

Running head: AquaBrowser at Saint Paul Public Library

## Uncovering the AquaBrowser Discovery Layer at the Saint Paul Public Library

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## Abstract

New technologies like faceted browsing, word clouds, user tagging, and wider search capabilities attempt to ease user frustration and discomfort with online public access catalogs (OPAC). This paper contrasts the newly implemented AquaBrowser discovery layer at the Saint Paul Public Library with the older “Classic” search interface. A brief user study asks respondents to conduct searches under five scenarios in AquaBrowser, then repeat the most challenging scenarios in the Classic interface as well as in Toronto Public Library’s Endeca discovery layer. Respondents report increased satisfaction with faceted browsing although actual performance was the same from all interfaces.

## Uncovering the AquaBrowser Discovery Layer at the Saint Paul Public Library

A million years ago in computer time, Charles Hildreth described the arrival of online public access catalogs (OPACs): “Expanded access and increased functionality alone cannot convey a understanding of the quantum, discontinuous leap to a new world of information retrieval undertaken when one replaces a card catalog with an online, interactive retrieval system” (1982, p. 32). Unfortunately, while access expands and functions increase, the leaps humans must make in conceptualizing an online retrieval system are still little understood. Conversely, the shape a retrieval system must take to satisfy a human user is also little tested.

New technologies like faceted browsing, word clouds, user tagging, and wider search capabilities attempt to ease user frustration and discomfort with online catalogs. Are they helping? This brief user study contrasting a newly implemented discovery layer with the previous search interface provides some insight.

In March, 2010, the Saint Paul Public Library (SPPL) introduced the AquaBrowser discovery layer, a product from Serials Solutions, to interact with their online public access catalog (OPAC), part of their integrated library system (ILS) from Innovative Interfaces. John Larson, Information Technology Librarian for SPPL, provided an introduction to the system and a behind-the-scenes look at its implementation and use so far. “We are moving towards AquaBrowser since it searches our catalog, web site, and events calendar, and also ties in to our federated search engine, passing users’ searches on to our databases, if they want to find additional information” (J. Larson, personal communication, 2010).

The Saint Paul Public Library serves a city of approximately 280,000 people (Dunbar, 2010). People of Asian descent (primarily Hmong and Vietnamese [City of St. Paul, n.d.]) are 12% of the population, followed by 11% African-American, 8% Latino, and 1% Native American, making Saint Paul significantly more diverse than the state of Minnesota as a whole (U.S. Census Bureau, 2010 b) and even more diverse than neighboring Minneapolis (U.S. Census Bureau, 2010 a). A language other than English is spoken in 22% of homes and 14.3% of the population were born in another country. The city requires all departments to provide translated materials in Spanish, Hmong, and Somali to serve the largest foreign language-speaking groups (J. Larson, personal communication, December 1, 2010). SPPL has welcome pages in these languages. In addition, the library must serve both the 27.1% of the population under 18 years of age and the 10.3% 65 and over (U.S. Census Bureau, 2010b).

SPPL is a member of the Metropolitan Library Service Agency (MELSA), the regional board for the seven counties in the Twin Cities metropolitan area, encompassing 103 public libraries (MELSA, 2010). Saint Paul's OPAC serves only the City of Saint Paul library system. Ramsay County and its neighboring counties in the metro area all have their own ILSes. All the metro area libraries use AquaBrowser except for the Hennepin County Library system (Minneapolis), which has the motivation and resources to go their own way. (J. Larson, personal communication, December 1, 2010)

### **AquaBrowser Selling Points**

Serials Solutions describes the advantages of AquaBrowser over the classic keyword/title/author/subject search:

AquaBrowser 3 encourages users to explore your library's content by richly rewarding common search behaviors. Its unique "search, discover, refine" methodology provides features that help patrons quickly and easily uncover relevant results, and Word Cloud associations inspire them to ediscover more of your library's treasures. (Serials Solutions, 2010)

Larson said, "AquaBrowser aims to combine Google's single search box with Amazon's usability." The home page features only one Search field, with no mention of keywords, titles, authors, or subjects (<http://AquaBrowser.sppl.org>). Search results display not only location and availability but also tables of contents, summaries, and reviews. In addition to AquaBrowser, Larson said SPPL will retain the older "Classic" interface from Innovative Interfaces and might continue to update the classic catalog because the rest of the ILS is still run by Innovative (<http://alpha.stpaul.lib.mn.us/search>). AquaBrowser relies on it to place holds and interact in any other way with the customer's account.

Larson described the cataloging process at SPPL. The OPAC uses MARC records, almost all of which are received from OCLC (Online Computer Library Center). Very little cataloging is done in house, usually for things that are local or unique (e.g., local church histories and Winter Carnival items). Saint Paul has one full-time person who knows cataloging and they devote half of their time to it. They also have part-time people who do only copy cataloging and can't correct errors in the records.

Although SPPL attempts to serve its foreign language-speaking patrons, Larson said the descriptive information in all records has been Romanized and they do not have the ability to display other alphabets in the catalog.

AquaBrowser searches the library's MARC records and thus is partly dependent on the quality of those records. Modern MARC records have more information which makes it easier to find items. Older works are harder to find because their records do not have notes fields or keywords so a user needs to find the right subject heading. Additionally, AquaBrowser can search other sources of information. For instance, Syndetics, another vendor, provides tables of contents and other supplementary information, all searchable by AquaBrowser.

### **First Impressions**

At first glance, the AquaBrowser home page looks friendly but unfinished. Bright colored text welcomes users to "Search...Discover...Refine...Learn..." and explains the word clouds and facets they will see in the results. However, the Search box is in the blue banner at the top of the page, both physically and conceptually separated from the "Search the Library Collection" heading and explanatory text in the main section. The word cloud box remains blank and it is left to the user to discover its purpose after entering a query (and to discover that it does work and is not a malfunctioning plug-in).

Additionally, a link to the Help is in the same format and place as headings that are merely explanatory text. Users may not see that one of the headings is a hyperlink because they expect things that look the same to behave the same (Tognazzini, n.d.).

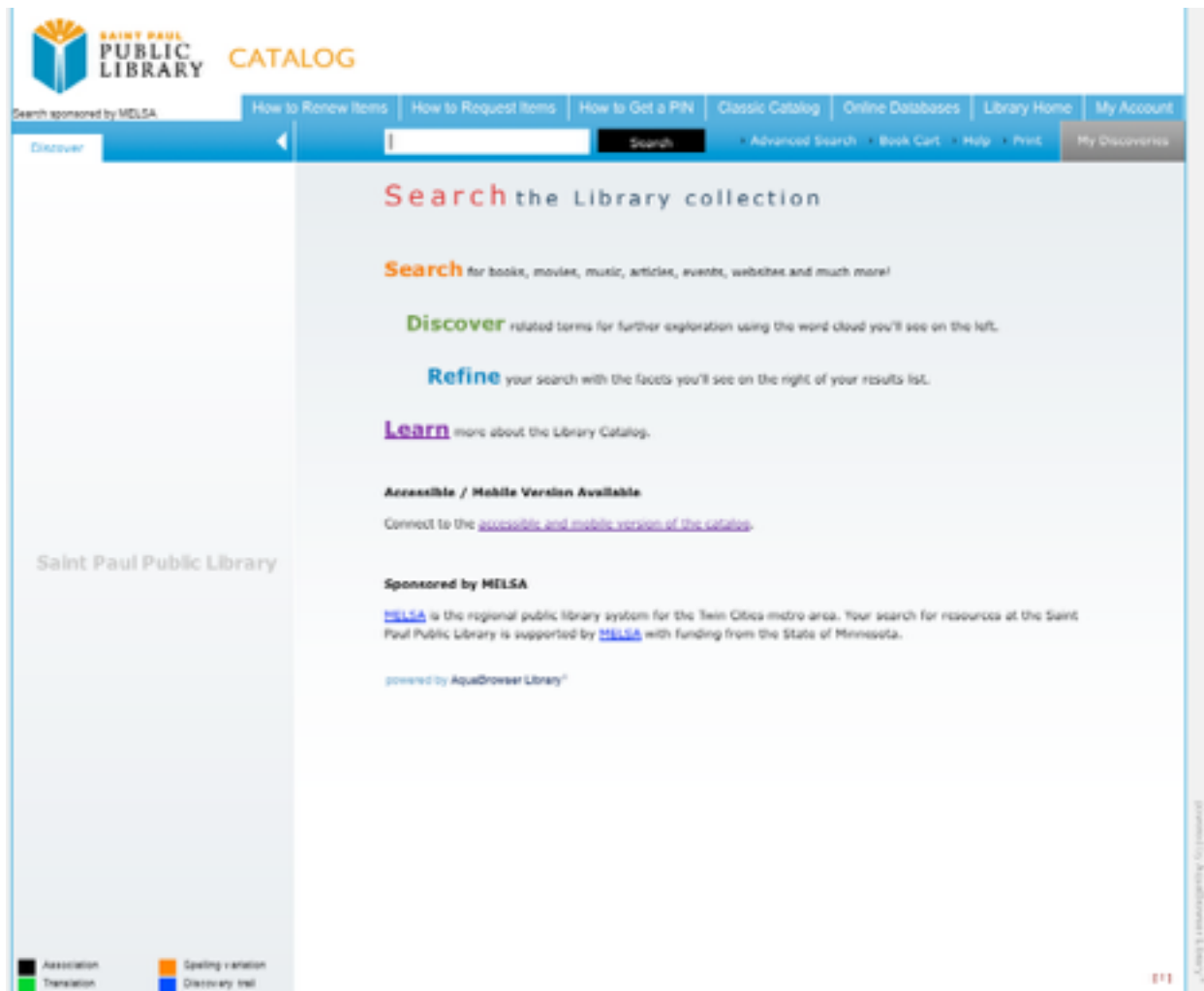


Figure 1. AquaBrowser home page. The Search field is above the heading for the page.

### Inner workings

AquaBrowser emphasizes recall over precision. A search for materials on “Civil War” reflects this tendency. AquaBrowser returns a jumble of 6,723 results while a classic keyword search returns 2,496 results (still an overwhelming number). However, here is where AquaBrowser shows its potential. Suppose a fifth-grader has to write a report on “The Civil War.” She puts this term into AquaBrowser and gets her 6,000+ results. Immediately on the right, she sees the official subject headings so that she might narrow her search to more relevant resources. In addition, the word cloud on the left displays terms like “Minnesota,” which will

direct her to books about Minnesota's experience with the war and perhaps help her land upon a manageable topic. She might also click on "South," which pulls up items on the Confederacy but also distracting, off-topic items on Bob Dylan.



*Figure 2.* AquaBrowser results for “Civil War.” Subject headings on the right will help guide a user to relevant resources. Terms on the left may help or mislead, depending on how distractible a user is.

A keyword search in the Classic interface returns fewer but similar resources. In contrast, if she were to enter “Civil War” as a subject in the Classic interface, she would encounter a list of 565 official subject headings, the first of which cover Roman history. If she scrolls through three



pages of headings, including every Civil War battlefield in the United States, she will find “United States--History--Civil War, 1861-1865.” Her persistence will pay off in an alphabetical list of 150 highly relevant titles and a lesson in context and organization of information. Will a typical user be persistent?


6	<input type="checkbox"/>	Rome -- History -- Civil War, 49-45 B.C.		3
7	<input type="checkbox"/>	Rome -- History -- Civil War, 49-45 B.C. -- Fiction.		9
8	<input type="checkbox"/>	Rome -- History -- Civil War, 49-45 B.C. -- Fiction. : FICTION ; Highland Lower Level:CHECK SHELF ; 	1900	1
9	<input type="checkbox"/>	Rome -- History -- Civil War, 68-69.		2
10	<input type="checkbox"/>	Great Britain -- History -- Civil War, 1642-1649.		5
11	<input type="checkbox"/>	Great Britain -- History -- Civil War, 1642-1649 -- Fiction.		10
12	<input type="checkbox"/>	Great Britain -- History -- Civil War, 1642-1649 -- Religious Aspects. : E209 .P48 1999 ; Central Adult Non-Fiction:CHECK SHELF, Highland Park:CHECK SHELF ; 	c1999	1
13	<input type="checkbox"/>	Somerset (England) -- History -- Civil War, 1642-1649 -- Fiction. : FICTION (TEEN) ; Central Skinner Room:CHECK SHELF, Highland Park:CHECK SHELF, Merriam Park:CHECK SHELF ; 	2005	1
14	<input type="checkbox"/>	Alabama -- History -- Civil War, 1861-1865 -- Campaigns. : E479 .E54 2001 ; Central Adult Non-Fiction:CHECK SHELF ; 	c2001	1
15	<input type="checkbox"/>	Appomattox (Va.) -- History -- Civil War, 1861-1865 -- Juvenile Literature. : E477.67 .S26 2006 (JUV) ; Highland Park:CHECK SHELF, Rondo Community Outreach Library:CHECK SHELF ; 	c2006	1
16	<input type="checkbox"/>	Atlanta (Ga.) -- History -- Civil War, 1861-1865 -- Personal Narratives -- Juvenile Literature. : E605 .B5 2000 (BIOG) (JUV) ; Central Youth Services:DUE 12-20-10, Hayden Heights:CHECK SHELF ; 	c2000	1
17	<input type="checkbox"/>	Baltimore (Md.) -- History -- Civil War, 1861-1865. : FICTION (JUV) ; Central Youth Services:CHECK SHELF, Rondo Community Outreach Library:CHECK SHELF ; 	2003	1
18	<input type="checkbox"/>	Boston (Mass.) -- History -- Civil War, 1861-1865 -- Juvenile Literature. : E444.T82 C58 2007 (JUV) ; Central Youth Services:CHECK SHELF, Hayden Heights:CHECK SHELF, Rice Street:CHECK SHELF, Rondo Community Outreach Library:DUE 12-26-10, Saint Anthony Park:DUE 12-07-10 ; 	c2007	1

Figure 3. Library of Congress subject headings from the Classic interface.

Larson chose the topic “mercury” to illustrate the usefulness of the AquaBrowser word cloud: it refer to a planet, an element, a god, or a car. The word cloud helps a searcher quickly find the relevant meaning.

The screenshot displays the AquaBrowser Discovery Layer interface. On the left, a word cloud for the search term "mercury" is shown, with words like "Mercurio", "quicksilver", "taurus", "sable", "lincoln", "merrily", "claymer", "model", "merry", "venus", "mariner", "automotive", "planet", "repair", "ford", "explorer", "shop", "project", "mountaineer", "mercenary", "festus", "margery", "escort", and "mission" connected by lines. A legend at the bottom left indicates: Association (black square), Translation (green square), Spelling variation (orange square), and Discovery trail (blue square). The main search results area shows "Local results: 627" for "mercury", sorted by relevance. Three book results are displayed, each with a "Book" icon, a "Request" button, and a "Book Cart" button. The first result is "Mercury / Hoge Larsen, Larson, Hoge. New York : Atheneum Books for Young Readers, c2010. (234 p. : chiefly ill. ; 21 cm.)". The second is "Mercury / by Steven L. Kipp. Mankato, MN : Bridgstone Books, c1998. (24 p. : col. ill. ; 21 x 21 cm.)". The third is "Mercury / by Dana Meachen Rau. Minneapolis, Minn. : Compass Point Books, c2002. (32 p. : ill. (some col.) ; 27 cm.)". On the right, there are sections for "Select Location", "Refine" (Source, Library format, Author, Subject, Language), and "Showing results from: All locations".

Figure 4. Word cloud for “mercury.” Users can specify which meaning they want.

In the word cloud, generally the word associations and spelling variations show promise. I found the translation links to be misleading because they neither lead to translated works nor offer enough translations to aid speakers of another language. The discovery trail supposedly traces the search path. It merely highlights previously visited items without showing any relationship or hierarchy between them. It does not operate like a typical breadcrumb trail on a web site.

AquaBrowser uses the FRBR (Functional Requirements for Bibliographic Records) structure but does not accurately reflect this structure in its display. For instance, in a title search, all formats of an item come up under the book's record instead of a "work" record. The user is directed to see "all editions" in tiny type within the record or they can use the facets on the left to find the desired format.

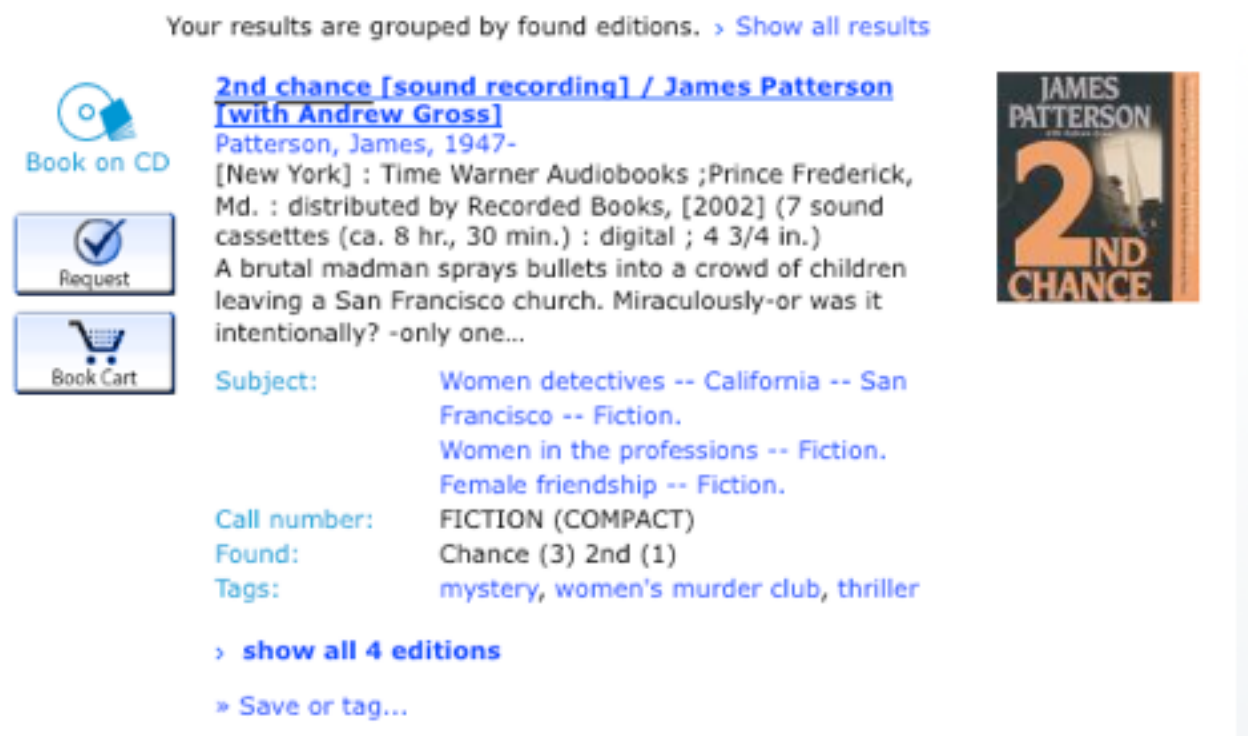


Figure 5. AquaBrowser results for a novel. All editions are found under the book record.

Upon viewing all editions, each format of an item receives its own line in the records display. The word cloud does not keep up with the search, however. It picks up on the internal identifier of the FRBR query and displays associations with the word "library."



Figure 6. Separate records for each format. Note the word cloud on the left refers to the FRBR query and not the Patterson novel.

Larson likes that users can see all formats separately but wishes the display were more like the AquaBrowser implementation for the Denver Public Library, which has icons on the top that allow users to sort by format. However, AquaBrowser is not making that feature available to other libraries at this time.

The screenshot shows the AquaBrowser Discovery Layer interface. On the left is a vertical sidebar with a network diagram centered on 'civil war'. Nodes include 'guerra', 'mexico', 'novel', 'rights', 'century', 'child', 'movement', 'picture', 'poetry', 'film', 'wer', 'al', and 'wir'. A legend at the bottom indicates 'Spelling variation' (orange square) and 'Thesaurus term' (purple square). The main search area has a search bar with 'civil war' and a 'SEARCH' button. Below the search bar, it says 'Results 1 - 10 of 8,670 for civil war, sorted by: relevance'. A row of format type icons is highlighted: Book (7,395), Government Documents (866), Microfilm (341), DVD (247), and Book on CD (141). The first result is 'Civil war writer, Ed Brubaker ; art, Mike Perkins ... [et al.] ; colorist, Matt Mila ; letterer, Virtual calligraphy's Joe Caramagna. Captain America / Brubaker, Ed.' with a 'TEENS' label and a book icon. The second result is 'The Civil War : unstilled voices : a three-dimensional interactive book Chuck Lawliss. Lawliss, Chuck.' with a book icon. On the right, there are filters for 'Select Location' (All locations), 'Refine' (Author: United States, Sharrock, Chai, Morris, Gilbert, 5,678 more...; Subject: Presidents United States Biography (99), Generals United States Biography (88), African American Biography (67), Large type books, Soldiers Virginia Genealogy (53), 8,665 more...; Audience: Adult (7,736), Juvenile (729), Teens (206); Staff recommend: Adult Collection, Teen Collection, Kids Collection)), and 'User Tags'.

Figure 7. AquaBrowser results from the Denver Public Library Catalog. Format types are highlighted on the top because they are frequently sorted on.

The Classic interface often does not display all editions of a work or requires users to choose from many versions of the same text (for instance, the Penguin and Bantam paperback publications of Jane Austen's *Pride and Prejudice*.) However, AquaBrowser also does not work consistently and cannot always find all editions of a work. A search on "Crime and Punishment"

displays one translation with a link to five other editions (other translations) as well as separate records for each of those other editions.

Also confusing is AquaBrowser's definition of "refine." The search on "Crime and Punishment" returns 583 results, sorted by relevance. To remove works on capital punishment and other novels with the same title, I clicked Dostoevsky, Fyodor, 1821-1881 under Author. All works by Dostoevsky then appeared, not just *Crime and Punishment*.

### **Through the Paces**

Phase one of the user study was a prequestionnaire presenting five situations and asking where and how the respondent would most likely look for information (Appendix A). Only two of five respondents mentioned a library as a potential source of information. Four mentioned Google specifically and the fifth described a generic "look online." All were able to provide specific search terms they would try. For at least two situations and sometimes as many as four and five situations, they named specific websites they might try as well (Appendix C).

Phase two asked participants to use the Saint Paul Public Library catalog. Three respondents completed the study. Participants were first directed to the Saint Paul Public Library home page (<http://sppl.org>) and asked to find where they might enter a search query. Participant 1, a self-described non-user of libraries, went directly to the large search box at the top center of the page ("the Google box"). Participant 2, a doctoral student and regular user of academic and public libraries, went to the "Library Catalog" link on the left. Participant 3, a regular public library user, found both. No one mentioned the "Classic Catalog" link on the left.

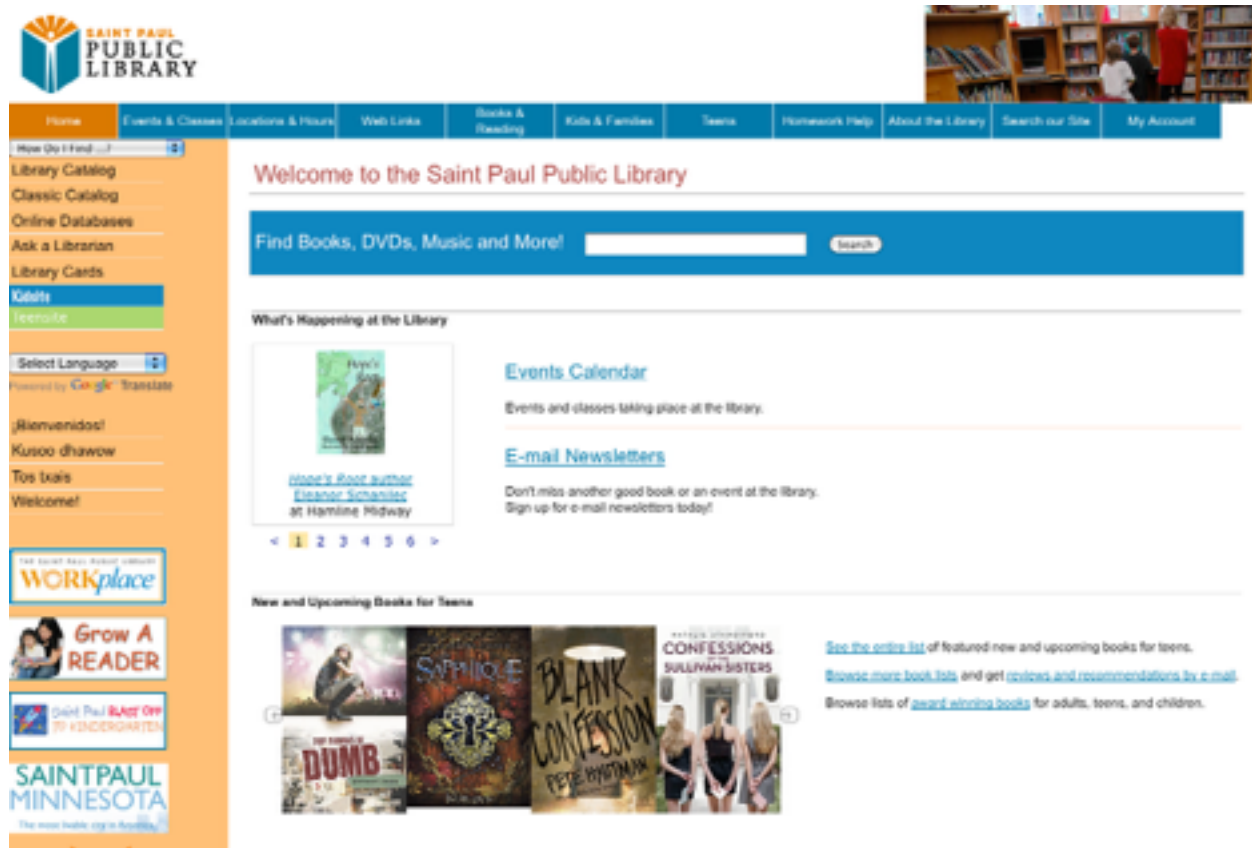


Figure 8. Saint Paul Public Library home page. The highly visible search field in the center attracts attention. Its placement differs from the AquaBrowser home page (Figure 1).

Participants conducted searches based on slightly more specific versions of the prequestionnaire situations and asked to choose helpful resources using the AquaBrowser discovery layer. Each participant encountered at least three situations that required more than one try to achieve success. Only one participant mentioned features of the discovery layer as being helpful.

Each participant then chose the task they found most difficult and tried it again in the Classic interface. In each situation, the participant required the same number of tries to feel successful.



Participants finally retried a search in the Toronto Public Library's catalog, which uses an Endeca discovery layer (<http://www.torontopubliclibrary.ca>). Their search results and level of success were the same. They responded positively to design aspects of the Toronto site:

- "I liked the big font of ...Toronto."
- "The design is cleaner and so feels a bit more friendly to use."

These responses seem to agree with the findings of Phillips and Chaparro (as cited in Sorflaten, 2010). Their study found that first impressions are lasting ones and a site with high visual appeal will remain highly rated by users even if it offers poor performance.

The participants had no problem coming up with promising search terms, including synonyms, broader and narrower subject headings, and multiple search avenues. However, they do not always relate these search terms to the library catalog. They are more likely to think of a library as a resource when considering a specific book. For general information, they look to the web as a direct source. When using the online catalog, their search terms were not always helpful, as evidenced by multiple tries.

Each participant chose a different situation as the most challenging. Interestingly, the most challenging was not always the one that took the most tries. Further, some participants needed only one try to successfully complete a task while others took two or three tries for the same situation.

All participants tried the faceted browsing in AquaBrowser. Although it was not always successful, they could see its potential. One participant used the word map in one situation and it led to a helpful book. No one else mentioned it.



When using the Classic interface, one participant reported it “doesn’t feel very well organized...less options than AquaBrowser...like the results list a bit better...star ratings and...reviews on the list view.” Another reported a “more targeted result” and called AquaBrowser “the slowest” because “it had the longest list of results (many irrelevant to my search) to sort through.” This participant reported moments of satisfaction while using AquaBrowser, however: “Oh! Have a nice list to choose from...looks easier to find a DVD in the Library format column (faceted browsing).”

These results are similar to those described by Sadeh (2008) during a more extensive user study of the Ex Libris Primo discovery layer product. Participants conducted searches based on scenarios and then gave feedback. The only feedback and measure of success Sadeh mentions is that “participants selected terms such as ‘clear,’ ‘no distractions,’ ‘straightforward,’ ‘informative,’ and ‘efficient.’” He does not record if participants found actually helpful resources.

### **Layer or Barrier?**

Faceted browsing in the AquaBrowser discovery layer appears to make refining search results easier. If users can come up with some helpful keywords, the suggested subject headings will help them navigate the narrow straits of Library of Congress classifications. Finding a work and then zeroing in on the desired format also helps, as long as it is successful.

The word map seems less helpful, mostly because its purpose is unclear except in search queries that make the resulting associations obvious. Concrete subjects with a deep coverage of resources provide useful word associations, for example, in the Civil War example above (Figure 2). Titles are too abstract to offer meaningful relationships. These inconsistent levels of success might turn users away from regular use.

Larson reported that SPPL staff do not use AquaBrowser for two reasons: one, they can get better results from the staff catalog, using more complex searches; and two, when a customer asks about a book, usually they want to put it on hold so it makes sense to look it up directly in the circulation module of the ILS.

The library has not received much response from the public about the new interface. They don't have enough time, staff, or money to conduct usability testing. Coincidentally, the University of Minnesota has one of the best usability testing labs in the country but doesn't do it for free.

Larson said that users respond when using the catalog is easy. Unfortunately, he was unable to make any generalizations about what makes searching easy. "Each customer is different," he said. Some expect librarians to be psychic, knowing a book by its color or place on the bestseller list. Others are genuinely surprised to find that libraries even stock bestsellers. How can any search engine completely satisfy so many types of users? Respondents in this study showed a similar range of reactions. Each found different aspects of AquaBrowser helpful and unhelpful at various times.

An additional barrier to success for discovery layers is their continued interaction with outdated catalog records that do not match up with the querying abilities of newer search engines, both in libraries and on the Internet. Another challenge is that users tend to only equate libraries with books, DVDs, and other similar concrete pieces of media. Respondents all considered Google, Amazon, and similar websites for discovery. They thought of the library only for retrieval of physical items, i.e. a storage place for books, not a source of information. Mean-

while, they are becoming comfortable with the stream of information that the World Wide Web provides. For example, one respondent commented, “I don’t want a book. I want tips.” For him, the information has become removed from any physical form and the library has become one intermediary layer too many.

Hildreth encouraged members of the library profession to imagine the great conceptual leap it takes for patrons to use an online catalog. It behooves designers of catalog interfaces and catalog records to make some moves in the direction of users’ existing conceptions as well.

## Appendix A

### Prequestionnaire

This survey presents five scenarios and asks how you would go about searching for the needed information. Your first thoughts will be most helpful. Feel free to add other thoughts that come to mind afterwards.

There are no right answers.

Describe how you would do your research without actually using any resources. The second questionnaire will ask you to conduct research for similar situations.

For each question, think about all the ways you might find the information. Be specific.

- Where would you look first?
- What search terms might you try?
- Who could you ask?

1. Your book club is reading a popular book that has been translated from Spanish. You would like to see the original Spanish version.

2. You think you have been drinking too much coffee and want to cut back. What are some ways to help alleviate withdrawal symptoms?

3. You are planning a vacation to Maine. You need to decide which city will be the best base for your trip and where to stay.

4. Now that you have booked your trip, you are looking for recommendations for a new book to bring along.

5. You are going to attend a charity event for a Civil War museum. You must dress in a historically accurate costume. What did they wear in the 1860s?

## Appendix B

### User Study

#### Step One

Go to <http://www.stpaul.lib.mn.us/> in your browser. Look at the home page. Where will you go to search for an item? Write down your answer.

#### Step Two

1. Your book club is reading *100 Years of Solitude* by Gabriel Garcia Marquez. Find the original Spanish version.
2. You think you have been drinking too much coffee and want to cut back. Find a book that might give you information and tips for getting through the withdrawal period.
3. You are planning a vacation to Maine. Your young children want to know what to expect. Which book might you check out for them?
4. Now that you have booked your trip, you want to find a novel set in Maine to bring along. You have already read everything by Stephen King and want something new. What title will you pick?
5. You are going to attend a charity event for a Civil War museum. You must dress in a historically accurate costume. Find a book that will show you what they wore in the 1860s.

#### Step Three

Choose the question you found the most challenging. Go to <http://alpha.stpaul.lib.mn.us/> search and try your search again. What differences do you find? How is it the same?

#### Step Four

Choose another scenario. Go to <http://www.torontopubliclibrary.ca/> Conduct your search again. What differences do you find? How is it the same?

### **Step Five**

Summarize your experience. In general, what parts of the interface did you find most useful?

What was most challenging?

### **Step Six**

Describe your usual interaction with libraries. Estimate the best you can.

Which library do you use most often?

Consider the library you wrote above for the rest of these questions.

How many times a month do you visit this library in person?

When you visit in person, how often do you use the online catalog? How often do you seek help from a reference librarian?

How many times a month do you visit this library's website?

How many times a month do you use this library's online catalog from a location outside the library?

When you use the online catalog (both in and outside the library), how often do you know the exact item you are looking for? How often are you searching for an unknown item on a specific topic?

## Appendix C

## Results

*Table 1.* Participant profiles.

Identifier	Gender	Age	Typical Library Use
1	M	37	non-user
2	F	39	public, academic
3	M	74	public
4	M	22	academic
5	F	36	public

*Table 2.* Results of prequestionnaire and user study. A try is defined as one search trail before starting over or finding success. Multiple attempts to refine a single query are counted as one try.

User ID	Planned Search Resources			User Study		
	Library	Google	Other	AB Tries	Classic Tries	Discovery Layer
Q1. Find a novel in the original Spanish.						
1			1	2		y
2		2	2	2		n
3	1		1	2		n
4		1	2			
5	1	1				
Q2. Find resources to alleviate withdrawal symptoms from caffeine.						
1		1		3	3	y
2		3		4		n
3		1	1	2		n
4		1	3			
5			1			



User ID	Planned Search Resources			User Study		
	Library	Google	Other	AB Tries	Classic Tries	Discovery Layer
Q3. Find resources on travel to Maine (children's book/DVD).						
1		1	1	1/2		y
2		2	2	1/3	3	n
3		1	2	1		n
4		1	2			
5	1	1	1			
Q4. Find a recommendation for a novel.						
1			1	1		y
2			3	2		n
3	1			1		n
4			1			
5	1	1				
Q5. Find out what Americans wore in the 1860s.						
1		1		1		y
2		2	1	1		n
3		1	1	3	3	n
4		1	1			
5		1				

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