

AquaBrowser

AquaBrowser, developed by an Amsterdam-based company called Medialab Solutions BV, ranks as one of the alternative library interfaces that has already established a substantial market presence. AquaBrowser finds use in a majority of the public libraries in the Netherlands. Largely through the marketing efforts of the Library Corporation, the product has gained a foothold among U.S. public libraries. Of the products considered in this report, AquaBrowser has been installed in the largest number of libraries. The product provides libraries with a way to supplement or replace their existing library catalog with one that includes faceted navigation, relevancy ranking, visual search, and other features in high demand today.

About Medialab Solutions

Since it's based in the Netherlands, the company that created AquaBrowser may not be a familiar name in North America. Medialab Solutions was founded in 1990 by M. M. (Thijs) Chanowski as a research facility of an IT corporation called BSO Origin Philips, now known as Atos Origin. Beginning in 2000, Medialab Solutions began the development and marketing of its AquaBrowser technology for a variety of organizations, including companies, government agencies, and nonprofits. The product was originally designed to index and provide access to electronic content for a wide variety of organizations. Medialab Solutions found the highest interest in its technology from libraries. Today, Medialab Solutions focuses entirely on developing and promoting AquaBrowser for libraries.¹

Current Deployments

Medialab Solutions has been especially successful with the public libraries in the Netherlands, with about 80 percent of those libraries using AquaBrowser. The first library to implement AquaBrowser was Eindhoven Public Library in the Netherlands.²

The Library Corporation distributes AquaBrowser in the United States. It signed a contract in September 2004, which was renewed for another three years in January 2007.³ Initially, Medialab Solutions worked with additional companies to distribute AquaBrowser in the United States. Both VTLS and ISACSOFT also struck deals, but never developed a significant number of customers for the product. In April 2005, Medialab Solutions named the Library Corporation as its exclusive distributor for AquaBrowser in the United States and Canada. Medialab Solutions markets directly in Europe and Asia.

In the United States, the Queens Borough Public Library in New York stands as one of the most notable implementations of AquaBrowser. This library ranks as the busiest in the United States, as measured by annual circulation statistics.⁴ The King County Library System in Washington state has implemented AquaBrowser as a supplemental interface to its Millennium system. King County calls its implementation of AquaBrowser "Catalog Explorer," which supplements but does not replace its existing Millennium online catalog from Innovative Interfaces. AquaBrowser has also been adopted by small libraries, including many rural libraries in Kentucky running Library .Solution from the Library Corporation. So far, interest in AquaBrowser comes primarily from public libraries, with only a few installations in academic and special libraries.

Technology and Architecture

AquaBrowser follows a decoupled approach, providing a new search engine and public interface that stands mostly apart from the library's existing ILS implementation. AquaBrowser operates as a separate service, either installed locally on a server in the library, or installed on a server remotely hosted by the vendor. Data from the ILS are transferred into AquaBrowser's own search platform, which takes over much of the work of providing an interface for library users. AquaBrowser depends on the library's existing ILS for up-to-date status and holdings information.

At the heart of AquaBrowser lies a search engine, developed by Medialab Solutions, called Igor. This search engine is capable of dealing with either structured or unstructured information, with the ability to perform relevancy ranking, determine related concepts, and perform faceted navigation. With structured metadata records, such as the MARC records of a library catalog, AquaBrowser can present facets corresponding to specified fields.

As with many of the other next-generation library interfaces, AquaBrowser operates by harvesting data from the library's existing ILS. Medialab Solutions relies on what it calls "data connectors" to extract and translate content from a source, such as an ILS. A knowledge-builder layer analyzes the incoming data, organizes the data according to its internal dictionaries or thesauri, and takes care of other housekeeping chores needed for the search engine, such as word frequency tables.

Medialab Solutions designed AquaBrowser to work with any ILS. The Library Corporation has been especially successful in selling the product to its own customers that run Carl or Library.Solution, but it is also compatible with competing systems.

AquaBrowser can be run either as locally installed software on a dedicated server or in a vendor-hosted arrangement. Following the "software as a service" model, Medialab Solutions offers AquaBrowser Online for libraries with smaller collections. This configuration of AquaBrowser targets libraries with fewer than 150,000 titles.⁵ By allowing a library to save the costs associated with acquiring and maintaining a physical server and to pay only a monthly fee scaled to the size of the library's collection, this option places the task of providing a new interface for the library's catalog more within the reach of smaller libraries.

Interface Characteristics

AquaBrowser stands out as an interface with strong visual appeal, sporting a number of features that facilitate searching for library content and materials.

The AquaBrowser interface can be customized to blend into the library's existing Web site. Each page delivered by AquaBrowser can carry the library's own banner and other branding elements. The banner that tops the AquaBrowser pages can be a simple logo, or it can feature a more complex set of services, as implemented by the Queens Library (see figure 1).

The initial search box for AquaBrowser can be positioned on any Web page. A library would typically mount a search box on its main Web page. The AquaBrowser interface also includes a dedicated basic search page that provides searching tips. Many libraries offer a link into their existing ILS, labeled "traditional search" or "advanced search." The Advanced Search link for the Queens Library implementation of AquaBrowser, for example, launches a search page that addresses its local ILS.

A graphical word cloud, or "constellation," stands out as one of the prominent features of AquaBrowser. In response to a search, AquaBrowser displays the initial set of results in the middle of the page and presents the word cloud in a narrow column on the left side of the page. This visual tool helps the user explore additional concepts of possible interest that might be present in the database. The word cloud begins with the term initially entered by the user in the center. Other related concepts float in the word cloud, each connected by a spoke to the term in the center. Terms more closely related appear close to the center of the cloud; those of more distant relation fall further away. Terms appear in different colors to represent different kinds of associations. Terms with similar meanings but spelled differently appear in orange. Terms with similar meanings in other languages appear in green. Other associations appear in black.

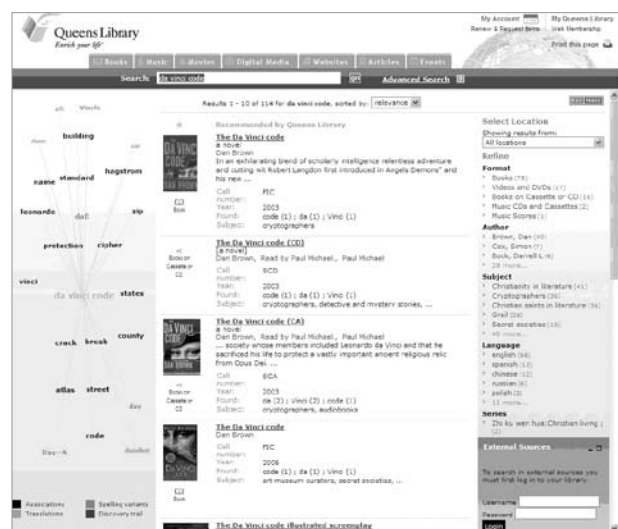


Figure 1: AquaBrowser interface, showing an initial set of results, constellation of terms, and faceted browsing.

The word cloud functions to identify terms of interest, and each selection of a term executes a new search rather than narrowing the existing results set. Clicking on any term in the cloud brings that term to the center, executes a new search for that term, and displays the initial results. Any terms that have previously been selected remain in the cloud, presented in a blue font.

Searching by word associations allows the user to explore the concepts found in the database. It's important to note that an entirely new search executes with the selection of each term in the cloud. The word cloud operates in a way that is fundamentally different from faceted navigation, which narrows the existing search with each selection. This is an exploration tool, not one for drilling down through an information resource to narrow results.

The word cloud operates as a Java applet that runs in the user's Web browser. Beginning with AquaBrowser 1.7, the cloud runs as a Flash application.⁶ Library users might experience a brief delay the first time that they access AquaBrowser while it downloads and initializes.

A narrow column on the right side of the page in the AquaBrowser interface provides tools for narrowing search results. Many users will want to narrow results to those found in their local library. At the top of this column appears a drop-down with each of the library locations represented. Once the user makes a selection, it remains in effect until changed.

A section devoted to faceted navigation appears below the location selector. The faceted navigation tools serve to incrementally narrow the results set as the user clicks through facet links. The faceted navigation interface operates following the standard conventions. Each facet is presented as a link that narrows the results by combining the term in the facet with those in effect for the current search. The number of items that will be returned appears after the link, enclosed in parentheses.

AquaBrowser groups these facets by format, author, subject, language, series, corporation, geography, person, and publication year.

Detailed View

A more detailed version of the record appears when the user clicks on the icon or the title for one of the items listed in the results set. A panel displaying more complete information on the selected item replaces the brief-record list, with the word constellation, search box, and top banner remaining in place (see figure 2).

The full-record view presents the cover art image when it's available, along with more complete bibliographic information. For physical items in the library's collection, this view will display detailed holdings information that



Figure 2: Detailed view of an item as seen in the Queens Public Library implementation of AquaBrowser.

includes the library or branch, shelf location, and circulation status. If the item is checked out, the view can display the date it is due to be returned. A drop-down allows the user to limit the holdings displayed to a single library or to show all locations. A REQUEST button launches a window into the request feature of the library's ILS. It's also possible to create a link that launches a new window showing the item as displayed through the library's native catalog.

This view includes navigational links to go to the previous and next records or back to the results list.

AquaBrowser supports enrichment features that supplement the basic bibliographic information harvested from the library's ILS. Cover art images display on both the results lists and on the full-record displays, with generic placeholders substituting when an image isn't available. Summaries, tables of contents, and other enriched data can be configured to display within the full-record view or through a pop-up window.

RSS Feeds

AquaBrowser includes the capability to distribute search results through an RSS feed. An RSS FEEDS icon in the upper right corner of the interface launches a new browser window that presents the RSS feeds configured for the system, which typically include a feed for all the new items added to the system and for new items within the topic of the current query. From this page, a user can configure any reader or portal to regularly pull new content through the selected feed.

Federated Search

In November 2005, Medialab Solutions announced the capability for AquaBrowser to work with a library's federated-search environment.⁷ Although the results from a federated search are not integrated to the same degree as those from the local catalog, AquaBrowser provides a convenient way to see the results from subscribed, remote resources related to the user's query. The federated-search results are presented on the bottom of the right-hand column. For most resources, the user will need to be signed in to be able to view this content.

Ongoing Development

Medialab Solutions continues to extend the functionality of AquaBrowser. The company is currently working on a new version of the software that will include a number of personalization features. This new software, called My Discoveries, was announced in April 2007.⁸

Reference Sites

Since AquaBrowser has been implemented by a large number of libraries, one can visit the Web sites of these libraries to see the product in action. Some examples are listed in the gray box on this page.

Queens Library, Queens, New York
<http://aqua.queenslibrary.org>

King County Library System, King County, Washington State
<http://explorer.kcls.org>

ThoroBrowser, Lexington Public Library, Lexington, Kentucky
<http://search.lexpublib.org>

Notes

1. Marshall Breeding, "AquaBrowser Dives into ILS Technology," *Smart Libraries Newsletter*, Apr. 2005; for further information about Medialab Solutions, see "Company Profile" on the Medialab Solutions Web site, www.medialab.nl/index.asp?page=about/profile (accessed June 1, 2007).
2. Jasper Kaizer and Anthony Hodge, "AquaBrowser Library: Search, Discover, Refine," Medialab white paper, originally published in *Library Hi-Tech News*, Dec. 2005, available online at www.cipal.be/Portals/cipal/NL/documenten/producten/AquaBrowser%20Library%20White%20Paper.pdf (accessed June 1, 2007).
3. The Library Corporation, "TLC Partners with Medialab Solutions bv, the Netherlands, to Offer AquaBrowser Library Catalog Search," press release, Sept. 27, 2004, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=11117 (accessed June 1, 2007); The Library Corporation, "TLC and Medialab Solutions Continue Exclusive Partnership," press release, Jan. 5, 2007, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=12325 (accessed June 1, 2007).
4. Queens Library, "About Us," on the Queens Library Web site, www.queenslibrary.org/index.aspx?page_id=6 (accessed June 1, 2007).
5. Medialab Solutions, "Medialab Solutions Announces the First Fully Web-Based Search Service with AquaBrowser Online," press release, Sept. 29, 2006, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=12199 (accessed June 1, 2007); Marshall Breeding, "Medialab Solutions Offers AquaBrowser Online," *Smart Libraries Newsletter*, Nov. 2006.
6. Medialab Solutions, "AquaBrowser 1.7 Released: Ready to Change the Game," press release, Nov. 17, 2005, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=11679 (accessed June 1, 2007).
7. Medialab Solutions, "AquaBrowser Library with New Technology That Fully Integrates Meta-Search Results with the Local Library Catalog Search," press release, Nov. 29, 2005, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=11692 (accessed June 1, 2007).
8. Medialab Solutions, "AquaBrowser Announces the Launch of My Discoveries: Web 2.0 Re-invented for Libraries," press release, Apr. 18, 2007, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=12513 (accessed June 1, 2007).