VERSOS Graphic Interface to Reference Sources: A Project of Quinnipiac University's Arnold Bernhard Library

Terry Ballard
Gill Library, College of New Rochelle, tballard@cnr.edu

Follow this and additional works at: http://digitalcommons.cnr.edu/gill-publications
Part of the Library and Information Science Commons

Recommended Citation
VERSOS Graphic Interface to Reference Sources:  
A Project of Quinnipiac University’s Arnold Bernhard Library

Terry Ballard  
Quinnipiac University

Abstract
Librarians at the Arnold Bernhard Library of Quinnipiac University were concerned with the usage levels of their electronic reference titles. They had added the titles to the library’s web page, made individual records in the online catalog, and even established links between an OPAC keyword search and a search through electronic reference titles. It was still felt that the collection was underutilized. In 2007, the Automation Librarian began a project to add one more level of access to these titles - a graphic interface that simulated the process of walking into a reference room and picking out a title. A preliminary version was loaded in the Fall of 2007, and early results indicate that it has found an audience.

Introduction
Many or most publishers of standard reference titles are making their publications available in an online format - usually accessible in an IP-recognition environment. These resources are a convenience to students and faculty, since they are available at all hours and in all locations. For this reason, they are of vital importance to schools with a distance education program. Studies that track the usage of these items show that they are somewhat underutilized. Normally, links to the titles are added in the library’s Web page, and individual titles are added to the online catalog with links to the resource. In both of these cases, particularly the OPAC links, the electronic reference titles seem to be lost in the flood of available resources.

One solution has been to create a graphic interface to the electronic reference collection that groups titles by their subjects, emulating the look and feel of visiting a physical reference room. While there is literature that discusses a concept like this, an actual example could not be found. This paper will describe how the project was conceptualized and then made into a working reality. It will show how the same thing could be replicated at any library willing to commit time to the project.

The Literature
Wilkinson and Lewis (2005) wrote a survey of the growing trend of electronic reference book publishing. Bennett and Landoni (2005) wrote that surveys of academic users found that many of these people would have used electronic reference books more if they had known of their existence. The reason for the lack of information was said to be a deficiency in promoting the resources on the part of the university, and even the librarians. Dinkelman and Stacy-Bates (2007) write about the same state of affairs, but prescribe a program of OPAC listings, library Web page links and more intensive bibliographic instruction as the cure.

There has been some literature on the concept of a graphic link to e-texts, but most of this seems to be more in theory than practice. Bates (1989), writing about the importance of browsing in information-seeking discussed the concept of creating an electronic reading room emulating a physical library: “Creating a virtual physical layout on the screen may make it easier for the searcher to think of moving among familiar categories of resources in an information retrieval system, in the same manner in which they move among resources in the actual library.” (p.419). Bates went on to write: “The physical metaphor of the library that was suggested above may facilitate such searching particularly well. For example, if the
interface can produce a picture on the screen that looks like the books on a shelf, the searcher can transfer a familiar experience to the automated system." (p.420). Su (2005) wrote "As users seek out familiarity of print in electronic environments, the ideal e-book search interface should exploit multimedia and animation techniques to make users feel that they are almost present in the physical library and conduct searches in familiar ways with the print environments. Prior research results also suggest that the e-book system mimic the way in which users browse paper-based books" (p. 68).

The Background

Quinnipiac University is a non-sectarian institution, founded in 1929, with major programs in Physical Therapy, Occupational Therapy, Law, Business and Communications. The student body contains approximately 6000 Full Time Equivalent.

The Arnold Bernhard Library was constructed on the physical space of a previous library that had been built in the 1960's. When it was dedicated in 2000, it seemed to be the embodiment of a twenty-first century library, with more than 100 public access computers and hundreds of Ethernet connections in the study carrels.

The library's digital services librarian bought the rights to a handful of electronic reference books from Gale Research, including titles such as: Encyclopedia of Cancer; 10 volumes of the Business Plans Handbook; and Encyclopedia of Irish History and Culture. In most cases these were titles that duplicated books that the library provided in paper on the reference shelves. That seemed like a smart move for a university that had a growing distance education program: Give students access to reference materials even if they lived in another state or were serving in Iraq.

The Automation Librarian was asked to download Gale's MARC records and place the individual titles in the library's online catalog ORCA, making sure that the book covers displayed in the OPAC record. This was a fairly substantial task: Each MARC record was packaged by Gale as a separate zip file, which had to be unzipped and sent up to the catalog. The 856 fields did not include the adding coding needed, in addition to IP checking, for the link to connect to the resource. The library maintained a Syndetic Solutions subscription to display book covers. It was found that the covers for these titles did not display unless the ISBN number for the paper edition displayed as the first ISN. Eventually, using several workarounds, each OPAC display included a book cover.

Because these titles were considered to be an important addition to our collection, the library took the further step of adding the individual titles to the library's Web page. Databases are grouped into broad categories based on the major schools and colleges of the university: Health Sciences, Communications, Business and Liberal Arts. In addition, a link was added to the Gale Reference page that displayed all of the university's electronic holdings.

This system worked fine as long as there was a relatively small number of titles. This started to break down after the library subscribed to more than 50 titles. The Web pages were getting a bit too crowded with electronic reference titles, so we stopped adding individual title links. Then the library bought a dozen or so e-reference titles from Greenwood Press. We added these to our online catalog as well. QCat is well-suited to provide access to electronic titles because it gives users the option to search only electronic titles. On the other hand, we were well aware that most users did not take advantage of this advanced feature. The net result was that these valuable resources were getting lost in a catalog of 250,000 entries.

Next, the library purchased a subscription to The American Council of Learned Societies' collection of more than 1400 late-twentieth century titles from the University of Michigan libraries. These were also added to the online catalog, where they could be seen in the full catalog or the section just for electronic sources. Most of these would be lost in a general keyword search. The library's Innovative Interfaces catalog defaults to a display of titles in chronological order. Because these titles are mainly from the 1970s and 1980s, they would appear past the first few screens for most topics. One helpful feature was the OPAC's link resolver that works inside the catalog; after a keyword search is made, the
user is given the option to automatically search that topic in one of the library’s subscribed databases, and the Gale reference collection was one of those. However, staff still felt that the electronic reference sources were being underutilized.

The library’s problem was clearly an embarrassment of riches; it had developed an important collection of resources that could be used by any student on or off-campus, but the library needed something to make these works more visible.

A New Approach

The library needed something to put a greater focus on this collection, but had already used the normal avenues for linking to the material. One day it occurred to the automation librarian that it would be possible to create a visual interface with links to titles. Originally the idea was to lead the user to a page that showed an overhead map of the library’s reference department, with the general subject areas mapped out. Once the user clicked on a “range” of books, he or she would be shown a shelf of book spines. Clicking on the spine would invoke the cover of the book, and one more click would get the user into the table of contents.

In the original plan, a template would be devised using Java or XML to take a spreadsheet full of data about the titles (Title, Call number, URL and cover image location) and automatically create items on a virtual shelf. The library did not have personnel with the programming skills to do that, so various faculty members and instructional designers on campus were questioned. This led to no immediate help; most people thought this was a good idea, but nobody knew how to develop the template for loading it.

By now, the concept had a name: VERSO. This was an acronym for “Virtual Electronic Reference Source Organizer.” An alternate acronym, GUITARS, which stood for “Graphic User Interface to Automated Reference Sources,” was considered.

In January, 2007, the automation librarian was in Seattle for the American Library Association Midwinter Conference. He visited a friend who worked for Microsoft and outlined the planned project. He was told that there were people at Microsoft who could definitely make this project a reality, and that Microsoft had a division whose task it was to work with universities on project involving access to information.

The friend wrote back once during the year asking for further details, but noting came of it. It was decided that a working beta version of VERSO would be created as a summer project. More than 100 titles were chosen for the initial effort, including all Gale and Greenwood Press online titles, current titles from the American Council of Learned Societies, and Stat-Ref, a database of health sciences reference titles that included Harrison’s Medical Textbook and DSM-IV. Key government titles were chosen, including: the Statistical Abstract of the United States, Occupational Outlook Handbook, Dictionary of Occupational Titles and the CIA World Factbook.

A simplified system was set up to add call numbers. The MARC records supplied by the vendors did not include call numbers. Since all of the titles were associated with a paper book, a student assistant was hired to search OHIOLINK, Harvard, and the Library of Congress to get the call numbers associated with each title. The strategy was not to replicate a complete call number. Instead, one with enough information to place the title next to other titles on the same subject was considered to be adequate. For instance, the title The People’s Chronology was found in the OHIOLINK catalog with the call number D11.T83 1994. For the purposes of VERSO, the library shortened that to D11. Once call numbers were found for all titles, the librarians proceeded to create the spine images. In book cataloging, each title needed to have a unique call number. That was not the case in VERSO.

Each spine image consisted of the title of the book in vertical type and the call number below in horizontal type. The templates for these came in 4 colors chosen at random. Once constructed, the naming convention was CALLNOspine.jpg. There was a fair amount of trial and error in finding the right amount
of detail for the titles. Sometimes the title needed to be shortened to avoid a description like “Maxwell’s concise dictionary of.”

A parallel collection of book cover images was created. Most of these were provided by the vendors. To maintain some standardization, a blank cover of a leather-bound volume was created. The book cover image was then pasted into that space and saved with the convention CALLNOfcover.jpg.

Next came the programming that made all of these objects work together to deliver information to the user. First came a meta screen that branched off into the different subject categories. Initially, the library had envisioned an aerial view of the shelves. The librarians realized that it become a closer emulation of browsing the reference shelves if the image was shown from the ground level. A photograph of one range of our reference shelves was taken (see Figure 1). When this picture was repeated with the various subjects, it became a fairly striking view.

![VERSO: The Virtual Electronic Reference Source Organizer](image)

**Figure 1.** Range of reference shelves.

Originally, call number ranges were added for each section, but that was dropped in favor of general subject categories with pictorial icons. Then HTML files were created to represent the shelves with book spines. This was the most labor-intensive part of the process.

There was a hierarchy of four files working together to bring the user from the image to the book’s table of contents. In the subject range HTML, the spine image was invoked and contained a link to the HTML file for the book cover (see Figure 2). An alt entry was given for each book containing the complete title, which was sometimes abbreviated on the spine image. The coding looked like this:

```html
<a href="hd64.html"><img src="hd64spine.jpg" alt="Encyclopedia of marketing"/>
```
Figure 2. Image of book spines.

Clicking on the spine image would send the user to the next file which contained the book cover image (see Figure 3). The coding looked like this:

```html
<a href="the URL of the title">
<img src="hd62acover.jpg">
<br>
Click on the image above to access this electronic resource
</a></b></p>
```

Figure 3. Book cover.

By early July, a prototype was created with a few dozen examples. In August, permission was granted by the university’s webmaster for directory space to get a permanent home for the project. VERSO moved in to its space at http://learn.quinnipiac.edu/verso/versomain.html. Later that month, a student assistant was given the task of adding usage coding to the pages using the free coding at statcounter.com.
This allowed the librarians to track traffic at three levels: The main pages, the subject-level pages and the individual title pages.

In the days before the semester began, the link to the Gale Reference titles on the library’s Web pages was replaced with a link to VERSO. An announcement was made on the Book People mailing list, which is a forum for librarians involved in the publication of public domain books on the web. That generated a gratifying spike in the project’s usage report as librarians from all over the world took a look.

Once the key collection of 100+ titles was set up, the librarians began to look for appropriate free sites. Sources such as the Internet Public Library gave a number of links to free reference sources. Most of these were worthwhile sources, but they violated one of the basic rules for this collection. Pop-up ads were unacceptable to the project. Full view books in Google only had a handful of titles that would fit the profile. They only provide full access in two cases: If the book was published before 1923 or if an arrangement has been made with the publisher.

On the other hand, Google Books had developed a substantial collection of full-view books on historic topics. The library chose some keys subjects such as specific battles in the Civil War, and created dynamic links to those titles in Google Books. A link to full-view books about Abraham Lincoln led users to a manageable set of 114 full-view titles. As Google adds more titles, this number will grow, but the link will remain the same.

With little publicity beyond word of mouth, the first semester showed that people found the site and it was used every day. The most popular single titles were viewed 25-30 times during the semester. The only negative feedback was from a colleague in Academic Computing who was not comfortable with tilting his head to read the titles on the spines. One faculty member was so impressed with the project that he professed the belief that the library had digitized every book in the reference room and made it available online.

The Educational Component

Professor Greg Garvey from Quinnipiac University’s department of Interactive Digital Design felt that an upgrade to VERSO might be a good project for one of his design classes. In the Fall of 2007, he invited the automation librarian to present the working project to his class. They were showed the work in progress with the following wish list:

1. There should be a template to add new pages without the laborious process of creating four files by hand for each title added.
2. The library would like to save the step of clicking the spine to get to the book cover by making a mouse rollover to create a pop-up of the cover.
3. The library would like to see a search mechanism that could find data in every book, no matter which vendor supplied it. Staff realized that this was the item that was the least likely to be delivered.

Two teams of students agreed to tackle this project. In mid-December they presented their results. The most promising of the projects kept much of the visual quality of the original VERSO, but scrapped the individual spines for a list that was kept in call number order. This also had the time-saving template that was necessary for the future of the project. They were told that such a compromise might work if they could make the cover pop up as the mouse went over the links.

Having a single book spine still gives the user the experience of looking at a library shelf, and it does solve the problem of users needing to tilt their heads to read the titles. There is a good chance that the final design will incorporate much of the work done by the IDD students. The final details will be worked out in the Spring 2008 semester.
Conclusion

There is considerable evidence that electronic reference books are an important resource for academic libraries particularly those with distance education programs. In the case of Quinnipiac University, all of the standard methods were used to promote the use of these e-books: Individual links in the OPAC, OPAC links tied to keyword searches, listing on the Web page, and bibliographic instruction. Staff felt that the resources were still underutilized. By adding a graphic interface linking to the titles, it is hoped that the collection is given a greater visibility as it continues to grow. The addition of usage software to the collection allows the librarians to see how the collection is being navigated and, in particular, tells the library which titles are used the most.

It is hoped that this paper has demonstrated that a graphic interface to a library’s e-reference collection is a feasible project for any library willing to do the work. Except for the student enhancements, all of VERSO is put together with simple HTML programming, which is within the means of nearly any library.

A search of Google Images for the term “Virtual Library” drew thousands of hits, but looking over the results, these enterprises are, by and large, simply Web pages with text links to titles. As the Web 2.0 phenomenon grows and more library users find themselves in virtual worlds, it is hoped that graphic interfaces such as this become a common sight. The librarians were interested in learning if Second Life had something like VERSO. It makes perfect sense that it would, but this could not be confirmed. They did find that there is at least one substantial library in the virtual world, but no evidence can be found to show that its creators took it to the level of patrons perusing shelves and choosing books.

Since the library automation world is filled with vendors who are adding greater usability to electronic sources, it may be surmised that a product such as this will be marketed someday with a full suite of templates and automatic loads that would make it easy to use for a librarian with no programming knowledge. Until that day, the librarians at the Arnold Bernhard Library of Quinnipiac University are content to be pioneers in this area.