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OCLC Reveals its Strategy for Automation

Smart Libraries Newsletter

Smart Libraries Newsletter delivers hard data and innovative insights about the world of library technology, every month.

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OCLC Reveals its Strategy for Library Automation

In a move that has stirred some controversy in the library automation industry, OCLC has announced that it will extend World Cat Local, initially positioned primarily as a discovery tool, to provide a complete suite of services for the automation of libraries. Work is now underway to create services associated with WorldCat Local that perform circulation, resource fulfillment, acquisitions, and license management. Taken together, these services will obviate the need for a library to operate its own integrated library system.

The basic concept of the WorldCat Local library system involves extending the bibliographic records in WorldCat.org with item-specific data, such as barcodes, for each library participating in the service. The idea of using WorldCat for cataloging is well established, and WorldCat Local has been in testing as an end-user discovery environment to replace local online catalogs since April 2007. This current effort extends the WorldCat Local platform to take on the automation of internal library workflows.

OCLC has gone through various exercises in scaling to ensure that its technology will be able to keep up with the massive volume of transactions involved as large numbers of libraries subscribe to these services. For libraries to adopt this approach, they must have a high degree of confidence in its reliability and performance. Engineers at OCLC calculated that combined, the estimated total of 1.2 million libraries in the world sustain an average about 5,000 circulation transactions per second. Part of the design of the WorldCat Local-based library system involves reengineering its technical infrastructure to support that level of use.

In addition to circulation, the WorldCat Local library system will offer functionality for the automation of the procurement and management of library materials, including print and electronic formats. The services will include components for acquisitions and license management. The scope of the product extends beyond the ILS into the realm of electronic resource management systems.

OCLC positions this model of library automation as offering much more efficiency than possible through the traditional ILS, whether hosted by an individual library, a consortium, or offered by a vendor through software-as-a-service. Linking these operations with WorldCat Local will leverage a global, cooperatively built database rather than having each library or consortium maintain its own set of automation components. OCLC aims to shift library automaton away from individual library implementations to a globally shared, cooperative platform.

News of OCLC's strategy for library automation came as part of its announcement regarding WorldCat Local quick start, an offering of its discovery product to existing subscribers to its FirstSearch service without additional cost. This offer will give many thousands of libraries a taste of using WorldCat Local as a discovery tool without making a large financial investment. The quick start program has limitations. Only libraries that use one of the currently supported ILS products will be able to take advantage of the components of WorldCat Local

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that involve integrating with the ILS, such as real-time display of circulation status. This version also does not involve synchronizing the library's holdings on WorldCat with the representation of its collection from its ILS, a process called reclamation. Libraries that implement the full version of WorldCat Local carry out the reclamation process to ensure better accuracy and thoroughness for their users.

This work has been continually under the guidance of Andrew Pace, who joined OCLC as Director, Network Library Services in January 2008. As of April 2008, OCLC was in the process of finalizing agreements with libraries that will serve as pilot sites for the WorldCat Local automation services. OCLC anticipates general availability of these services sometime in 2010.

This product did not come out of thin air--OCLC has been increasingly involved in the library automation industry for a number of years.

SLN has chronicled OCLC's acquisitions of commercial companies and products related to library automation, including PICA, Sisis Informationssysteme, Fretwell-Downing, Openly Informatics, and EZproxy. Much of the research and development of OCLC's new automation services taps into the talent and technologies of these acquired assets in addition to the involvement of OCLC personnel in its Dublin, OH headquarters and former RLG facilities.

The announcement that OCLC plans to deliver a radically new approach for the automation of libraries stands as a large milestone in the evolution of library automation. While significant, it's one of many new efforts that aim to provide more effective or innovative tools to libraries. Up until now, much of the creative energies were applied to the development of next-generation library catalogs or discovery interfaces. SLN has covered the many major developments in this genre, including AquaBrowser,

Endeca, Primo, Encore, Summon, LSC PAC, and VUfind. Now the battleground expands from front-end products to those that automate back-room library processes.

OCLC will not stand alone in offering alternatives to the existing products. The OLE Project (described in SLN October 2008) and Ex Libris URM initiative provide examples of alternate approaches. We can also expect the existing ILS products to continue to evolve and prosper. It will be more than a year until OCLC's new services become available to libraries. It's much too early to speculate on the number of libraries that might adopt this approach, but OCLC is well positioned to make a major impact on the industry. It appears that the next couple of years will provide an interesting competition among non-profit and commercial organizations, proprietary and open source software, as well as evolutionary and revolutionary models of library automation.

—*Marshall Breeding*

Wolfram Alpha: Start Your Engines

No company remains at the top of an industry forever. Even the mighty Google shall someday pass into oblivion. The two questions everyone asks are: what will unseat Google as the top search engine, and when will it happen?

Wolfram Alpha, which launched in May 2009, may be a contender. The website describes Wolfram Alpha as not a mere search engine, but rather a "computational knowledge engine."

Wolfram Alpha was described by CNET reporters Stephen Shankland and Rafe Needleman as "a cross between a research library, a graphing calculator, and a search engine." This new engine can think things through and solve problems on the fly. The knowledge base upon which Wolfram Alpha works has been curated–evaluated by human experts.

For the moment, Wolfram Alpha is stronger in the areas of scientific and technical knowledge than in areas like the humanities and popular culture. Shankland and Needleman noted that "Alpha handles numeric data well, but loosey-goosey stuff like art or philosophy is tough."

As I write this, Wolfram Alpha has not been released, but word in the blogosphere is that the user interface is a bit persnickety. If you don't phrase your question in just the right way, the results you get will be nonsensical.

When fully launched, the Wolfram Alpha will be free for use by anyone. Part of Wolfram Alpha's business plan involves selling subscriptions to advanced researchers and users who want to blend their own data with Alpha's engine and curated content.

—*Tom Peters*

More Info. @:

http://www.wolframalpha.com/

http://news.zdnet.com/2100-9595_22-295948.html?tag=nl.e589

http://www.independent.co.uk/life-style/gadgets-and-tech/news/an-invention-that-could-change-the-internet-for-ever-1678109.html

bX Recommender Service Now Available from Ex Libris

Ex Libris has developed a new service called the bX Recommender that takes advantage of social data to determine related works for any given article. This approach brings Web 2.0 concepts to the realm of scholarly content to provide a new and innovative service.

The vast body of scholarly information presents a challenge for researchers who want to be aware of all relevant articles on a given area of study. A number of techniques can help, like working through the citations in one article, exploring additional works by cited authors or searching using keywords or subject terms. Even when using these techniques, however, it is difficult to locate all related material using traditional citation analysis. The idea that there should be an automated mechanism for discovering related scholarly material must be a fairly common sentiment among academic researchers.

One of the ways to determine relevancy or relatedness involves leveraging data that is collected to understand the way that users interact with resources. A search engine like Google, for example, can improve its relevance rankings through its internal data regarding the links that have been clicked in response to a given query. In a result set where many items seem more or less equivalent according to keyword match criteria, data on the items that users actually select from the list can be an important clue regarding relevancy to that query. Search engines are well positioned to perform this kind of socially guided ranking since they have access to massive quantities of associative data between links and user click-throughs.

The bX Recommender service mines a vast repository of data from link resolvers across multiple institutions. With link servers mediating the process of connecting users to scholarly content, an interesting opportunity emerges to gather user data and apply it to value-added services. In the same way that search engines rely on social data to determine relevancy for Web-based resources, Ex Libris has devised a service that relies on the user data from link resolvers. Many libraries make use of link resolvers to provide access to the ever-increasing body of articles that are represented in their collections of e-journals.

Ex Libris pioneered the genre of link resolvers when it introduced SFX as the first commercial product in this arena. A number of other products have since joined the fray, such as 360 Link from Serials Solutions, the WorldCat Resolver, and LinkSource from EBSCO. Link resolvers have also emerged in the open source arena, including GODOT/CUFS, which was developed at Simon Fraser University in Canada. For libraries that offer large collections of e-journal content, link resolvers have become an almost indispensable component of their technical infrastructure.

The primary purpose of a link resolver is to dynamically calculate links that will take users to the most appropriate copy of an article based on metadata about the article and the profile of subscriptions available from their own library. While the actual link calculations involve a mechanical process, since each operation is invoked on the basis of a request by a user for a particular journal article, the logs of resolvers contain useful data regarding patterns of selections by users. These data reveal relationships among articles based on how they are chosen by a user within a search session. This approach builds on the assumption that multiple articles chosen within the same session by user are related in some way. While the relationships cannot be determined within any given session, aggregating the data across millions of sessions reveals patterns of association between articles.

Ex Libris has created a massive repository of user data to power its bX Recommender service. The architecture of the product involves formatting use log data into a standardized format and aggregating use data within an institution's link server. Data from multiple institutions is then aggregated and harvested using the OAI-PMH protocol into a central repository. These multiple levels of aggregation produce a large collection of user data that can then be processed by analytical software functions as a service provider that responds to requests for related articles.

The concept of bX emerges from research conducted at the Los Alamos National Laboratory beginning in about February 2006 by Herbert Van de Sompel, who led the original development of SFX, and Johan Bollen. [See "An architecture for the aggregation and analysis of scholarly usage data" JCDL 2006). Both currently work at the Los Alamos National Laboratory.

As part of the proof-of-concept for this project and the prototype of the bX Recommender service, Van de Sompel and Bollen aggregated data from the SFX user logs across the digital library repositories at the Los Alamos National Labs and those of the libraries of California State University.

Ex Libris has taken advantage of this research to create a commercial service to provide article recommendations. The company initially announced its work to develop the bX Recommender service in January of 2009. This work involved a group of about 20 libraries as development partners, which included California State University, Tsinghua University Library in Beijing, China, Boston College, Monash University in Australia, and others.

The ability of the service to provide relevant recommendations improves as the size of the repository as user data increases. In most cases, libraries involved with the bX Recommender service will contribute their own link resolver server data to be harvested into the central repository.

One of the key features of bX is the ability to control the recommendations by limiting them to data from a given institution or specified types of institutions. A library might, for example, choose to offer recommendations from only its own user patterns. Another scenario would involve a library in an undergraduate college or university choosing to offer recommendations based on use data from similar institutions.

The bX Recommender does not necessarily have its own discrete interface. Rather, it supports a recommendation feature that can be incorporated into other interfaces. For libraries that use SFX, for example, a related articles fea-ture can be added to the menu of services offered when the SFX button is invoked.

One of the main methods that libraries can use to explore the bX Recommender is an API (applications programming interface). Using an API allows the library to use programming or scripting languages to embed a recommendation feature in any appropriate context within their Web presence. California State University, for example, uses the bX API to integrate bX recommendations into their metasearch environment. The bX API can return results in XML, RSS, or Atom feeds.

Ex Libris offers bX as a hosted service, where the company manages the central repository and manages the process of harvesting use data from participating libraries. While Ex Libris primarily targets libraries that use their own SFX, since it relies on the OpenURL standard followed by all link resolvers, the design of the product accommodates competing products. General availability of the service was announced in May 2009.

bX represents the latest in a series of collaborative projects between Herbert Van de Sompel and Ex Libris. Van de Sompel has been involved in developing many of the concepts and protocols that have become important elements in digital library technologies. He played key roles in the creation of the OpenURL protocol, the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH), and more recently Object Reuse and Exchange (ORE). Ex Libris has been engaged in these efforts and has found opportunities to channel them into commercial products. The company's SFX product derives from Van de Sompel's work at the University of Ghent.

Ex Libris anticipates that other services may also be possible through the bX repository of link server use data. The initial offering of the bX Recommender service may be followed by other services that involve user interactions with scholarly content.

—Marshall Breeding

Kindle—Supersized

One-size-fits-all may work for socks, but evidently not for ebook reading devices. On May 6th, Amazon announced the release of the Kindle DX, a larger version of its popular Kindle 2 device. In an era when small is beautiful, at least when it comes to portable electronic devices, Amazon is bucking that trend by introducing this supersized version of the Kindle.

The Kindle DX appears to have been designed specifically for three types of reading experiences: newspapers, textbooks, and personal documents. The screen–9.7 inches measured diagonally–is 2.5 times the size of the Kindle 2 with its 6 inch display. The pixel count on the DX is 1200 x 824, with 16 shades of gray. The overall size of the device is 10.5 x 7.2 x 0.38 inches with a weight of 18.9 ounces.

The DX is built on existing Kindle technology. It delivers content over a 3G wireless connection, so there is no need to wander around looking for a wi-fi hotspot.

Content ultimately trumps technology–Amazon figured that out a long time ago. After all, they are the world's larg-est purveyor of printed books. The DX has 3.3 GB of storage space, which translates into about 3,500 books. Amazon already has agreements with three large textbook publishers to supply textbook versions to the Kindle DX: Pearson (which includes Addison-Wesley, Allyn & Bacon, Longman, and Prentice Hall), Cengage Learning (Wadsworth and Schirmer, among others), and Wiley. Together, these three publishing groups hold about 60 percent of the higher education textbook market.

If you buy a DX, you may not have to pan, zoom, or scroll for your e-book experience. With the DX, the display autorotates from portrait to landscape as you twirl the device, so it is highly adaptable. The DX has a built-in native PDF reader. So, if you receive or convert all your vital personal documents to PDF format, you can upload them to your Kindle DX. I was not able to confirm whether or not upload fees would apply.

Five institutions of higher education (Princeton, Arizona State, Case Western Reserve, Reed College, and the University of Virginia) are already using the Kindle DX on a trial basis.

More broad-based testing on and integration of these devices into the daily reading lives of students and professors is set for this fall.

On the newspaper front, trials will begin this summer using content from the New York Times, the Washington Post, and the Boston Globe. The absence of the Wall Street Journal and a West Coast newspaper are notable. Amazon also neglected to include a smaller market newspaper.

The beleaguered text-to-speech (TTS) feature has been included in this new Kindle as well. Here's how the DX webpage explains the TTS feature: "With the text-to-speech feature, Kindle DX can read newspapers, magazines, blogs, and books out loud to you, unless the book's rights holder made the feature unavailable." It will be interesting to see if any newspapers, magazines, or bloggers opt to block the TTS feature for their content.

Amazon, perhaps taking a cue from Google, seems to have supersized its thinking. At the announcement ceremony for the Kindle DX on May 6th, CEO and founder Jeff Bezos said that the Kindle vision is to supply every book ever printed in any language in less than 60 seconds–time to start humming the Jeopardy jingle. Amazon seems to be taking a head-to-tail approach toward that goal, beginning with current bestsellers and working methodically toward the small part of the long tail.

The suggested retail price is $489. The Kindle 2's MSRP is $359. So, it'll cost you $139 to supersize your order (Note: the DX ships for free with Amazon's Super Saver Shipping). Kindle-delivery of the New York Times will be $9.99. The DX devices will begin shipping sometime during the summer of 2009, but you can pre-order a DX at any time.

The high-end, high-tech, high-income crowd may flock to the DX. In fact, some bloggers and authors, such as Stephen Peters, author of the book *Kindle Culture: Tales of How Amazon's E-Reader is Sparking a Cultural Revolution* (evidently available only in a Kindle edition), have analyzed responses from readers of the official Kindle Forum, which suggest that the Kindle is most popular with middle-aged adults between the ages of 40 and 70. Some estimates indicate that as many as 7 out of 10 Kindle owners are 40 or older. Perhaps these older adults have more discretionary income, or perhaps some of the features make the Kindle particularly attractive to them, or perhaps teens and younger adults avoid things such as the official Kindle Forum like the plague, even if they own a Kindle.

If these demographic data are anywhere near accurate, the Kindle may be an unusual technological development in the sense that it is the old geezers, not the young whippersnappers, who have been the early adopters. This fact also may be a source of concern for Amazon, and it may be one of the reasons that college textbooks are a major impetus behind the development of the DX.

Some large corporations and government bodies may make the DX standard issue for certain types of employees. Some institutions of higher education, such as Northwest Missouri State University, may bundle the DX into the standard tuition package. For most libraries, however, the DX may be yet another development in reading technology that could prove to be good for readers, but not for libraries.

—Tom Peters

More Info. @:
http://www.amazon.com/kindledx

BookSwim: Everyone into the Reading Pool!

If you can rent a home, a car, and a movie, why not rent a book? That's the basic idea behind BookSwim, a printed book rental service aimed at individuals who are avid readers. BookSwim provides free shipping (within certain weight guidelines) both ways for paperbacks, hardcover books, and college textbooks. They don't do audiobooks.

BookSwim offers several monthly rental plans. The Light Reader plan, which costs $9.95 for the first month, then $19.98 in subsequent months, allows you to have 3 books at a time. You can keep them indefinitely and there are never late fees. If you send two books back, you will receive two more from your list (your "pool"). The Casual Reader plan, which allows five books at a time, with groups of three being sent back at a time, costs $12.45 for the first month and $24.97 thereafter. The Avid Reader plan allows seven books out at a time, again with groups of three in transit. It costs $14.94 for the first month, and $29.96 thereafter. There's also a yearly plan with an annual billing for the Avid Reader option, which seems to be the most popular. The Devout Reader plan allows 11 books to be out, with groups of four in transit. That plan costs $19.93 for the first month, and $39.94 for subsequent months. You may cancel at any time. If you receive and read a book from BookSwim that you enjoy so much you want to own a copy, you can purchase the copy you have on loan.

The media kit section of the BookSwim website asks and answers the question some potential BookSwim customers may ask: Why not just go to the library? Here's the 5-bullet response from the BookSwim website:

- Late fees (never with BookSwim)
- Limited hours (browse BookSwim in your pajamas at 3 a.m. if you'd like)
- Limited selections (can't find a book on BookSwim.com? Let us know and we'll buy it)
- Long waiting lists for popular titles (we buy plenty of copies to slash your wait time)
- Location, location, location (what could be closer than your own home?)

Additionally, BookSwim claims to save avid readers money, time, hassle, and to be good for the environment. The Book-Swim website claims that 20 million trees are cut down each year just to produce the books sold in the U.S.

BookSwim does not trumpet the number of titles available, but they do claim that if they don't have a title you want, they will purchase it for you. A July 2007 article about BookSwim in Publishers Weekly reported that BookSwim had more than 150,000 titles available.

There are other, similar book rental services out there as well. Booksfree.com, the oldest of these book rental businesses, rents paperback books (no hardcovers), CD audiobooks, and MP3-CD audiobooks. They claim to have more than 150,000 titles as well. Booksfree has seven subscription plans, ranging from $10.00 per month for two books shipped as a single order, to $49.99 per month for 15 books that circulate as multiple orders.

Paperspine, which claims to offer more than 200,000 titles, has this to say about the downside of using a library:

> "Libraries can be cost effective but very inconvenient to use. Most of us have had the experience of waiting a long time for a newly released title, trekking back and forth to the library in all types of weather, or perhaps even worse, forgetting to return the book and accruing late charges."

Paperspine offers four rental plans, ranging from a $9.95 monthly fee that allows you to have up to 2 books at a time, to the $24.95 monthly plan that allows up to 5 books at a time. Shipping is free, but you must return at least two books before the next book on your list will be shipped to you.

An economically rational avid reader has some options to mull over and calculate if they want to use a library alternative. If you bought a Kindle 2 and paid an average of $10 to own digital versions of frontlist bestsellers, how would that compare to subscribing to one of the subscription plans from BookSwim, Booksfree, Paperspine, or elsewhere? Following either route, you won't have a bunch of paper books filling up your shelves.

—Tom Peters

More Info. @:

http://www.bookswim.com
http://news.cnet.com/8301-13512_3-10223739-23.html
http://www.booksfree.com
http://www.paperspine.com

Spicy Poetry

A technology called SpicyNodes is being used by the Institute for Dynamic Educational Advancement (IDEA) to make poetry, including its history and forms, more engaging and interactive. The "Poetry through the Ages" website is poetry in motion—literally.

You can explore the website in a traditional manner, following the hierarchically displayed lists of heading and subheadings, or you can use SpicyNodes to create a nodal interface, vaguely reminiscent of the fish-eyed forms of browsing, where things "up close" appear in greater detail than do things in the distance.

The website also introduces a new poetic form called node poems. Node poems use not only words but also color schemes, soundscapes, and thee-dimensional images to convey a poem. Node poems also create a new dynamic between the poet and the reader. The reader may construct and manipulate the node poem as he or she pleases. You can even write your own spicy nodal poem from scratch.

The SpicyNodes interface is free for any artistic use. From cell phone novels to node poems, the 21st century is shaping up to be an interesting century of experimentation with new forms of creative literature. Libraries of the 21st century should start collecting, organizing, adding metadata to, providing access to, and archiving these new forms.

—*Tom Peters*

More Info. @:

http://www.webexhibits.org/poetry/