Integrating the OPAC with emerging discovery tools

By Thomas T. Kaun

Two stories from the real world

Recently, a teacher-librarian sent a plaintive query out to LM_NET, the listserv for librarians in schools in the USA, asking whether there was any way to make searching library catalogues more like searching Google. Her request points out how our patrons – students and staff alike – have become accustomed to finding information directly by searching the Internet. The same, however, is not possible with most online library catalogues (OPACs). This report will describe ways that libraries are beginning to implement exactly what this teacher-librarian wants to provide her patrons. It will also examine the challenges faced by library practitioners as we begin to merge the library's collections with the Internet.

Another story comes in the form of a letter to Peter Morville (http://findability.org):

> *Mr. Morville: I thought you'd like to know how I came to find Ambient Findability: About a month ago my 9th grade son started a school science project, and part of the required work was to prepare a bibliography. When I asked to see his work, I was aghast to see that all of the references in the bibliography were found on the Web using Google. He had not even considered using a library for this task. I insisted that he needed to find sources that were known to be authoritative and that we would go to the library at once to research it. The library had not opened yet, so we went across the street to Barnes and Noble and went to the Science section to start looking for references. While there, I wandered into the Engineering section and found your book by happenstance, started reading it, and bought it before we left.*
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> *Because his subject was a bit unusual, I explained the importance of reference librarians and how they can help find materials to support research. We went to the library, introduced ourselves to the reference librarian, and subsequently found good quality information that he needed. Although he found the critical information he needed to form his hypothesis in a book, I don't believe he took that exercise seriously, and seems to think it's odd that Google isn't sufficient for academic work. Our next conversation on this subject will be about how free technology isn't a complete answer, just partial, and needs to be augmented by a variety of other media, including for-fee online services.*

Google vs the OPAC?

The issue, as I point out to my students when I'm nagging them to use our print materials accessed via our OPAC, is that we can't search inside of books very well (yet) in the same way we can look inside the material on the web. We all know how useful and also inefficient the Internet can be. The Web recently reached something of a milestone when the 180-millionth website was accounted for. It's not hard to explain how Google gets "about 71,800,000" hits when searching the terms civil and rights!.

Nevertheless, we all know that our patrons, students and staff alike, claim Google to be the best search tool ever, even if they don't really find what they are looking for. And they maintain this stance even if the materials they find are useless or irrelevant.

Changes must come to our OPAC systems.

Our patrons are losing patience with our OPACs because, for obvious reasons, they cannot find something as easily as they can on the Web. Numerous studies have shown that users, including ourselves, would rather have something, of good quality or bad, rather than nothing when they are looking for information. When using the Internet we are immediately gratified by the results which are right in front of us, even if

they are incorrect or irrelevant. We don't have to go look for the information someplace else and in a format which is not as easily accessible.

An important report

In March of 2006 a seminal report (Calhoun) published by the Acquisitions and Bibliographic Access Directorate of the Library of Congress (U.S.) described the "destabilizing influence of the Web, widespread ownership of personal computers and rising computer literacy" as "creat[ing] an era of discontinuous change in research libraries . . .". The executive summary goes on to state: "[t]he catalog is in decline, its processes and structures are unsustainable, and change needs to be swift". The report goes on to analyse the present situation, proposing assessments, a vision for the future and a plan for change. Although the report is addressed to the academic and business communities of the U.S., there are implications for school libraries as well.

The question of how to design a web OPAC for today boils down to how to design an information service in a world rich with information services and filled with users who make information seeking – though not necessarily at libraries – part of their everyday lives.

> *It's important for us to understand how millennials deal with information if we are to succeed in delivering our services to them. According to Schooley, millennials are "accustomed to receiving information quickly and from multiple sources in real time and processing it immediately. They have little tolerance for delays; expect Web pages to load immediately. They expect graphical, highly intuitive user interfaces". Millennials prefer social networking, online, real-time communications* (Breeding, 2006).

Calhoun states that:

> *[i]f one accepts the premise that library collections have value, then library leaders must move swiftly to establish the catalogue within the framework of online information discovery systems of all kinds. Because it is catalogue data that has made collections accessible over time, to fail to define a strategic future for library catalogues places in jeopardy the legacy of the world's library collections themselves.*

Although our rather small library collections may not seem too important in the big scheme of things, as our patrons see new technologies at work in larger public libraries, including our county and large city systems, they will begin to expect the same for our smaller collections. And if we want our smaller collections to be used as effectively as possible, we will need to provide better, more efficient and more immediate access to what is in them. Furthermore, we need to prepare our students going on to higher education for the more sophisticated catalogues they will use in an academic setting.

Web 2.0

Another key investigator examining how the Internet has challenged the way we use our online catalogues is Casey Bisson. Bisson, a software developer and information technologist at Plymouth State University's Lamson Library, postulates that Web 2.0 is about people. Currently over 1.73 billion people across the globe have Internet access, 738 million in Asia alone (internetworldstats.com); over 100 million people in the U.S. use the Internet on an average day and 80% of these Internet users believe the Internet is a reliable source of information. He argues that libraries are rich with the stuff people would like to link to, but the architecture of our systems often fails us in making that possible (Bisson, 2006a).

Four challenges to redesigning the OPAC

Bisson believes that there are four challenges to redesigning our OPACs to help our patrons find the information they seek. They are: usability, findability, interactivity, and architecture. The first three of these are explored below.

Usability

Why can't our catalogues be as user-friendly as Amazon and Google? The challenges to usability include the fact that our catalogues require adherence to strict search algorithms; the metadata in our catalogue databases is optimised for computer economy, not ease of use by our patrons; the inventory is the driving metaphor for our catalogue systems (many catalogues started out as circulation systems before they became searchable by the public); and for the most part we are using catalogues which are very similar to those used 30 years ago.

The paradigm for usability needs to be a self-service model. It doesn't take much instruction to learn how to find an item on the Amazon website. Why should it take direct instruction for patrons to find materials in our catalogues and thus in our libraries? Uncontrolled vocabularies are the norm in searching online databases but tend to be very unproductive in searching our OPACs. In schools, although we may have the time to teach our students to use the catalogue in the most productive way, should we? Given the emergence of new models of searching, isn't it more productive to adapt our catalogues to these new models rather than expect our students to adapt to our older systems?

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Our patrons have become used to finding something on the Internet to answer their questions. But our catalogues lead users not to answers, but to "potential paths to answers" (Bisson, 2006b). We must take advantage of the greater processing power at our disposal to develop better indexes, give searchers better information, shorten the path between question and answer, and enrich the catalogue display with non-inventory information.

Findability

The next challenge is one which, for lack of a better term, we call findability – the ability of the user to find what they are looking for. With search engines, users find something almost every time they look, useful or not. The same, however, is definitely not true for our OPACs. Studies and experience have shown that patrons will frequently use whatever is easiest to find. "Findability precedes usability. In the alphabet and on the Web. You can't use what you can't find" (Morville). As professional librarians, we have certainly come to realise that libraries don't have a monopoly on either knowledge or research tools. Although most users have access to many web-based tools, when they use our catalogues they have made a conscious effort to find something in our libraries. It is up to us to make that search a fruitful one by making our materials as findable as possible.

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When our patrons access our catalogues we are not competing with the Internet, we are complementing it. By providing access to online materials through the OPAC we are also providing what we always have, a professional selection process which helps our patrons reach the information they require as efficiently as possible. As materials become more digitised we will play an ever more important part in supplying the information as well.

A model for improved findability is the way in which Google Book Search and Google Scholar interact with WorldCat and online database providers. This paradigm allows users to not only locate references to materials (like a traditional catalogue) but to access the full text of those materials as well.

Interactivity

Web 2.0 centres upon user-generated content, including wikis, blogs, Flickr, iTunes, podcasting, YouTube, tagging and folksonomies. We must consider developing these interactivity tools in our OPACs. Web 2.0 is about empowering individuals and enabling the users by themselves to add value to library collections.

For example, we might allow our patrons to add their own tags to catalogue records, or encourage them to add their own reviews to books they have read in written form or podcasts. Interactivity also means showing the covers of books and opening them up to users so they have the opportunity to determine if the material will be worth the effort of searching for it in the physical collection. Many of these interactivity features are becoming mainstream in library automation software, including several examples discussed below.

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One example is Bisson's own open source OPAC software, Scriblio (http://about.scriblio.net/). Scriblio uses the WordPress (http://wordpress.org) platform to enable users to "represent bibliographic collections – library catalogues and such – in an easily searchable, highly remixable web-based format" (About Scriblio).

When a search is done, the results have tags, based on keywords in the records including those added by patrons <http://library.plymouth.edu/search/mark+twain>. Each item in the list has links to Google Books if the item is available there. An example of a record can be found at: http://library.plymouth.edu/read/335439.

The record includes not only the obvious information from the MARC record such as title, author, publication information, and description, but also includes links to 'related items': the means to link to or embed the specific record; multiple ways to bookmark the item; an email link; RSS feeds; and a way to comment on the particular item.

Another perspective on catalogues

A more recent perspective on library catalogues comes from John Repplinger, science librarian at Willamette University in Oregon. In a recent article for the Oregon Library Association Quarterly, Repplinger lays out the case for several criteria by which to judge library catalogues as they continue to develop into the 21st century.

In terms of the findability criterion he states that library catalogues must be flexible "to meet the changing needs of their communities". Catalogues need to help users "become better searchers" by enabling them to learn from their mistakes. The most common example of this kind of interface involves phrases such as 'Did you mean . . .?' and giving the user alternatives to the entered search terms, along with ways of narrowing their search with a simple click rather than returning to the start screen. Another feature which will be helpful will be the tagging of records with user-generated terms which lie outside of "controlled vocabulary" terms. This has the potential of adding terms as they are developed in the culture as language develops.

In the area of interactivity, Repplinger suggests catalogues provide space for adding patron reviews. This will also allow for more of the social networking culture to take hold in our libraries. The catalogue should also

“list a few books from similar subject headings”, which provide a readers’ advisory-like capability at the direct point of reference. There should also be ways, such as RSS, for patrons to follow a particular author or topic as new materials are added to the library collections. One caveat which we need to aware of and anticipate in all these technologies is the potential for the abuse of privacy. Policies must be put into place before such systems are set up and revised regularly to ensure the privacy of our patrons.

Finally, Repplinger suggests the revolution being caused by “small mobile technologies, such as cell phones and personal digital assistants” needs to be addressed. Smart phones and other such devices are becoming ubiquitous in schools and in society in general, and we must therefore be prepared to use them to our advantage. Many online catalogue vendors are beginning to develop mobile versions of their catalogues, an example being WorldCat’s Mobile app. Teaching the proper use of such devices will need to become part of our information literacy syllabuses.

Two examples of changing interfaces

AquaBrowser

In spring 2005, the California State Librarian convened a group of librarians in Sacramento to explore some of the new catalogue technologies appearing in the market place. Much to my surprise, I was the only school librarian present, even though the event was free of charge. I viewed presentations from futurists of the field and learned about such concepts as FRBR, federated searching, and XML. One of the most interesting products was a catalogue interface called AquaBrowser Library developed by a Dutch company, MediaLab Solutions, and licensed in the U.S. to TLC.

The appealing feature of AquaBrowser is that it uses MARC records, supplied by whatever automation software is being used, to deliver more information to our users with its graphic methods and the arrangement of text in a user-friendly way. AquaBrowser is an example of how catalogue interfaces can help us to take better advantage of the resources in our own library collections by making them more accessible to our patrons.

AquaBrowser provides a screen divided in three columns. The left column is headed ‘Discover’, the centre ‘Search’, and the right ‘Refine’. After the user enters a search term, it is surrounded by a ‘constellation’ of related terms. In the centre column, the records retrieved by the search are listed. The records in this list can optionally be ordered by relevance, title, author or date. The right column lists the records in various groups like media type, author, subjects, locations, etc. Unlike traditional OPACs, the user has access to several different ways of pursuing and sorting information all on one screen.

We tried AquaBrowser software in my local library catalogue, but unfortunately the technicians were not able to get the interface to recognise our records for availability – in other words, the patron had no way of knowing whether material was on the shelf. That turned out to be a fatal flaw and we have not pursued AquaBrowser any further. This is one more lesson to be learned from the current situation – experiments can sometimes fail. And then we try other approaches.

However, AquaBrowser was recently added as an interface in the local Marin County (MARINet) library system and so my students are able to use it to search the local public library OPAC.

Follett Destiny

An even more mainstream example of more interactive automation system is Destiny from Follett Software, the most popular school library automation software in the States.

Destiny does add some of the interactivity features which both Bisson and Repplinger discuss. Using its Destiny Quest interface, patrons have the ability to recommend materials, to add reviews and to rate specific items in the catalogue and share them with friends. All of these features are considered to be Web 2.0 since they involve the user in interactions with the collection which have not previously been possible. In

the area of findability, Destiny offers keyword searching for titles, authors, subjects and series which makes it much more likely patrons will find relevant material for their needs. However, there is no tag or cloud searching and the limiting of the search results is still too cumbersome to be very helpful for most users.

The bottom line

In the end, unless we are willing to work with developers and vendors of school library automation systems and insist that they pay attention to the developments in social networking, mobile technologies, searching and tagging tools, and so forth, we are going to increasingly lose relevance to an ever more connected and impatient generation of users. Whether or not we use an interface like AquaBrowser or Destiny Quest, we must find ways of making our catalogues and the information they point to ever easier to use, make the rich resources they point to easier to find, and provide better ways to allow our patrons to interact creatively with that information.

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Commercial sites to explore

AquaBrowser Library: http://www.serialssolutions.com/aquabrowser/

WebFeat: http://www.webfeat.org/

Follett Software Company: http://www.follettsoftware.com/page/library_manager/

Note: This article is a more current version of the paper 'The Future of the OPAC: Integrating the OPAC with Emerging Discovery Tools' that was first presented at the IASL Conference held in Taiwan in 2007.

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