ICS 691

Professor Gazan

An examination of the next generation of library catalogs

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Introduction

The perceptions and functions of library online public access catalogs (OPACs) have changed the last few years due to the growing popularity of social computing and web 2.0 tools. Library OPACs have a reputation of being difficult, cumbersome and boring to use. This report from 1995 shows some of the problems users have had with traditional OPACs (Calhoun 2006)

- Many failed searches
- Frustrating navigation
- Unfamiliar subject indexing policy and vocabulary
- Confusing search and retrieval methods (e.g., pre-coordinate phrase searching, post-coordinate keyword/Boolean searching)
- Poorly organized search result sets (e.g., little or no relevance ranking)

Not only have librarians tried to improve the relevancy and intuitiveness of their OPACs searching capabilities they have also strived to make using the catalog fun and inviting. They have added discovery tools to the catalog as well as opportunities for users to contribute and interact with the catalog, and in some instances with other users of the catalog.

For this paper I will be examining four library OPACs. Three of the OPACs include web 2.0 tools and one doesn't. First are two catalogs from the Denver Public Library, the old one and the new one. The old one is a traditional OPAC with no

added web 2.0 features. The new one was developed by Aquabrowser and is still in development. The third catalog I will be examining is from the Darien Library.

Darien Library has developed their own OPAC. Called SOPAC 2.0, it was developed from open source software. Finally, I will examine the OPAC of Oakville Public Library developed by Bibliocommons.

My informal analysis of the catalogs will involve searching for the book *Twilight* by Stephenie Meyer. I chose this title for a couple of reasons. Children and teens are some of the heaviest users of libraries. (Pew Internet & American Life Project 2007) The Twilight series has been very successful with pre-teens, teens, as well as adults. *Twilight*, which is the first in the series, was recently adapted to the big screen. Every library I searched owned multiple copies. I felt, because teens are likely comfortable with social computing tools, items for teens are more likely to be tagged and commented on then something written for an adult or academic audience.

One of the main things I wished to examine was how fast and easy was it to find the book *Twilight* using whatever default search is provided by the catalog. I also examined the added features of the catalog. Some questions I considered weredoes the catalog give me more information about the item, can I discover items similar to *Twilight*, how much can I interact with the catalog and other users?

The Catalogs

Denver Public Library http://denverlibrary.org/catalogs/index.html

The Denver Public Library serves a population of 592, 052 with one central library, 22 branches and one bookmobile. (Denver Public Library) In June of 2008, Denver Public Library chose to update their library OPAC with AquaBrowser Library with MyDiscoveries. Aquabrowser was developed by Medialab Solutions, a Dutch company. Medialab Solutions was bought by Bowker in June 2007. (Bowker 2007) The Denver Public Library provides access to both the old catalog and the new one still in development.

The Old Denver PL Catalog

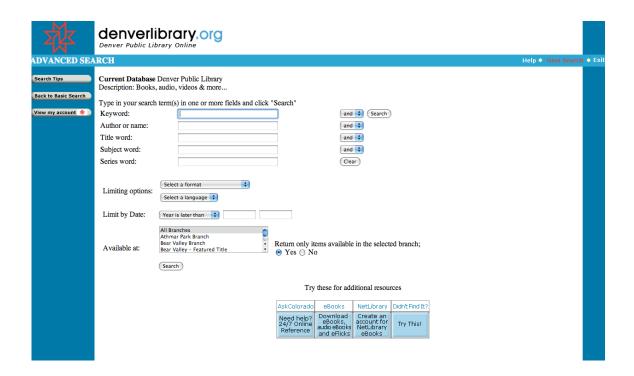
First impression- This is an old style catalog. Though there is a search bar on the home page, the catalog is not fully integrated into the website. Users must connect to the catalog, which takes a bit of time. The total time was roughly 6 seconds, long enough to take this screenshot.

Loading CARLweb5.3; one moment please....

A search of 'twilight' in the default search bar on the home page produced 781 records. They are listed 10 at a time. I am not given the opportunity to list more than 10 at a time. On the left hand side are the options to sort by author, title, call number, date or original order.

The book *Twilight* is not listed in the first 10 results. The next page does include *Twilight*, at #20, however it is the large print version. The ebook version is listed at #37. After I didn't find it in the first 100 titles I decided to do another search.

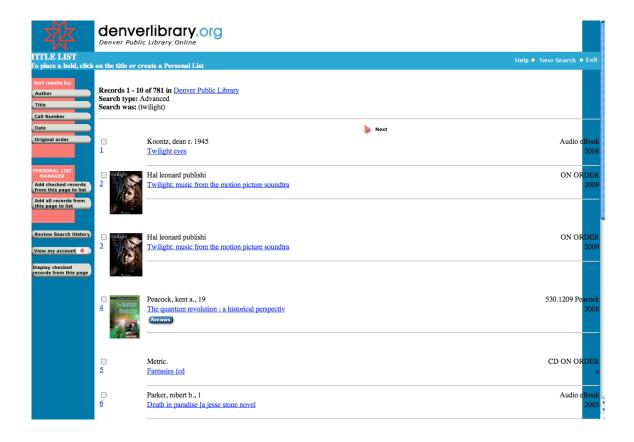
The advanced search offers five search fields; they are in this order: keyword, author or name, title word, subject word, and series word. I can use all these fields and connect the searches using Boolean operators, which are offered in a drop-down menu.



I first try a title search. With a search of title: twilight 360 records are found. This again is too many for most users to handle and the regular print version is not listed in the first 10 records. A search of title: twilight AND author: meyer does the

trick but inexplicitly the regular print version is the last listed of the 15 items found. So far the old Denver PL OPAC has failed to impress. I have been forced to perform multiple and more precise searches to reach the book *Twilight*.

In addition to frustrations with searching there are other issues with the old catalog. The graphic design leaves much to be desired. There is a horizontal blue bar going along the right hand side of the screen. This bar intersects the description of the item's format making it difficult to read.



Also annoying is that each session is timed. After idling for 5 minutes you are warned that your session will time out. One to two minutes later your session is closed.

Your connection to DPL Catalog has closed.

Your session was idle too long and has expired to allow other users access.

Click here to return to DPL Catalog.

Click here to return to My Library Card.

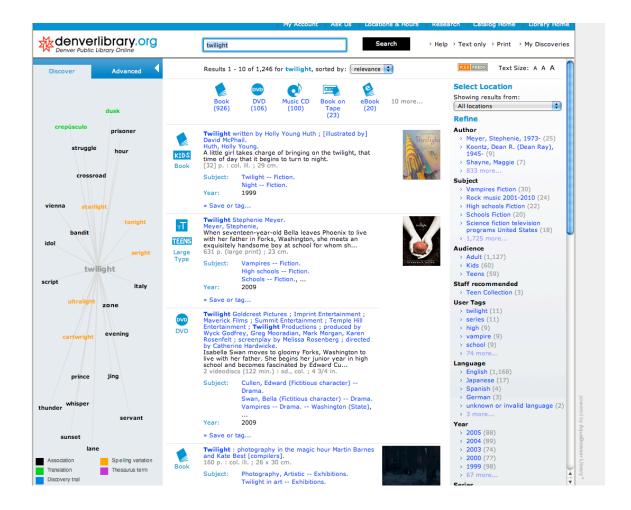
The only added features present are a picture of the book cover and reviews from Publisher's Weekly, School Library Journal and Booklist. Other then that this OPAC is barebones, only providing the necessary information and not doing a very good job at that. I can see why Denver chose to upgrade their OPAC.

	The Good	The Bad	The Ugly
Old Denver PL catalog	o I eventually found what I was looking for?	o Added features of cover image and reviews from Pub. Weekly, School Library Journal and Booklist.	 Nearly everything else- difficult to get to wanted item. No discovery tools. Session timed and closed after

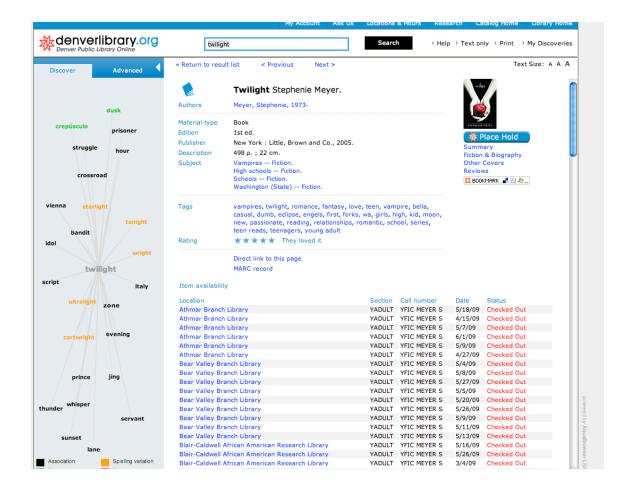
	only a few minutes idle.

The New Denver PL Catalog

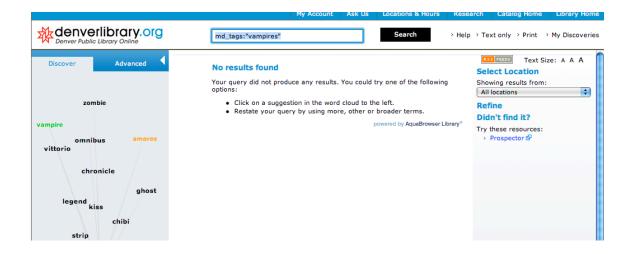
As mentioned earlier, Aquabrowser developed the new Denver PL catalog. The search bar is at the top of the page and states 'Enter your query here'. I type in twilight to perform what I assume is a keyword search. The relevancy is certainly better than the old catalog. Out of 1, 246 items found, the book is the #6 item listed. However, like the old catalog, the large print version is listed earlier, at #2. Why this is the case I cannot determine. (I performed a few other searches to see if this was the case consistently. From my small sample it appears that large print books appear before regular print for fiction books but not for non-fiction.) There are helpful linkable icons at the top users can use to limit their search by format. One can see that 926 items found are books, 106 are DVDs, 100 music CDs, 23 Book on Tape and 20 ebooks, there are 10 more formats found which users can view by clicking '10 more...'.



There are a number of added features and discovery tools in the catalog, including tags. However, I found many issues related to the tags. The first is there seems to be two sets of tags. There is a set of tags in a starburst related to the search term and a set of tags simply listed related to the individual record. On the left hand side is the tag starburst. These tags are based on the search term twilight, therefore most of the tags are not relevant to the novel *Twilight* by Stephenie Meyer. The list of tags for the individual item is located prominently on the page, before the item availability information.



From my examination into Aquabrowser I found that the starburst is populated with tags from LibraryThing while the tags on the item's page come from the Denver Public Library users and/or staff. (Aquabrowser) Hover over the tag and the number of times the tag has been used is displayed. The highest number was 7 and that was for 'vampires'. A good number, 21 of the 28 listed, had only been used once. These include non-relevant tags such as dumb and engels. Clicking on the tag the system performs a search of that tag, yet for none of the tags are any results found. Clicking on vampires I thought surely results would be found, but alas that is not the case.



In addition to performing a search of the tag the starburst changes when clicking on a tag. In the case of vampires I noticed it provided the choice of vampire, clicking on this resulted in a keyword search of vampire and a number of records were found. There seems to be a major problem marrying the tags given by registered users and those from LibraryThing, which populate the starburst from Aquabrowser.

Another issue is the use of multiple word tags. Users are instructed to enclose multiple word tags with double quotes. Users seemed to have not noticed this because for *Twilight* the tags high and school are split up, also the tags new and moon (*New Moon* is another book in the series) are split.

Speaking of users, the Denver Public Library allows anyone to register and contribute. This however is not at all obvious when searching the catalog. There are two places on an item's page where you can log in and contribute. There is a 'My Discoveries' link in the top right corner next to 'help, text-only and print'; all these options are in the same font. The other way is through '>>save and tag' which is

under the image of the book cover following links to 'place hold, fiction & biography, other covers, and reviews.' With so many community features available I am surprised to find means to contribute is well hidden.



In addition to tagging and rating an item users can also write a review. The community reviews are listed following the availability information of the item. In the instance of *Twilight*, because there are multiple copies, users must scroll quite a ways down to see the reviews. There are only two reviews displayed. Interestingly enough even after logging in to MyDiscoveries there is no link present to add a review. Users must go back up the page to the star ratings and tags to write a review.

In list(s):	Add to list
My tags:	Save
	Separate each tag with a space or use double quotes
	to group them together. I.e.: cars japan "feng shul"
My rating:	ជជជជជ
My review:	Short title
	Full review
Tags	vampires, twilight, romance, fantasy, love, teen, vampire, bella, casual, dumb, eclipse, engels, first, forks, wa, girls, high, kid, moon, new, passionate, reading, relationships, romantic, school, series, teen reads, teenagers, young adult
Rating	*** They loved it
	Direct link to this page
	MARC record

Another interesting added feature is the display of other book covers. Some books have multiple covers and some are quite interesting, perhaps even works of art. I am disappointed, however, that covers are only displayed as thumbnails and there is no way to enlarge them for a closer look.



It should also be noted that during the numerous times I searched the catalog there was one time where the catalog was extremely slow and at one point just seemed to stop. I was forced to go back later and perform searches. This could have been caused by any number of reasons, including server maintenance, weather related issues, heavy use lag, etc.

	The Good	The Bad	The Ugly
New Denver PL catalog/Aquabrowser	 Relevancy was good. Found Twilight on first page. Allows users to contribute via tags, reviews and ratings. 	 Not obvious users can register and participate Many issues with tags. Large print listed before regular print. 	o Nothing. Overall I find this to be an easy to use and fun catalog.

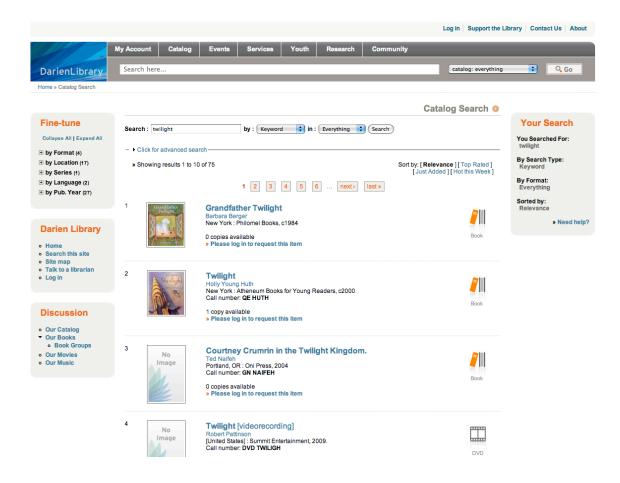
Darien Library http://www.darienlibrary.org/

Darien Library is a single library in the state of Connecticut. According to their 'About page' Darien is one the top public libraries in the country according to Hennen's American Public Library Rankings. (Darien Library) They have also been trailblazers the past few years. In 2009 they opened their new \$27 million, 56,000 square foot library. The library has a café, overstuffed chairs, a small business center, and surprising to many librarians, books organized by subject as opposed to the Dewey Decimal System. (Silverman 2007) Actually they seem to still use the

Dewey Decimal System but have in their words "remixed it" (Darien Library 2008)

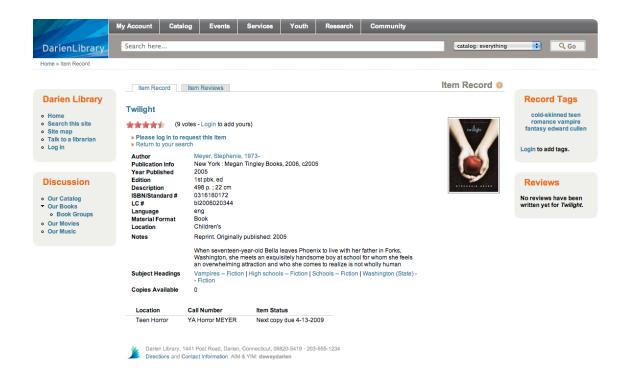
The Darien Library is also revolutionary in its new catalog. Introduced within the past year it is an open source social catalog interface created by John Blyberg. He has named it SOPAC 2.0. (Hadro 2008)

On the home page there is a search bar. The default setting is 'catalog: everything' but this can be changed in the drop down menu to books, movies or music, or to search the website. Typing in twilight, 75 results are found and I can see now that it was a keyword search. The results are shown 10 at a time and displayed according to relevancy.



There are options to sort by 'top rated', 'just added' or 'hot this week.' Sorted by relevancy, *Twilight* does not appear until the 6th page. Change to 'top rated' or 'hot this week' and *Twilight* is included in the first 10 results. However, and this may confuse some users, when the results are resorted you are not taken to the first page. Meaning if you are on page 5 when you click on 'sort by top rated' you will see page 5 of the results sorted by top rated.

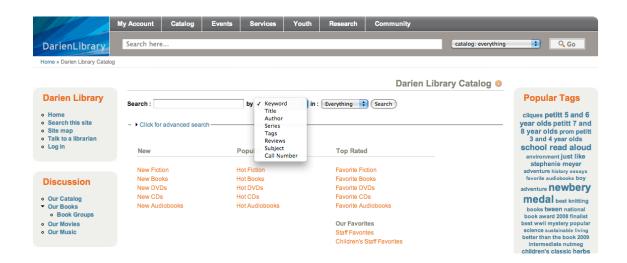
Like the Denver Public Library/Aquabrowser users can rate items on a 5 star basis, tag items and write reviews. Similar to Aquabrowser there are issues with these added features. The invitation to login and participate is not as hidden as with Aquabrowser but it is still not obvious. Next to the star rating of the item there is a link to 'login to add yours' and below the tag list is a link to 'login to add tags'. Just like Aquabrowser anyone can register and participate.



The reviews are in a box below the tags. It lists only the title of the review. By clicking on a title the entire review is displayed on a new page. Oddly enough you can't click on 'Reviews' to see all the reviews, to do that you must click on the Reviews tab. This seems unnecessary, as most items don't have any reviews and those that do have only one or two. These reviews could easily be displayed at the bottom. At the very least I would suggest a link in the box to the reviews page.

Tags are listed and by hovering over them the number of items with the same tag appears. This OPAC is still very young. I didn't see any tags used for *Twilight* used for other items as well. I added a few tags to see how they work. Like Aquabrowser you can add a multiple word tag but it must be in quotes. However, unlike Aquabrowser, this tip is not given. I figured it out through trial and error.

You can also search tags, and even reviews. This option is available in the drop down menu next to the main search bar. The ability to search tags and reviews is included with keyword, title, author, series, call number and subject.

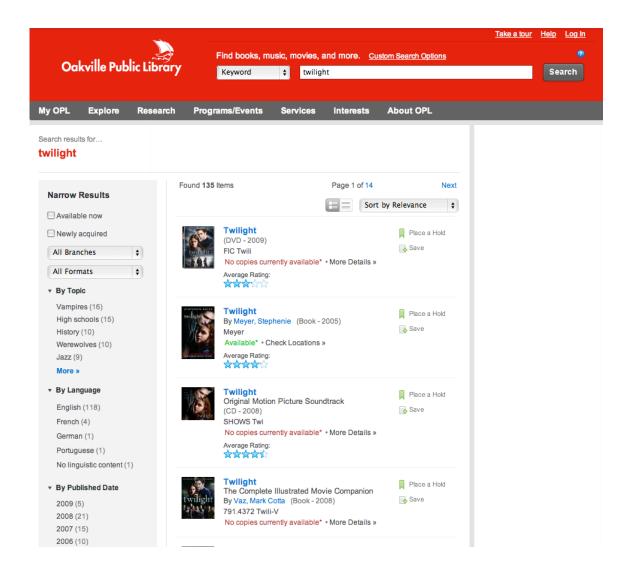


	The Good	The Bad	The Ugly
Darien Library/ SOPAC 2.0	 Users can register and contribute. Ability to search tags and reviews. 	o Relevancy was not the best, needed to resort results to find wanted item.	 Nothing. Quietly this is a good and neatly organized catalog.

Oakville Public Library http://www.opl.on.ca/

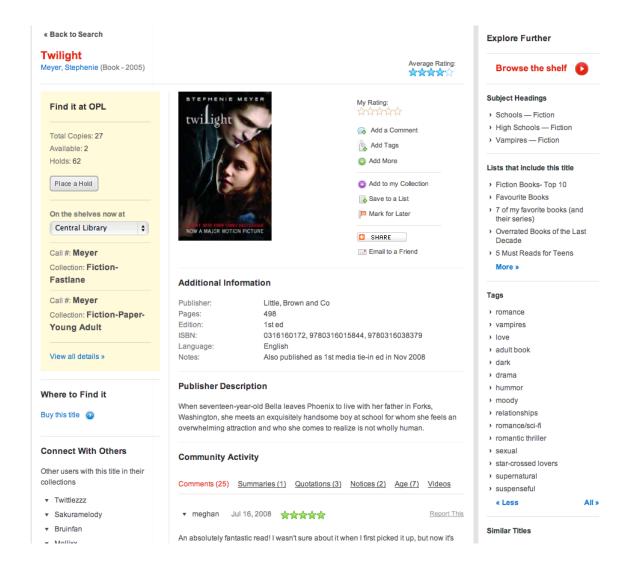
Oakville Public Library is located in Ontario, Canada. The library system consists of one central library and 5 branches serving a population of 160,000. (Oder 2008) In July of 2008, Oakville revealed their new catalog developed by Bibliocommons, a Canadian company.

A search bar is included on the home page. Keyword is the default search option. Like all the others, I search for 'twilight'. 135 records are found and the book is the second entry following the motion picture DVD. No troubles here. This is the fastest yet I've found the book *Twilight*.



Many added features are available with Bibliocommons. Like AquaBrowser and SOPAC 2.0 Bibliocommons provides the opportunity to add tags, reviews and rate items on a 5 star rating basis. The tags are neatly listed on the right hand size. It is not clear how many times each tag has been used as hovering over them offers no further information. The first 5 are listed and by clicking 'more>>' the list expands to include all tags. They are mostly relevant although there is one tag, hummor, which appears to be misspelled. Unlike Aquabrowser and SOPAC 2.0 I am

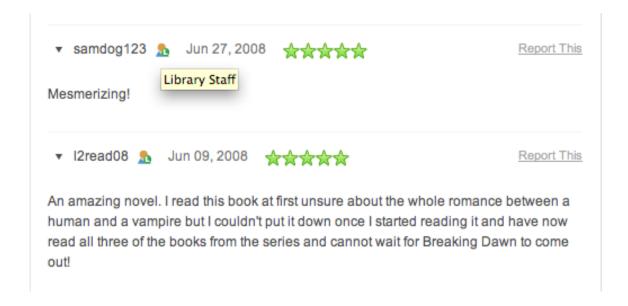
not able to log in and add my own tags, reviews, etc. Only registered library card holders are able to participate.



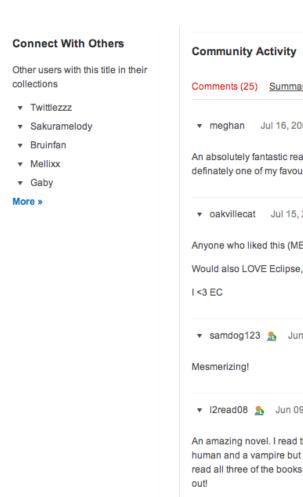
Another added feature is the ability for users to comment on items.

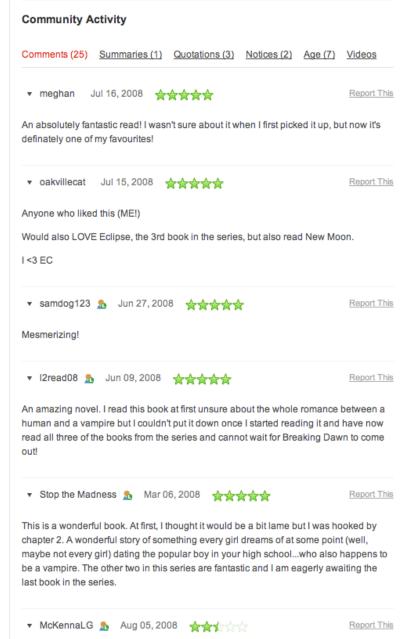
Bibliocommons purposely chose the term comment as opposed to review. (Oder 2008) Some users may be a bit intimated by posting a review. By calling it a comment, the catalog makes things more flexible and casual, hopefully making the user more comfortable. The OPAC lists user comments along with the star rating

given by the user. Most comments are short, only a few sentences, a couple are multiple paragraphs. Each comment is date stamped and lists the username of the contributor. The comments are displayed in the order they are created with the oldest listed first. Another interesting feature is that library staff users are given a particular icon next to their screen name identifying them as library staff.



In addition to comments, users can add 'summaries, quotations, notices, age and videos.' Comments from the community on the appropriate age for an item and notices, such as sexual content or violence, can be helpful to Oakville Public Library users with children.





Bibliocommons sets itself apart from Aquabrowser and SOPAC 2.0 in that it actively encourages library users to interact with each other, not just with the catalog. On the left hand side of each item is a heading, which states 'Connect with Others.' Here there is a list of users who have added *Twilight* to their collection. By clicking on a user you are taken to that users' collection. You can 'send a message to

the user, trust the user, or ignore them.' This screenshot explains what it means to trust someone in Bibliocommons. Trusting or ignoring a user is anonymous and no personal information is given besides the user name.

Q: What are trusted sources?

A: Your trusted sources are other library members whose opinions you value on topics of your choosing. Adding trusted sources provides you with customized recommendations tailored to your specific areas of interest. You will receive automatic recommendations from your trusted sources that are associated with these topics.

Q: How do I find trusted sources?

A: Look for comments by other members on books or movies that you really enjoyed. For example, if you've recently borrowed and enjoyed a certain book, see if anyone else added favourable comments to it, and add them as a trusted source.

Q: If I add someone as a trusted source, do they have to accept me before I get recommendations?

A: No, there is no approval process. The next time your new source rates a title that meets your trust criteria, you'll see that title on your Recommendations page.

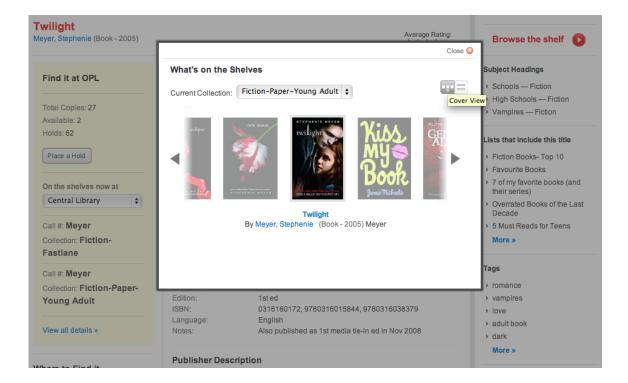
Q: What are trust criteria?

A: Think of trust criteria as advice from your friends on particular subjects. You may have one friend who shares your taste in pop music but not movies, and another with interested in the same political biographies you like. But your taste in movies isn't shared by either of them. Instead, you have a co-worker who offers good advice on films to see. When you set up trust criteria, you're saying "I'll take suggestions from this person on this topic."

Q: When I add someone as a trusted source, do they know?

A: No, it's entirely anonymous. However, this feature may be added in the future. Chances are good that if you like someone's recommendations, they will like yours.

My favorite added feature of Bibliocommons is the ability to browse the shelf.



By clicking on 'Browse the shelf', which is in red, in large font and in the top right corner, a new window is opened on top of the original window. Here you can see what is ahead and behind the item on the shelf. You can click on a cover and it will take you to that item's page. This is a wonderful discovery tool and can be especially helpful with nonfiction books.

Another discovery tool offered by Bibliocommons, in addition to tags and browsing the shelf, is user created lists. The lists *Twilight* has been added to are listed on the right hand side. They are similar to lists users can create on the online shopping site Amazon.com.

Lists that include this title

- > Fiction Books- Top 10
- > Favourite Books
- 7 of my favorite books (and their series)
- Overrated Books of the Last Decade
- > 5 Must Reads for Teens
- > Favourite Books
- > Book Club
- Never want to put them down/stayed up until 2am reading
- Books that forced me stay up until (at least) 3am reading!
- > Books That I Recommend To Everyone!
 - « Less

	The Good	The Bad	The Ugly
Oakville Public Library/ Bibliocommons	 Relevancy was great, item was second listed in results Added features bring a lot to the catalog Can connect with other library users Great discovery 	o Tags haven't reached critical mass point	o Nothing. I love this catalog!

tools (Browse the shelf and lists)	

Final Thoughts

From this examination I can see there are a lot of fun and exciting changes being made to library catalogs. In addition to easier and more intuitive searching some libraries have included web 2.0 tools to enhance their catalogs. But how much these tools enhance the library and if their use is widely adopted by library patrons is yet to be seen. Any library considering adding these tools must first consider whether the community they serve would use and benefit from these tools. An OCLC report from 2007 shows "the vast majority of people would not be very likely to contribute content, self-publish, or join discussion groups if the library offered these services." (Mercum 2008) However, this is just one study and perceptions and expectations change. The trailblazing libraries examined in this paper are a great benefit to all other libraries as they are closely watched to see the challenges and benefits these new tools bring.

One of the most popular web 2.0 tools to add to an OPAC is tagging, indeed all three of the new OPACs I examined included tagging. Besides the functional issues, such as those Aquabrowser face, there are other issues to consider as well. I believe the main problem is that, with the exception of the tags from LibraryThing that Aquabrowser has, none of the tags have reached anywhere near the number needed to be useful. And in the case of Bibliocommons if contributors are restricted to library cardholders then they may never reach the necessary numbers. User tagging must be encouraged otherwise this

added feature is at best superfluous and at worst misleading information crowding the library catalog. (Steele 2009)

Motivating the users to not only tag items but to contribute in other ways can be a challenge for libraries. Mercum and Žumer in the article "New generation of catalogues" for the new generation of users" ask the question "Are library users prepared to help altruistically the library to enhance its catalogue or will they participate only when they can also fulfill their private incentive (like keeping track of the books they have read)?" (Mercum 2008) I believe that creating a system that allows users to benefit individually at the same time as benefiting the library catalog is best. I don't believe it has to one or the other. As a class we examined a number of ways users can be motivated. One finding from the readings is that users can be motivated to participate when they believe their contributions are unique (Ling 2005). In addition, "individuals contributed when... they were given specific and challenging goals." (Ling 2005) Also, Gazan in the reading "Understanding the Rogue User" quotes Napoleon to illustrate how people can be motivated by the silliest things, "I have discovered men will risk their lives, even die, for ribbons!" (Gazan 2007) Putting all this together I believe one way to motivate users to participate in OPACs is by allowing users to create unique profiles, similar to the ones you see in Answerbag.com or Amazon.com. At Amazon.com reviewers are ranked and an individual's rank can be seen from their profile. Similarly, Answerbag.com has levels. These help to motivate users to contribute. Perhaps giving users a virtual ribbon after so many items tagged or reviewed is a good way to motivate users to contribute to the library catalog.

A challenge libraries may face when use rises is rise of abuse as well. Without question there will be abuses of the system, and how to deal with these abuses is a question libraries will need to address, the sooner the better. One way to handle abuse is by giving the community some power and authority to counteract abuse. According to our reading by Cosley et. al. community oversight is just as good as expert oversight. (Cosley 2005) Community can provide oversight by allowing them to flag inappropriate content or by being able to vote on the helpfulness of a contribution.

Another challenge that comes with incorporating web 2.0 tools into library catalogs is that of privacy. Many librarians have been champions of patron privacy, such as the Connecticut librarians from Doe vs. Gonzalez who successfully challenged the Patriot Act and a National Security Letter demanding records of online activity of patrons. Though many library users don't realize it, many libraries and the American Library Association take patron privacy very seriously and take great steps to ensure continued privacy of all users. The problem with web 2.0 tools is that they inherently lead to disclosure of personal opinions and sometimes personal information. A balance between sharing information and opinions and staying anonymous and private is difficult. So far the library OPACs I examined seem to be handling this balance well. I did not see any contributions that disclosed personal information or information that could be used to harm the contributor.

Yet another challenge to adopting a library catalog with web 2.0 tools is cost. Of course, cost is an issue with adopting any new catalog regardless of whether is has added features or not. Even though SOPAC 2.0 is open source software it is not entirely free.

The costs of administering, hosting and maintaining the catalog will fall on the library.

Cost may be the biggest factor preventing many libraries from updating their OPACs.

With the old catalog of the Denver Public Library as a base to compare the next generation of catalogs developed by Aquabrowser, open source software and Bibliocommons I can see that the new generation of catalogs are vastly improved. I believe the most important improvement is the more refined, intuitive and easier to use search capabilities. Allowing for users to quickly and easily find library materials is the most important function of any library catalog. The integration of web 2.0 tools into the catalog is still debatable. I believe they can contribute a great deal to library users' experience. For those library systems who can afford such added features I believe they should take the opportunity to be leaders and pioneers in their field. Others with only modest monetary investment should continue to provide the best service possible while keeping a keen eye on the trailblazers, learning from their experiences, their successes and failures.

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