and Adobe vs. Microsoft formats, the American Council of Learned Societies (ACLS) has been steadily building a strong title list, practically under the radar.

The ACLS History E-book Project, which started with 500 backlist titles in September 2002, plans to add 275 new titles by fall 2003, including 85 digitally born electronic titles. The project is supported by a 5-year, $3 million Mellon Foundation grant and will be perpetually sustained by library subscription.

With only 140 subscribers so far, ACLS needs increased interest among libraries and increased devotion from the humanities area of book publishing. Humanities, unlike SciTechMed, are much slower to join the digital revolution. Project directors Ron Musto and Eileen Gardiner report significant progress and vow the program will continue with the support of subscriptions, bridge funding, and possibly more grants after the Mellon grant expires in 2004.

Without many of the business pressures applied to e-book acceptance in the market, ACLS’ project has been able to focus on making electronic publishing a new force in the humanities. The society also has lobbied for inclusion of e-book publishing in tenure and promotion consideration.

Most importantly, ACLS has taken the “reasonable people acting reasonably” approach to fair use, opting for honesty over stringent DRM systems. If the humanities can make e-books a reality, the fate of digital publishing, distribution, and library access might have a chance.—AKP

Contact: www.historyebook.org

Z39.50 alive and well

In our August report on the new U.S. National Z39.50 Profile for Library Applications (Z39.89-2003) our headline may have been misleading to some. As Pat Harris, executive director of the National Information Standards Organization (NISO) reports, “Z39.50 is alive and well. In fact, an updated version of the protocol, Information Retrieval (Z39.50): Application Service Definition and Protocol Specification, was just published. The National Profile is an independent but complementary specification that can be used with Z39.50 to enhance interoperability. It supports but does not replace Z39.50.”

Like all NISO standards, both Z39.89 and Z39.50 are available from the NISO website for purchase or free downloading.

Libraries seeking the latest in standards information should join NISO’s Library Standards Alliance (LSA). Benefits include three subscriptions to the NISO newsletter, Information Standards Quarterly, e-mail notification of new draft and approved standards, and discounts on registration to NISO workshops and training sessions. Being an LSA member is a good way to stay on top of standards developments.—PLC

Contact: www.niso.org
MULTILIBRARY FOCUS AT GIS?

Many changes transpired in recent months at GIS Information Systems, formerly Gaylord Information Systems. Originally Gaylord Bros., owned by a holding company named Croydon Co., included three divisions: one that built and sold library furniture; one that sold library supplies; and an automation division. (Martin Blackman and Morris Bergreen were the primary trustees of Croydon Co.; Bergreen died in July 2001.)

In May 2003 Croydon announced the sale of the Gaylord name and the two divisions that sold library supplies and furniture to one of its chief competitors, Demco, Inc. Croydon continues ownership of the library automation division, now operating under the name GIS Information Systems.

Not surprisingly, GIS saw several changes in personnel. Just before the announcement of the corporate change, Katherine Blauer, president since May 1999, resigned. The reconfiguration of the company led to an overall downsizing of the automation division by about a third of personnel.

GIS Information Systems has built a new executive management team and it continues to see a number of sales of its flagship Polaris library automation system since the corporate reorganization.

Challenges ahead for GIS include the ability to continue excellent support for its customers with reduced personnel. In the 2002 Library Journal Automation Marketplace report, the company sported the best ratio of support staff relative to supported libraries. It has generally been recognized for strong customer support.

GIS also has to be concerned with maintaining market share. In recent years the rate of libraries moving away from the company’s legacy Galaxy system exceeds those adopting Polaris, though many of the Galaxy systems lost are small single-building libraries, and many of the Polaris implementations represent large multilibrary systems.—MB

Contact: www.gisinfosystems.com

INNOVATIVE embraces CROSSREF

Innovative Interfaces Inc’s Millennium Access Plus (MAP) has been overshadowed by the popularity and press surrounding Ex Libris’ MetaLib and SFX products and Endeavor Information Systems’ ENCompass, two of the first and most robust stand-alone modules for metasearching and reference linking on the market. Ex Libris and Endeavor are affiliate members of CrossRef, a not-for-profit network with a mandate to make reference linking throughout scholarly literature efficient and reliable.

To gain momentum for its MAP product suite for metasearch, reference linking, and authentication, Innovative has integrated CrossRef into its product line and also become a CrossRef affiliate. CrossRef implements the Digital Object Identifier (DOI) to assign unique identifiers to digital objects, such as journal articles and book chapters.

Most large integrated library system (ILS) companies are competing with new products not associated with the traditional ILS. Emphasis on development of metasearch applications is just one example of attention being diverted from more traditional ILS modules.

The leading stand-alone module in this race is one that promises solutions for the highly elusive—and highly demanded—one-stop shopping. In the race are MetaLib, ENCompass, MAP, Siri’s SingleSearch, and others, such as WebFeat, Blue Angel MetaStar, and Muse Global (used in MAP, SingleSearch, and ENCompass). See Table 1 on page 2. Libraries and vendors are in search of both new solutions and new product lines to support those solutions.—AKP

Contact: www.iii.com
www.crossref.org
The Minneapolis Public Library’s (MPL) $435,000 cash settlement to a dozen female librarians who claimed that exposure to pornography from patron surfing constituted a hostile work environment has less impact than the ripple effect that the settlement is sending across library-land.

In the wake of the Supreme Court’s upholding of the Children’s Internet Protection Act (CIPA), the settlement signals all libraries that legal action can come not only from legislators and the courts, but from employees seeking damages for what the Minneapolis complainants called humiliation, emotional distress, and anxiety.

Moreover, the precedent shifts the focus of CIPA and Internet filters from primarily public libraries to all libraries where staff might complain of exposure to undesirable patron behavior. For instance, university libraries, essentially immune from CIPA, might now need to re-address that need based on complaints from their own staff.—AKP
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Searching across multiple information products

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