Newsletter

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Smart Libraries™

Formerly Library Systems Newsletter™

50 East Huron Street, Chicago, Illinois 60611-2795, USA

Smarter Libraries Through Technology

by Marshall Breeding

Perspectives on Library Systems for Librarians

The start of a new year and a new decade gives us a great opportunity to take a look ahead at some of the major technology trends that are currently playing out and examine how they will impact libraries. I think that it's quite important to pay close attention to the changes and transitions playing out in the library automation industry, and also in the broader realm of information technology. In this month's column, I'll explore some of the key topics with forward momentum that I think that readers should keep in mind as they shape technology strategies in their libraries.

Mobile delivery. We live in a world where the role that mobile devices play in the way that people access information is constantly increasing. It seems that more of us are switching from voice and text-oriented cell phones to smarter devices designed for accessing the Web. By my own informal observations, a year ago, those most likely to have a smart mobile device such as an iPhone or Blackberry were business professionals and some of the more tech savvy college students. Now these devices seem much more pervasive, finding use by individuals in all walks of life.

I've long advocated for libraries to create the best experience possible for their virtual users. In many libraries, the Web site touches more users than the physical facilities. The uptake of more mobile devices definitely implies that libraries need to extend their virtual presence accordingly. It's no longer sufficient to focus on a virtual library as seen through a Web browser launched through a desktop or notebook computer. We need to increase our offerings for those who want to access library resources through mobile devices. While we may see only an incremental increase in the demand for mobile access to library resources in the next year, I think that we're at the leading edge of a major transition with major implications for the ways that libraries deliver content and services to remote users.

eBook lending. I've been watching for many years as the promise of an eBook revolution has failed to come to fruition. Now it seems this format has finally gained traction. The Kindle, Sony E-Reader, and the Nook are engaged in vigorous competition as vehicles for delivering book content from the major publishers of books and magazines. Amazon.com, Borders, and Barnes and Noble have each latched onto one of these devices as a major content distribution mechanism as part of their e-commerce strategy. As more of our users become engaged with these devices, libraries must find ways to incorporate them into their lending schemes. As devices designed for licensing content outside the legal framework surrounding printed materials, it may be quite a challenge for libraries to create a role for themselves in this realm. There are technical, legal, and business issues that need to be resolved. Now is the time for libraries to address these

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Letter from the Editor

In an effort to continue bringing you the latest library technology news and perspectives, we're making a few small changes to *Smart Libraries Newsletter*.

Contributing editor Marshall Breeding will expand his role, and in addition to bringing the latest news and developments from the library systems industry, he'll now be writing a monthly column, *Smarter Libraries through Technology*. In each issue of *Smart Libraries Newsletter*, you'll be able to read Marshall's personal take on where he sees technology trends going, potential developments in the future, and what the inner workings of library software vendors mean for you.

We hope you'll enjoy our new format! We pride ourselves on bringing you the best product, and we always welcome your feedback.

Daniel Freeman

Editor, ALA TechSource
E-mail: dfreeman@ala.org
Twitter: http://twitter.com/ALA_TechSource
On the Web: http://www.alatechsource.org/

issues in preparation for the day when a critical mass of reading happens through these devices. The current generation of ILS products come hardwired for circulation workflows with physical materials. They are ill-prepared for lending electronic materials or interfacing with devices such eBook readers. Much work remains to be done on this front, which I see as being of major strategic importance to libraries of the future.

Open Technologies. One idea that has seen continual growth over the last few years is the trend toward open technologies. This trend shows no sign of abating, though it has expanded into new forms. Not only has open source software become increasingly popular, proprietary products have achieved unprecedented levels of openness through the availability of Web services and other application programming interfaces (APIs).

On one hand, the adoption of open source library software continues to rise gradually. Open source ILS products, usually paired with support plans from commercial firms, is now a routine option, though the numbers in the last year have not risen dramatically. I'm aware of a number of fairly large projects brewing that may mean higher numbers of open source ILS transitions in the near future, but for now, it seems that proprietary ILSs will continue to dominate the market. Much controversy has transpired in the Koha realm, which has inflicted some damage to the broader open source ILS movement.

The other approach for delivering openness involves the creation of application programming interfaces that can function as powerful tools for giving libraries access to their data and extending functionality. Open source applications benefit as much as proprietary systems from the availability of APIs. APIs allow library programmers to interact with the software without necessarily having to wrestle with the complexities of the source code of the core application. Developers of proprietary software have especially focused on API's in the last couple of years, possibly in reaction to the open source movement. Regardless of the motivation of vendors, these APIs stand to give libraries much more control of their software than they have had in the past.

Each library has its own specific automation needs. Many prefer a soup-to-nuts solution provided by a vendor. But those that seek increased levels of involvement and control of their automation environment can select from multiple approaches to openness. The road toward more open technologies will continue to widen, giving libraries increased opportunities to develop their technology infrastructure to better support their programs and services.

Resource discovery. The fastest moving segment of the library automation industry involves products designed for end-user access to library-provided content. I've covered this new genre of discovery interfaces extensively for *Smart Libraries Newsletter*. We've seen the development of products that drastically modernize the interface, introducing relevancy ranked results, faceted navigation, and improved visual design. In the last year, products emerged that drastically increase the reach of discovery interfaces through pre-built indexes that include hundreds of millions of journal articles. We can now envision addressing all library content, both print and electronic, through a single search.

A key trend that I see continuing to play out is the increasingly widespread adoption of new discovery interfaces at the expense of traditional online catalogs. Traditional online catalogs will see very few new implementations as libraries implement new discovery interfaces in great numbers. The online catalog module of the ILS will find its greatest strength as an advanced interface for the print collection of libraries, and will find less use as the initial search offered to library users. I think that it's really important for libraries to move as quickly as they can toward more modern discovery interfaces.

Software as a Service. The way that libraries deploy software is shifting from that installed on local servers to various types of external hosting arrangements. As libraries acquire new technology products, an increasing number will be implemented through a software-as-a-service arrangement. In the

ILS arena, we're seeing vendors work hard to migrate customers from local installations of their products to SaaS implementations. This arrangement means higher profit margins for the companies, though it also means significant reductions in the technical resources and personnel required by the libraries to maintain these systems. Over time, the library-by-library model of locally installed automation products will pass in favor of large-scale consortial implementations or SaaS offerings from vendors. This trend applies more intensely within the open source ILS realm. The majority of the Koha and Evergreen implementations in North America have been vendor-hosted. Locally-installed software makes sense mostly for projects that demand a great deal of local control, customization, or other special circumstances.

Digital preservation. The concern for long-term digital preservation has found its way out of the background and into the foreground of awareness for many libraries, especially those responsible for large collections of unique digital content. It's vital to ensure that the digital content will be preserved responsibly for future generations, despite the continual cycles of equipment obsolesce, changes in format standards, and other circumstances that could render digital files produced today unusable in the future. Many libraries involved with digital collections have good procedures in place for routine backup of digital materials to protect against hardware and software failures or human error, but have not yet been able to take the next steps that establish an infrastructure for long-term digital preservation. One of the trends that I expect for the next few years involves the creation of new trusted digital repositories—mostly shared among many institutions—that will guarantee that today's digital content will survive into the future. I see lots of opportunities for technology products and institutional initiatives that address the concern for long-term digital preservation.

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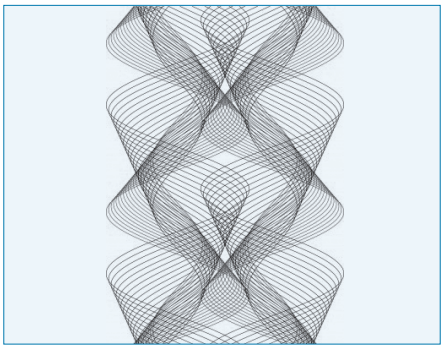
In this inaugural edition of my new column in this newsletter, I've given a whirlwind tour of some of the trends and issues that I think will be important to libraries this year and beyond. It will be interesting to see how the technology companies and library initiatives that we track in *SLN* actually address these issues. I'm looking forward to a very interesting 2010.

Bibliomation Sets a Course for Open Source through Evergreen

Bibliomation, Inc., a consortium of over 60 libraries in Connecticut that includes public and K–12 school libraries, has launched a pilot project to implement the open source Evergreen ILS, with commercial support set to be provided by Equinox Software.

New automation projects based on open source ILS products have become increasingly common among North American libraries and consortia, though they continue to represent only a small minority of the total number of ILS transitions. New open source automation initiatives continue to be newsworthy since they represent a growing trend in the field, though this must be viewed in perspective—implementations of proprietary ILS systems happen far more frequently and often for much larger-scale projects.



Once the transition to Evergreen is completed, it will be the fourth automation system supporting this consortium. Bibliomation was founded in 1980, originally using the GLIS system from Geac to automate its member libraries. From 1994–2003 Bibliomation used Carl, which was replaced by Horizon in 2003.

Bibliomation has launched a project to migrate its automation program from its current SirsiDynix Horizon platform to Evergreen. It has entered into a contract with Equinox Software for services related to migrating data, implementation, and ongoing support.

The migration to Evergreen will begin in four libraries identified as development partners. These include the Beacon Falls Public Library, the Slater Library in Griswold, CT, Windham Free Library association, and the Douglas Library Association in Hebron, CT.

Bibliomation's strategy has been to focus on open source options for replacing their current Horizon ILS. The stakeholders in Bibliomation, including its Board of Directors, User Council and a Planning Committee, arrived at a decision

in July 2008 that favored an open source strategy for its shared automation system rather than a procuring another proprietary ILS. Once the decision was made to pursue only open source options, the next step involved identifying which of the two viable options was the best match for their needs. The consortium investigated both Koha and Evergreen, comparing their relative merits in functionality and in the ability to support a multi-type consortium. As part of their selection process, test implementations of both Koha and Evergreen were set up and evaluated using identical record sets. Bibliomation ultimately settled on Evergreen as the next automation system for its member libraries. They signed a contract with Equinox on November 7, 2009, following the approval of the Board of Directors in September. Assuming a successful implementation and testing of Evergreen in the pilot libraries, it will be phased in as the consortium's production system by 2012. Bibliomation has named their open source project BiblioOak, and has established a group on Facebook and a blog to publicize its progress.

Kate Sheehan was recently hired as Bibliomation's open source implementation coordinator. She comes to Bibliomation from Darien Public Library, noted for its development of SOPAC, a next-generation library catalog based on Drupal. Sheehan was also involved in the implementation of LibrayThing for Libraries at the Danbury Public Library and writes for the TechSource blog.

Bibliomation plans to participate in the IMLS-funded project led by the King County Library System to develop training, documentation and other infrastructure to facilitate the implementation of open source ILS products in libraries.

—Marshall Breeding

OCLC Opens Up WorldCat through APIs

In a move that opens the massive WorldCat database to external developers, OCLC has released a limited set of application programming interfaces (APIs) to programmers outside of its direct membership. OCLC has offered a more robust API to affiliated organizations for more than a year. Releasing an API to external, unaffiliated developers may open up new opportunities that will enable library-created bibliographic data to be used in new types of applications.

Dubbed the WorldCat Basic API, a limited number of Web services have been exposed for non-commercial use. OCLC also offers the WorldCat Search API, which provides programmatic access to complete bibliographic records. OCLC limits access to the full WorldCat Search API to qualified institutions.

WorldCat Search API—Full Programmatic Access to WorldCat.org

The WorldCat Search API provides a powerful set of services for programmatically searching and retrieving data from WorldCat. OCLC initially released this API in August 2008. This API essentially allows external developers to create applications that make use of the 150 million-item WorldCat bibliographic database.

The WorldCat Search API involves requests submitted through the OpenSearch protocol or SRU CQL syntax. OpenSearch finds broad use for all types of information environments. SRU, loosely based on the Z39.50 protocol and implemented as a Web service, is used primarily in library-specific applications. In response to SRU search requests, the API responds with records from WorldCat, formatted in MARC XML or in Dublin Core. Requests sent through OpenSearch results can also be returned as RSS or Atom feeds. Records in responses can also be delivered in one of several supported bibliographic citation formats, including APA, Chicago Manual of Style, Harvard, MLA, or Turabian.

The WorldCat Search API makes it possible to embed information from WorldCat in third-party applications. Such applications could display lists of resources found in WorldCat, present bibliographic details for any given resource, and show an item's availability in libraries. The OCLC Web Services Application Gallery shows other examples of how the WorldCat Search API has been used (see: http://www.oclc.org/worldcatapi/applicationgallery/). OCLC provides complete documentation for the API that provides the information required by programmers to send requests and to receive and interpret response data.

Individuals affiliated with qualifying institutions can use the WorldCat Search API without cost. These institutions include libraries that contribute their holdings to WorldCat and that make their holdings visible on WorldCat.org. Libraries without that level of involvement with OCLC may use the more limited WorldCat Basic API. OCLC encourages commercial use of WorldCat API, although such use must be negotiated in advance.

WorldCat Basic API

In December 2009, OCLC released a limited version of the WorldCat Search API to all interested developers for non-commercial use, even if they are not directly affiliated with a

Feature	WorldCat Search API	WorldCat Basic API
OpenSearch	♦	♦
SRU (Search/Retrieve URL)	♦	
MARC XML	♦	
Dublin Core	♦	
Bibliographic Citation Formats	♦	♦
RSS	♦	♦
Atom	♦	♦
Library holdings data	♦	

library or OCLC. This version of the API only supports queries submitted through OpenSearch and returns more limited results. While the full version of the API can provide a complete record from WorldCat in MARC XML, the WorldCat Basic API provides a subset of the bibliographic information in RSS or Atom, and may include citation formats. The specific bibliographic fields available in responses include authors, titles, ISBN, and OCLC Record Number. Results also include a link to the full record in WorldCat.org, where users can find the item in a nearby library, initiate an interlibrary loan request, read reviews and ratings, add items to lists and more.

In order to use either WorldCat API, it is necessary to register and obtain a unique identifier used as a developer key. Other API's, such as those made available by Amazon.com and Google, also require registration and use developer keys. The Basic API key is available immediately; the Search API key requires verification of eligibility.

In the current technology environment, Web services and APIs provide important opportunities to make use of information in ways beyond what is currently possible through captive applications. The WorldCat APIs open up interesting new possibilities for incorporating bibliographic information in new kinds of applications such as mobile and social networking platforms, among others.

For further information about the WorldCat Search or Basic APIs, visit the "services" page on the OCLC Developer Network site (http://worldcat.org/devnet/wiki/Services).

—Marshall Breeding

Developments at SirsiDynix

SirsiDynix, one of the largest library automation companies, made a number of recent announcements relating to both its products and personnel. December 2009 saw the release of new versions of its major products and the departure of a key executive.

Stephen Abram Departs

Stephen Abram, appointed as the Vice President for Innovation in March 2004, has left the company to join Gale Cengage as its new Vice President for Strategic Partnerships and Markets. During his tenure at SirsiDynix, Abram took on a highly visible role through his numerous presentations at library conferences and meetings. He served as the Chief Strategist of the SirsiDynix Institute, an educational program of Webinars offered to the broader library community. These Webinars do not focus on SirsiDynix products, but draw on experts from a variety of organizations to address current trends and topics. This program was created by Dynix Corporation before it became part of SirsiDynix. The SirsiDynix Institute is expected to continue.

SirsiDynix indicates that it will not appoint a direct replacement for Abram. Rather, it will tap other individuals in the company to such as Talin Bingham, Chief Technical Officer, and Berit Nelson, Vice President of Strategic Library Development, to take a more visible role in articulating the company's technology and product strategies.

In his new position at Gale Cengage, Abram will rejoin Pat Sommers, who led SirsiDynix from January 2001 through February 2007 as its President and CEO. Sommers became the President of Gale Cengage in Oct 2007.

SirsiDynix Symphony Gains Microsoft SQL Server Support

One of the major internal components of an integrated library system involves its underlying database technology. A business application like an ILS relies extensively on its database, and is often programmed to work only with a specific database product. The ability to support multiple database platforms extends a program's ability to integrate well in a wider range of organizations. The IT departments of many organizations prefer to work with specific operating system and database platforms. Oracle stands as one of the most widely used

commercial database platforms, and is very widely used in academic institutions. Other major database management systems include IBM's DB2 and Microsoft SQL Server. Many libraries rely on institutional data centers that have based their technical infrastructure on Microsoft products and have expertise with Microsoft SQL Server.

SirsiDynix has completed a new release of its flagship ILS product, SirsiDynix Symphony (3.3.1) that adds support for Microsoft SQL Server as one of the options for its database component. The original database for the product was C-ISAM from Informix. Support for Oracle was implemented in 2005. The ability for Symphony to make use of Microsoft SQL Server will be a positive move for these organizations tied to Microsoft-oriented data centers. The ability to support multiple database platforms also expands sales opportunities since some ILS procurement projects may include specific requirements for Oracle or Microsoft SQL Server.

SirsiDynix Symphony 3.3.1 also includes a number of additional enhancements typical of a routine incremental release. Some of the changes focus on the e-Library online catalog interface with improved authentication options as well as a new administration module for configuration and customization. Enhancements to the circulation module include new reporting options for fines and fees to accommodate more complex consortial implementations. Many of the recent enhancements to Symphony involve improved support for consortia.

—Marshall Breeding

ABCD: A New Open Source ILS Launched

The November 2008 issue of *SLN* included a report on the development of an open source integrated library system as a successor product for libraries and information centers, primarily in the developing world, who make use of the ISIS family of information management software. This new product, called Automatización de Bibliotecas y Centros de Documentación, or ABCD, has been under development for the last year and saw the release of its first production version on December 3, 2009.

The release of ABCD Version 1.0 represents a major step forward for the ISIS community, both in creating its first true ILS and in shifting to an open source development model. While the ISIS software has always been made available to libraries without licensing costs, only the executable files were made available.

The ISIS software has been a mainstay of automation for libraries and documentation centers throughout the world due to its development and support from UNESCO beginning in the 1970's. In recent years, the development of ISIS has not kept pace with advancements in technology and many organizations have moved to other library automation products. The use of ISIS-based products has seen a particularly sharp decline in Europe. In the developing world, the domination of ISIS continues, though open source products such as Koha have seen their user base erode in many regions, especially in Latin America.

The development of ABCD was led and coordinated by BIREME, an organization based in São Paulo that develops and maintains information resources for health science in Latin America and the Caribbean. In recent years, BIREME has taken increasingly larger roles in the development of the ISIS software in partnership with UNESCO. The Flemish Interuniversity Council has also been actively involved in the ISIS community and co-sponsored the ABCD development. Two of the key individuals leading the project were Ernesto Spinak from BIREME and Egbert de Smet of the University of Antwerp

The ISIS software finds use throughout the developing world and beyond. Although not especially well known in the United States, it stands as the most widely implemented software for libraries and documentation centers throughout the world. While ABCD is not likely to see adoption in libraries in the United States, it is a major development in the realm of international library automation.

BIREME has established a wiki that provides information and documentation about ABCD and offers the software for download: http://bvsmodelo.bvsalud.org/php/level.php?lang=en&component=27&item=13

Following the launch of ABCD, a number of workshops and training sessions have been organized in multiple venues in Latin America. The release of ABCD marks a new chapter in the evolution of the ISIS software family. Over the next few years, it will be interesting to observe whether ABCD is able to stave off the shift of libraries in the developing world toward other open source automation products.

—Marshall Breeding

From the Library Tech Blogosphere

Staffless "Library" Opens Up in King County

Sarah Houghton-Jan
Librarian in Black
December 8th, 2009
http://librarianinblack.net/librarianinblack/2009/12/stafflesslibrary.html

King County has opened what they call the "Express Library"—a building with no staff available for public service where customers can pick up their holds, browse a small paperback collection, search the catalog on a locked-down computer station, and use a telephone to call another nearby staffed library. From the *Library Journal* story:

To get into the building, patrons must scan or type in their library card number, but books can be returned via a book drop outside. How to maintain security? Cameras both inside and outside the building.

My questions really revolve around whether this saves the library much money at all. In talking with one of my colleagues, we came up with the following costs that still exist at his location:

- rent of the building & parking lot
- utilities (lights, heat, phone, broadband for the limited computer access)
- garbage collection
- cleaning service
- materials delivery service
- staffing on the other end of that phone line to help people

Plus you really will need staffing at the location to drop off and organize holds on the shelf, restock the browsing collection, check in the returned items, reboot the computers when they undoubtedly fail, etc.

So, for the cost of some computer cameras and a card-based door entry system, your library can also get rid of all of its staff apparently. While I am not opposed to a holds-pickup station somewhere in your community, I do think it's a bit of a stretch to call it a "library."

Google Explosion

Jason Griffey
ALA TechSource Blog
December 21st, 2009
http://www.alatechsource.org/blog/2009/12/google-explosion.html

The last quarter of 2009 has seen an absolute explosion of Google features, acquisitions, and apps. Here's a summary of the developments that I think have the most significance for libraries and librarians:

- **ChromeOS**. Google Chrome, the browser, was seemingly just the first step in Google's hope to make your web experience as fast as possible. Then, in November ChromeOS, a linux-based lightweight operating system designed for netbooks, was released. ChromeOS is, effectively, an entire operating system based around a browser.

- **Updates to the Google homepage**. Most Google users have probably noticed that Google updated its homepage design to a clean white sheet, where the controls only fade in after you actively mouse over the browser window. It's a lovely way to reduce visual clutter, especially since most people hit the homepage and immediately start typing a query. But did you know that they changed the behavior of the search box as well? Try typing any simple math query into the search box. . .700 times 42234, for example. The answer will pop up in the area that is normally for "suggested" searches. You don't even have to hit search! Another similar feature is weather results. Try typing something like "weather in YOUR CITY HERE". If it can recognize your city (that is, if your city has a unique name) it will pop the weather right into the suggestion area.

- **Mobile**. On the mobile front, Google pushed updates to Android phones that made them faster, included free turn-by-turn navigation, and generally started to compete with the iPhone on the smartphone front. One of the more interesting things on Android phones that was launched was an application called Google Goggles, which gives you the ability to do a Google search on an object simply by taking a picture of it. Photograph the front of a book, a logo, or really anything, and Goggles will try to figure out what it is and produce a search result set for you. It's pretty amazing.

The Library Police: Why a Shortage of Bandwidth is Turning Librarians into Traffic Cops

Andrew Moshirnia
Citizen Media Law Project
December 7th, 2009
http://www.citmedialaw.org/blog/2009/library-police-why-shortage-bandwidth-turning-librarians-traffic-cops

For a time, few issues could rally nerds as effectively as net neutrality. Whenever we heard those dreaded five syllables, we immediately ceased our latest exegesis of Watchmen and girded our neglected loins for battle.

But for some of us, after so many false alarms, the threat of losing net neutrality has become something of a digital boogey man. Sure, now and then a corporation will get caught throttling bandwidth, but the chances for a wholesale elimination of neutrality still seem slim. When Comcast began its latest round of throttling, we didn't much care.

But, for the poorest users in the United States, net neutrality is already gone. Our woefully supported public libraries suffer from a critical bandwidth shortage, which practically compels a regime of Internet rationing. This state of things forces librarians into the role of Internet traffic police and provides a tested blue print to the champions of a tiered Internet.

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Editor
Dan Freeman
312-280-5413
dfreeman@ala.org

Contributing Editor
Marshall Breeding
615-343-6094
marshall@breeding.com

Administrative Assistant
Judy Foley
800-545-2433, ext. 4272
312-280-4272
jfoley@ala.org

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