

Next-generation library catalogues: reviews of ELIN, WorldCat Local and Aquabrowser

ELIN

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The authors first heard about ELIN (Electronic Library Information Navigation) in November 2005 at a JIBS workshop on federated searching. One of the presentations was given by a speaker from the University of Lund, Sweden, where ELIN was developed. This presentation can be viewed on the JIBS website¹.

What is ELIN?

In fact, ELIN is not a federated search product. Instead of doing a federated search in real time, Lund University Libraries have set up extensive agreements with publishers to store metadata locally, which ELIN searches. This metadata can be tailored to fit the holdings of participating libraries through a web-based administration site in a similar way to SFX.

How does it differ from federated searching? A federated search engine sends the user's search statement to specified individual resources. These then conduct the search to the best of the resource's ability to interpret and respond to the search instructions, and then return results to the searcher via the federated search tool's display function. By contrast, ELIN aims to gather resources together onto a single server *before* the search takes place: the key vision adhered to by ELIN's creators is that of a 'single container' for all of an institution's resources, which can then be searched either collectively or within its component parts.

Content

Journals:

- >15,600 journals, whereof
 - >14,400 journals with metadata (cross searchable on article level)
- >36,000,000 article level records
- includes material from open access repositories (Lund hosts the Directory of Open Access Journals).

Other content can be added, e.g. e-book metadata taken from ebrary, MyiLibrary, etc., with links to the texts. Portsmouth have added the contents of their 'Subject Directory', i.e. websites and databases (see Figure 1). The ELIN vision is to add still more content, e.g. dissertations, e-prints, even the contents of the Library catalogue. An attractive additional feature is the ability to save favourite resources ('My saved stuff').

Advantages of ELIN

- since the content is aggregated before searching takes place, searching is quicker than federated search
- results are displayed in a single, clear display rather than in a series of hit lists derived from different sources
- undergraduates in particular benefit from being able to search most e-journal content quickly

and easily without the complication of dealing with other types of resource such as conference papers, etc.

- because ELIN ‘talks to’ our serials knowledge base it presents a high proportion of full text links, clearly and relatively reliably
- ability to search by type of resource or globally across all material
- ability to limit search results to subscribed content
- ability to download bibliographic data in other formats, e.g. for EndNote or Reference Manager.

User responses

At Portsmouth, ELIN is still at the pilot stage, but academics who have been shown ELIN have been generally positive. Evidence from Bath suggests

that users like its simplicity, especially in relation to article search. Typical comments include:

- All information available in one place: “Everything is in one place. At previous workplace had to search through lots of different databases to get this information.”
- Quick access to material: “I can access journal articles easily.”
- “‘My collection’ is very useful.”

Problems and disadvantages

ELIN has been produced in a University Library for university libraries and because of this it offers some attractive approaches to addressing commonly-held problems. Its origins also suggest areas of potential concern, however, in particular:

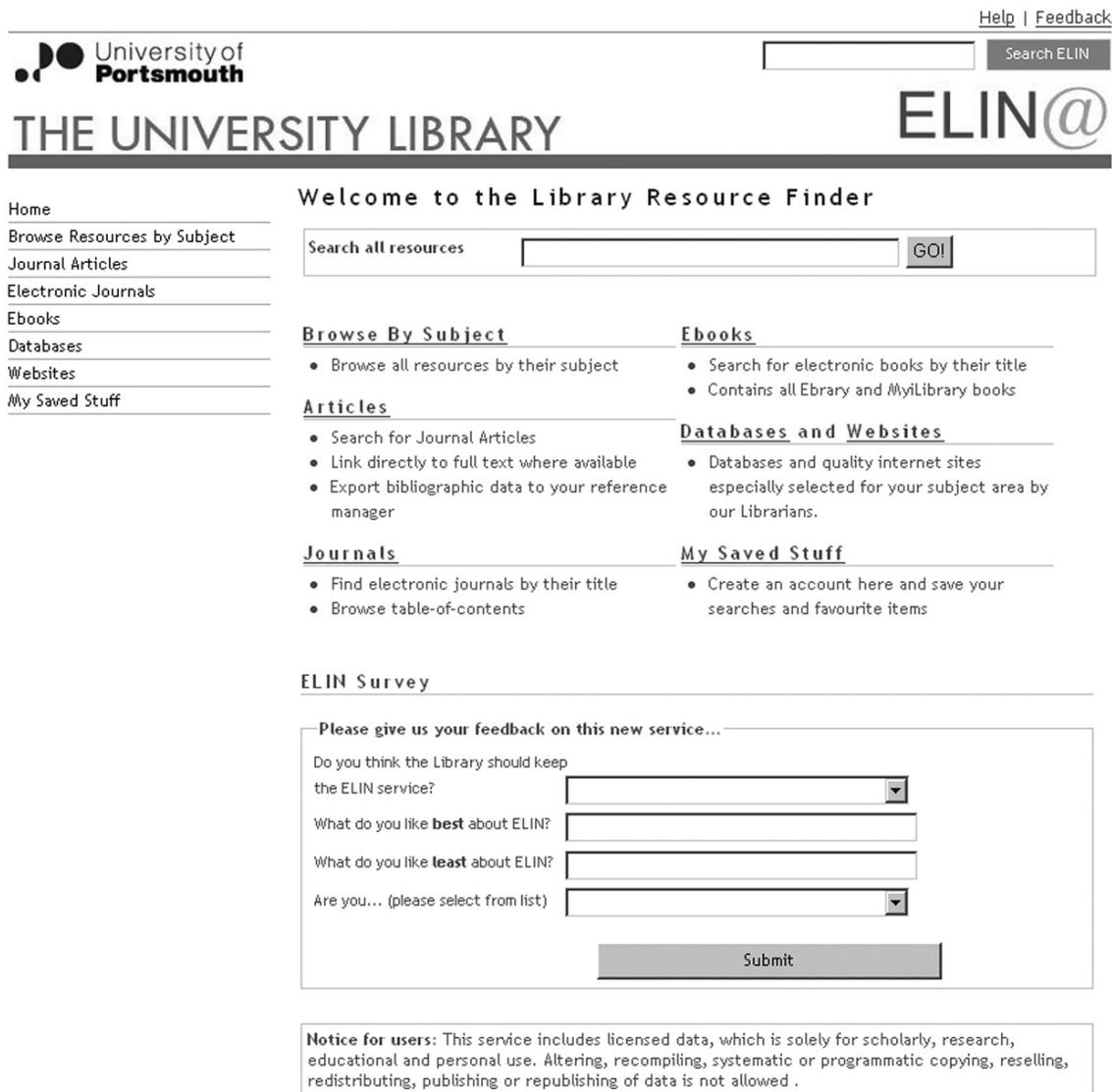


Figure 1. The ELIN@Portsmouth home page

What level of user support is available, and can this be sustained? ELIN has a dedicated team which currently comprises three developers and ten librarians. In practice, we have found that response times, whilst generally good, have tended to vary.

What is the business model, and if ELIN proves as popular as its developers hope, how vulnerable is it to corporate predators? Lund points out that since ELIN was created primarily for their own Library, it will continue to be developed and supported – essentially they are doing the work for themselves but are happy to sell it on.

There are issues of a more practical nature which also need to be addressed:

Authentication ELIN was never Athens authenticated and for off-campus access both Bath and Portsmouth have used a proxy server solution. Lund are currently working on Shibboleth implementation.

Updating In order for the ‘single container’ vision to be realized, the ELIN servers need up-to-date and accurate data about client library holdings. Till now, our content has been created and updated by sending files to Lund. We now need regular routines for updating content of different kinds – in ways which minimize replication of work already undertaken for local purposes – and the ability to update content ourselves rather than requiring staff at Lund to do it.

Richness of content Our cataloguers point out that OPAC records are much richer than those in ELIN. This raises the question of whether, for most users, simplicity and immediacy outweigh questions of record quality.

Conclusions

The seductive ELIN vision of a ‘single container’ could, in theory, spell the end of separate ‘silos’ such as e-prints repositories, e-dissertation collections, and even the OPAC itself. Its proponents assert that federated search has ‘failed’, but it is too early to say whether ELIN’s alternative approach will endure. Ironically, if library catalogues had kept pace with technical and social progress, there would be no need for a product like ELIN, since the OPAC would have given us all it offers, including article search and a browse structure. It has been

left to third parties to address the needs of our users, the most central of which, for many, is to make a complex information environment as simple as possible to navigate. It is in response to this urge that we have been tempted along the ELIN path. Whether the practical difficulties of realizing that vision are surmountable remains to be seen, but an agenda has been set and it may be that if the future is not ELIN, it will be something not dissimilar.

1. Presentation on ELIN can be viewed on the JIBS website at
<<http://www.jibs.ac.uk/events/workshops/federated%20searching/intro.html>>

WorldCat Local

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WorldCat Local (WCL) is one of a number of ‘next-generation’ library catalogues that are now available in the marketplace. Developed by OCLC (with the University of Washington Libraries as its primary development partner), this service basically serves as a discovery/fulfilment interface that sits between the user and the online library catalogue. WorldCat Local shares many interface characteristics with other next-generation catalogues, including a simple search interface, relevancy ranking, book jacket displays, icons indicating material type, faceted limiting, “did you mean...?” suggestions and user-contributed content (e.g., reviews, ratings) as well as access to Amazon.com reviews. Users can also create and manage resource lists which can be shared with other WorldCat.org users, exported into a variety of citation formats and can also be bookmarked/shared on any of a dozen Web 2.0 services (e.g., del.icio.us, Google).

Unique characteristics

WorldCat Local also has unique characteristics that differentiate it from other next-generation catalogues. One of the problems that WCL designers addressed was the segmentation of

library resources into separate information silos: the library catalogue, the consortial catalogue, WorldCat, and dozens of bibliographic databases. Users typically don't understand the differences between these silos and in an unmediated environment the user can be unsure which catalogue/database (silo) is best for their search. Federated search can ameliorate this situation, but also has its own set of problems (performance issues and lack of consistent content designations). If most of a library's and consortia's holdings are set in WorldCat, then WorldCat can serve as the de facto catalogue. As long as holdings are set and clearly displayed, the user can search WorldCat, rather than having to search three separate catalogues (first the local catalogue, then the consortial catalogue, then WorldCat). In order to best serve up what is easily available to the user, WorldCat Local uses library holdings in its relevancy rankings by first listing items held by the individual library (*Held by: University of Washington Libraries*), then items held by the consortia (*Held by: Summit Libraries*), then items held by other WorldCat Libraries (*Held by: WorldCat Libraries*). This default sort order can be easily changed to a date sort, a title or author alphabetic sort, or a relevance sort that does not include location information as a factor (this is particularly useful in searching for known items that are not held by the library). But the default sort will first show what the library holds in its collection.

In addition to what one typically expects to see in WorldCat, OCLC has added over 50 million article citations from the following sources: OCLC ArticleFirst databases, British Library Document Supply serials, ERIC, PubMed and the US Government Printing Office. In adding this content, OCLC has made WorldCat the largest bibliographic database of any kind. The feedback we have received from students, staff and faculty is that the WorldCat database serves as an excellent starting place for research and, for some areas of study, can actually replace the specialized databases previously used.

The other unique feature that differentiates WorldCat Local from other 'next-generation' catalogues is its ability to offer appropriate services based on holdings, item status and material type. Just as libraries have resource 'silos' they also have delivery silos. Each library catalogue will have its own requesting and delivery mechanism. In addition, the user has to know about inter-library

loan to request a resource not held by the library. Typically, the inter-library loan form is found elsewhere on a website (if it's available on the web at all) and users must remember to print out or write down their citation information in order to enter it into the form. So how does one get journal articles? Consult the library catalogue? Go to inter-library loan? Ask the librarian? The multitude of delivery options can be baffling to a user and is often a barrier to the user getting the item they are interested in. WorldCat Local makes fulfilment easier by only offering options that are appropriate, based on information about the item, for example: *Is the item available in the library or in a consortia library?* Offer the 'Get This Item' button and have the system route the request either to the local library or the consortial system as appropriate. *Is the item not held by the library or the consortia?* Offer the 'Get This Item through Inter-library Loan' button and then populate the resulting form with information from the catalogue record or citation so that the user only has to fill out their personal information. *Is the item an article?* Offer a 'Check for Electronic Resources' button that will send the user to the library's link resolver to check for online full text and offer other services made available through the link resolver. And for items (including articles) held by the library or consortia always show the local/consortial item status and availability, so the user can make the decision on whether to use the offered service or to go to the library directly. Why require users to navigate through different fulfilment systems when we already have all the information to consolidate delivery into a small number of easy steps? Because requesting is now easier, we have seen huge increases in requests. Requests of our local materials have stayed about the same (which makes sense as users had already been getting to these materials through the local catalogue), but in the first year of service, requests from our users to borrow consortia libraries' materials have increased 67% and inter-library loan requests have more than doubled! We are providing many more materials now to our users that they either did not know about or did not know how to obtain (short of purchasing from a commercial source).

Some other unexpected benefits have included the ability to display the user interface in any of six languages (English, French, German, Dutch, Spanish and Chinese) and to display non-roman languages in their original script (a feature which typically

costs extra with most integrated library systems). If a library has OAI-harvestable digital image collections, OCLC will periodically harvest data from those collections and create MARC records for each image (thus doing your 'catalogueing' for you). In this way, your local digital image collection will appear in WorldCat Local with thumbnail images included in search results.

Implementation

Depending on your cataloguing environment, implementation may or may not be straightforward. As already mentioned, a library needs to have its holdings set in OCLC in order for the service to be most effective. The data element that is used by WorldCat Local to retrieve item/status information from the local catalogue is the OCLC record number. Local records lacking OCLC record numbers will not surface in Worldcat Local, so libraries will typically have to do some level of retrospective conversion or possibly a reclamation project in order to populate their local records with OCLC record numbers.

A common complaint from library staff and experienced catalogue users is the lack of advanced searching features such as authority control (cross-references) and index browsing. OCLC maintains that these features are not used by most catalogue users and they have not included them in order to keep the search environment simple. This is one reason that we have decided to keep our local WebPAC up and running as it does provide some search functionality lacking in WorldCat Local. But in the end, our library has decided that the discovery and service benefits seen in the implementation of WorldCat Local have been substantial enough that we have made WCL our default search and that the library catalogue is now a niche product, like many other specialized databases.

More information about WorldCat Local is available at <www.oclc.org/worldcatlocal/>. In addition, three members of the University of Washington Libraries' WCL implementation team have reported on their experience in the August/September 2008 issue of *Library Technology Reports*.

Aquabrowser

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Aquabrowser was selected for purchase by the University of Edinburgh and was implemented between April and September 2008, to be available for students at the start of our academic year.

This was after a limited market review where we identified available vertical search products, established our evaluation criteria and had supplier visits to do on-site demos. The products were assessed on value for money, perceived ease of implementation, technical requirements and functionality. We selected Aquabrowser because we identified it as a low risk, (in terms of cost and staff resource), highly functional tool that would allow us to experiment with users' reaction to a vertical search product. Aquabrowser was intended to replace the existing interface to our library catalogue which was felt to be dated and not intuitive for new users.

Features

Aquabrowser has a simple 'Google-like' single search box and once a search has been done it presents a screen laid out in three parts (see Figure 1).

On the left is the word cloud, a set of terms derived from the search results; in the middle are the results themselves; and finally there is a range of limits, or facets, that can be used to refine the search and make it more targeted to user requirements. The word cloud encourages the user to navigate through the results, always focusing their search to find exactly what they want. The word cloud highlights words that have already been used in the search so the user has a trail through their search process. The sophistication of the limits available to us in the system ensures that the user finds what they are looking for. In a way, the word cloud presents a form of serendipitous browsing that has not been possible to represent in previous versions of the library catalogue.

Aquabrowser does not work dynamically on the data held in our library catalogue. This data has to be extracted to be loaded into Aquabrowser. This may seem like additional work but, apart from the initial extract, the daily extracts are done

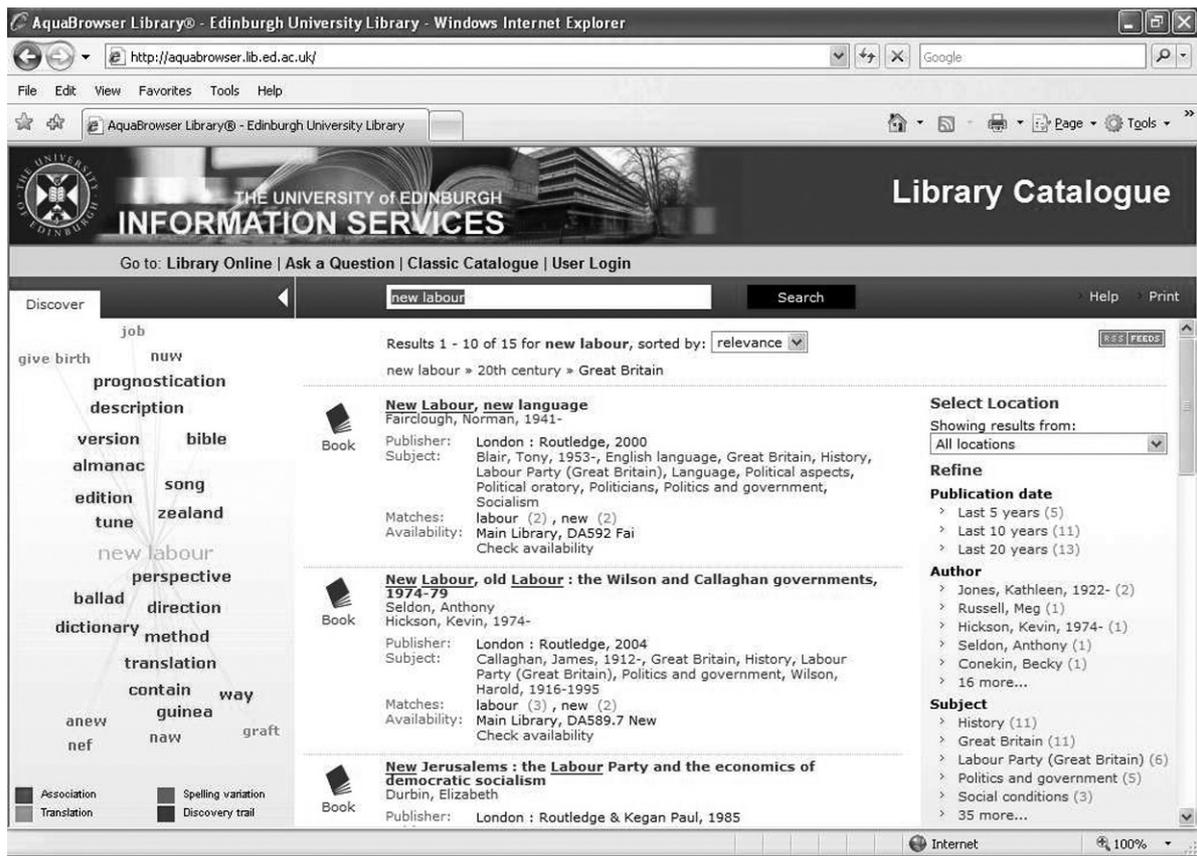


Figure 1. Example of three-part screen resulting from single search

automatically using scripts. A major advantage of this approach is that it allows you to consider your catalogue records as data, outside any constraints imposed previously by your library management system in terms of storage and display. We took the opportunity to completely rethink our approach to our MARC mapping, field labels and display fields as part of this implementation. We feel that AquaBrowser allows us to exploit more successfully the investment we have made in the creation of our high quality MARC records.

Customization

As a result of our short timescale much of the initial customization was done by the supplier based on our detailed specification, and then further developed in a focused week of development where the supplier came on site. We dealt primarily with the software developers, Medialab, but our ongoing support relationship is with Infor.

AquaBrowser is shipped with a user administrative control panel which allows the library to

customize the majority of the features of the system. Most configuration files are held as XML so knowledge of this is needed to customize the system. Customization can either be done by the customer or by Medialab, as required.

Our experience of working with Medialab has been very good; they are responsive and quick to implement changes we have requested.

Statistics

AquaBrowser comes with a detailed statistics tool which provides data not just on usage but also on favourite search terms, searches that produced few results, how often users used specific limits to narrow their search, how deeply the user went into the results of the search, and how many pages of results they went through, for example. (See Figure 2.) This is much more detailed information than we have had previously and we are excited at the opportunities this gives us to understand how users are using the catalogue and therefore improve how we develop that service.

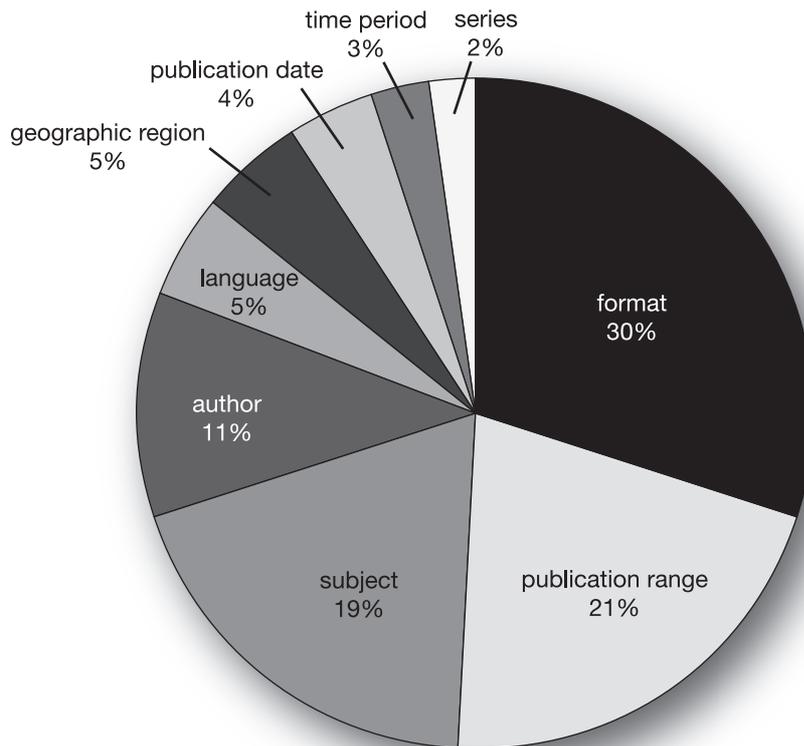


Figure 2. Aquabrowser comes with detailed statistics tool

User feedback

During implementation we worked closely with subject specialists who have direct contact with users, to ensure that we developed a service that met their user requirements. We also worked with colleagues in learning and teaching to ensure the service met accessibility guidelines.

We had originally intended to launch Aquabrowser as a replacement for our Voyager catalogue but it became apparent as we neared launch that both catalogues had different features that were of value to different user communities. We therefore decided to launch Aquabrowser as a complementary service. We launched the new service to users in September with little fanfare, via a news item on the library website, and links from library web pages and the University portal. Subject specialists also included it in information skills teaching at the start of semester.

Preliminary usage statistics show that users are finding and using Aquabrowser. Feedback from

induction has been hugely positive and it is clear users are finding that Aquabrowser delivers innovative ways to use library catalogue data and find library content.

Conclusion

We have only recently gone live with Aquabrowser and there is much more that we now want to do with this system. We are interested in exploring the content enrichment options, such as Syndetics ICE and are particularly interested in how we can use this to FRBRise our catalogue records. We have licensed the option to link Aquabrowser with our federated search software, Webfeat, which allows the search terms used in the catalogue search also to be used at the same time in an e-resources search.

You can get access to our Aquabrowser implementation at <<http://aquabrowser.lib.ed.ac.uk>>