Cataloging Assignment:

Miskatonic University OPAC selection

review and recommendations

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Introduction

As part of the process of reopening, Miskatonic's library systems need to be updated from the physical card catalogs and written indices of its past. With 230 students in the inaugural class and 21 faculty, we have some time to get things moving, but money, as always, is tight, making expensive proprietary solutions a choice we cannot afford. Despite the small student body and the pruning of our historic collection over the years, Miskatonic still boasts in excess of 30,000 texts, titles, and other catalogued materials, which will require a lengthy period of time to comb through and digitally record.

Those concerns in mind, I have conducted a thorough review of available OPACS—online public access catalog—and associated ILS software, leading to recommending we adopt the Koha ILS system originally developed by the Horowhenua Library Trust of New Zealand. Given its flexibility, broad user base, and low cost, it will serve our needs better than any other available system. The Evergreen open source system was also considered, but while its is more generally widespread, Koha has a more developed niche amongst university and other academic facilities, and has an established base of supporters to query regarding concerns and problems.

Koha: Open Source Library Software

Originally released in 2000, but updated as recently as March 2019, Koha was developed to serve as a web-based ILS for libraries of any type, allowing for circulation control, acquisitions management, patron reservations, and cataloging, as well as being extensible for course reserves and integration with journal and utility databases, such as EBSCO or NoveList. While open-source, it is supported by Bywater Solutions (https://bywatersolutions.com/), who offer paid consulting, deployment

Figure 1: Koha administration and ILS controls

assistance, and support, enabling Miskatonic to outsource the initial set up while avoiding expensive long-term licensing fees that would come with a proprietary ILS. Software demos are available at the same location, for both the OPAC and staff client, and those demos were used for the system testing done in preparation of this report.
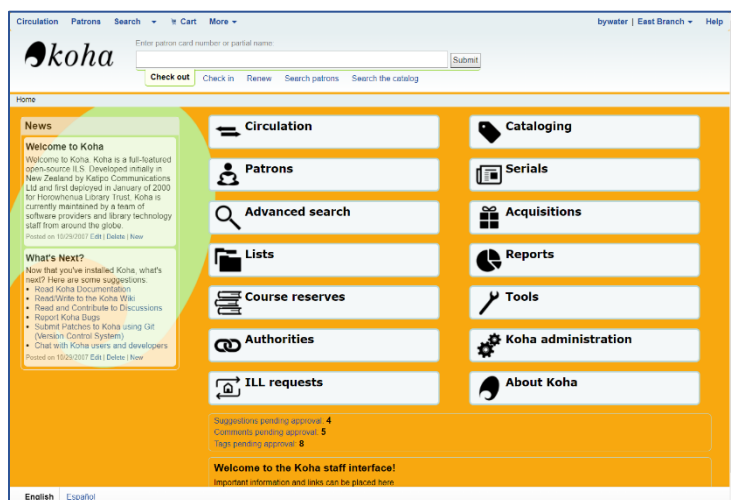
Description and Testing: OPAC

A separate report will be available at a later date regarding tests and work done using the back-end client (a short summary of said report is included in the final evaluation section); in this section, you can find results of working with the OPAC-side of Koha, and notes regarding the user experience. It is notable that the demo OPAC provided has a limited selection of materials catalogued and searchable, and is not representative of the materials in our collection. Despite this, the general structure and nature of the interface and queries can still be understood and its application to our materials extrapolated.

Design Elements

Overall Design——

Koha's OPAC defaults to a very clean, minimalist interface—the search bar is proceeded by nothing more than branding and user controls. While it is perhaps too minimal, as there is little contrast between user elements, it is customizable from the back end and can be styled to better distinguish elements as we desire. Space exists for additional content as part of the OPAC, including links to additional databases that are not managed through Koha, notifications and library information, outreach (note the included Twitter pane; this is but one of numerous customizable widgets we can use to continue patron-library interaction).
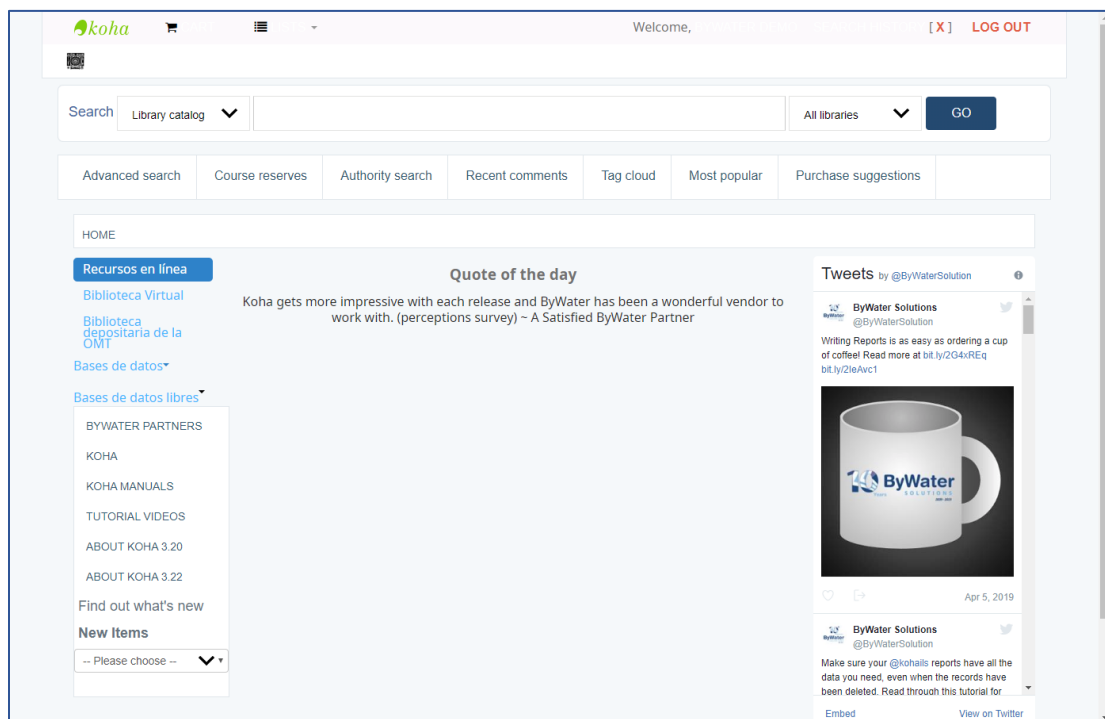

Figure 2: Koha OPAC front page

Navigability———————————————————————————————————————

Contrast concerns notwithstanding, moving around the OPAC is simple – the search box is prominent, and advanced search, course reserves, and other material is available (and controllable by the librarians) via a flat menu that makes them immediately visible. The launch page for the OPAC also includes a deeper side menu we can utilize for additional, less-frequented resources.

Usability ———————————————————————————————————————

While it seems a minor concern, it is notable that the site functions via passed URL parameters (rather than POST commands), which allows users full usage of their BACK and FORWARD browser controls without running into errors about expired searches or invalid data, which cropped up in several other tested OPACs; similarly, opening results in new tabs or windows does not cause trouble for the OPAC and allows a user to interact with the software in whatever fashion they are most comfortable.
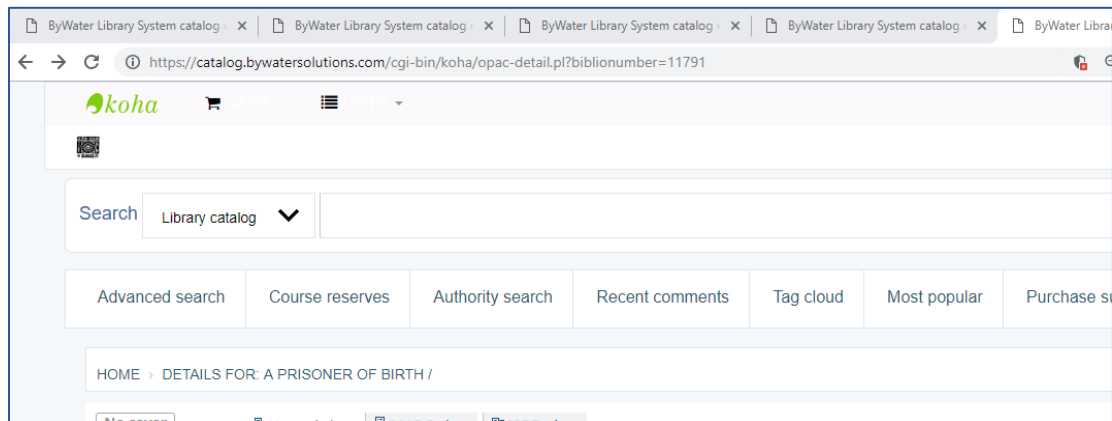

Figure 3: Tabbed Browsing

One object of concern is that, while utilizing the OPAC in this capacity, tabs and windows created all display the same page name, making them difficult to sort or search through; an examination of Koha's customization settings, however, shows that we will be able to invert the page title order (narrowest to broadest, rather than the broad-to-specific default), placing the media title first in the tab name for quick user reference.

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Search Options

As noted above, searching the Koha OPAC is possible via basic or advanced queries. While users are presented and default to a basic search, behavior can be customized based on user preferences once they have created an account, allowing for default filters, saved searches, and other useful controls. The two primary search types are detailed below.

Basic Searching——

The system is designed to start users with simple queries—the basic search—that they can then simply augment with refining filters (based on topics, material type, holding libraries, and other details), as well as prompting with familiar "did you mean:" questions that behave much like Google, with which we can assume user familiarity.

Basic searches are keyword searches; in user results, they can see the constructed query form of their entry, which will default to something like this:

> `Results of search for 'KW,WRDL: Merchant'`

The basic search actually does not respond to a traditional Boolean search, instead dynamically constructing a Boolean based on the user input (Engard, 2016, section 13.02). Koha strings each term entered together with a hidden Boolean AND, thus resulting in a search for "merchant venice" actually searching as:

> `Results of search for 'KW,WRDL: "merchant" AND "venice"'`

While potentially limiting for an advanced user, it provides quick, focused results for simple queries and inexperienced patrons.

Advanced Options————————————————————————

Advanced searches present a series of fields and dropdowns that can be extended on-the-fly as the user realizes they need more control, allowing them to develop their search step-by-step rather than via premeditation. More importantly, they allow full Boolean control via dropdowns for "AND", "OR", and "NOT" as applied to any searchable fields, which are themselves presented via linked dropdowns.

A weakness of the advanced search is that there is no available help built-in for users; while we can and should customize the page to include it, it will necessitate writing it ourselves. Despite that, the advanced search is generally usable, well-apportioned, and allows extremely fine selections, as viewable in Figure 4.
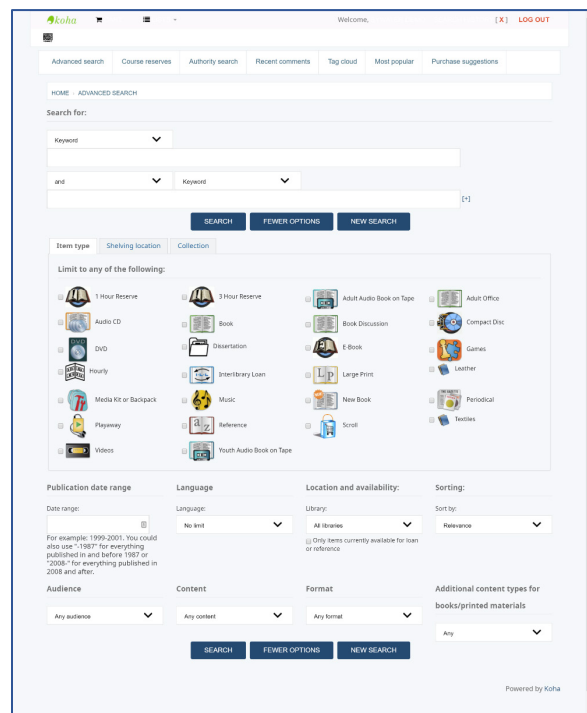

Figure 4: Advanced Search (test online)

Search Testing

As part of the evaluation process, a number of queries were performed on the Koha database; highlights are presented below. Unless noted otherwise, basic searches acted as the dynamic Boolean discussed above, performing keyword queries against requested fields. Koha documents the search fields as they map to MARC record fields; the list is available online (Engard, 2016, section 13.03) and can be edited from the administrative ILS. Searches default to a "relevance" ranking order—again, editable via administrative ILS—that attempts to sort via how close to a 'perfect' match the result is, but can be changed by the user to any of popularity, catalogue number, author, title, publication date or acquisition date.

Title Searches ——

Searching for a title, specifically, via the search type dropdown behaves as expected. In addition to the simple keyword matching normally available, "title phrase" is allowed as search type, grouping all listed words into a single string. Where searching for "merchant of venice" would normally return any materials that included all three words in the title, in any order, the title phrase query will return *only* those that read in order, much as enclosing a query in quotations does in other systems. Title searches check the MARC 130, 210, 211, 212, 214, 222, 240, 243, 245, 410$t, 490, 505, 600, 610, 700, and 710 fields, however they are performed.

Author Searches ——————————————————————

When performing a basic search for an author name, the MARC 100, 110, 111, 245$c, and 400 fields, among others; while a basic author search is the only option available by default, an advanced search can restrict (or broaden) the fields in the same "phrase" fashion as the title search, but also search for corporate authors, conferences, and aliases. While this presupposes the data is there in the MARC record, it is extremely granular, and allows fine-tuned queries.

Figure 5: Advanced search field options

Performing an author search for "Archer" returned works by numerous authors, and how the engine determined the relevance was unclear ("Archer, Thomas" was the first returned, but was followed by "Hulbert, Archer Butler, 1873-1933" before "Archer, Chris"). Further research is potentially warranted, though not of critical import currently.
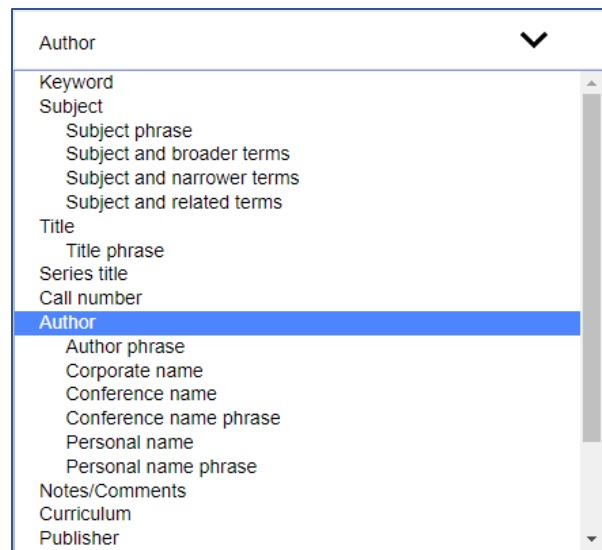
Subject Searching ──

Searching the 610, 650, 653, and 690 fields, subject searches are, by default, simple keyword searches—searching for "humor," for instance, will return a variety of work, from Chaucer to Stephen Colbert. Koha has extensive support for subject authorities and both broader and narrower subject entries, but it is nonfunctional by default, requiring us to decide on and import or develop a subject authority list, and use it in our cataloging procedures. While potentially a significant amount of work, it is a valuable feature that, assuming consistent work, will enable extremely precise searching on the part of our patrons.

General Keyword Searching ──

The results of our general keyword searching are primarily discussed under the basic search type, above. However, it's notable that a general search does appear to search the majority of indexed fields, returning entries that match any of the above as well as series, identifier numbers, and other data, as well as across multiple media types. A search for "lord of the rings", for example, returned not only collected printings, but individual volumes tagged by series, commentary, films, and other, related works.

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Additional Concerns

Error Handling ──

The demo client for Koha does not respond to misspellings, leaving users with no or few results. Similarly, regional spellings ("colour" vs "color", for instance) are not cross-searched, word roots and pluralization do not react 'smartly', and, generally, the experience requires accuracy on the part of the user.

Like many aspects of Koha, however, this is controllable by the library staff, via enabling "see also," "auto truncation", "fuzzy queries" and "stemming" in the administrative options (Engard & Koha Community, 2017). While this will require some testing to determine the best combination for speed and usability, it neatly addresses concerns about search errors while leaving the system utilization up to us.

Result Display Analysis ——

Figure 6: Record view

Figure 6 is a capture of the primary display for an item in the collection. The inclusion of a graphic—which can be set via the MARC record to point to a location, uploaded to the database while cataloguing, or pull automatically from Amazon, Goodreads, or similar sources—neatly breaks up the preponderance of text, giving the user a visual confirmation and familiarity with their search. The rest of the information – title, author, format, and bibliographic – is simply presented. There are minor UI quibbles: the font changes to denote entries that can be searched for similar works are too distinct, and break up the flow while lacking enough contrast to be clear of their purpose, and the work description comes a little late in the entry and lacks any visual cues that set it off for quick recognition. These are things that are, like so much of Koha, customizable by administrators, and can be addressed as time becomes available.

The features included on the entries add value to our cataloguing work; when NoveList is integrated, users can find similar works quickly by utilizing their database. Critical reviews are automatically located and displayed in a tab, and "more like this" lists are also definable by librarians. Patrons can interact with the collection here, seeing where they are located, reserving works directly, or, if we partner with an e-book collective (such as Overdrive), download digital copies. The "browse shelf" tool shows, not only works physically near it in our library, but a physical map to the location if we configure it via identification tags in the administrative section. While the Freeborn library is quite small, as we reopen other buildings, this may become a valuable finding tool.

In addition to the default display, MARC and ISBD views are available, and can even be set to default by either us or individual users, allowing frequent patrons to skip the extras

and get to the meat of the catalog information via ISBD should they prefer. Overall, the Koha results display is excellent.

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Evaluation: Koha is our Solution

While there are places where Koha could see improvement, one of the many valuable features of it being open source software is that it *can be* improved, either by us or others working on the project. The customization already available is significant, and Koha sees regular updates, with major updates coming on average once a year over its lifetime. While it requires more in-house expertise to control than many commercial ILS and OPAC options, that can be mitigated by service contracts with ByWater or other organizations that provide paid support for Koha; even accounting for those, the costs associated with Koha are lower than going with SirsiDynix or Innovative's proprietary applications.

While this report has focused on the OPAC side Koha, it is the back end that does the heavy-lifting, and is the largest draw to the software. Given our relatively small staff and the near-overwhelming collection we need to catalogue, Koha's extremely controllable z39.50 import options—allowing us to pull MARC records and other data from the Library of Congress, New York University Libraries, the University of California, or any other system that shares their catalogue—will significantly ease our workload, while the flexible MARC mapping and import controls allow us to maintain fine control over the final catalogue entries.

For our research programs, the authority controls and subject heading classifications for searches are a valuable addition, and Koha makes managing those a simple task, if still a time-consuming one. Integration with EBSCO and other databases will allow our users to find journals we subscribe to within the same catalog interface they look up our materials on hand, eliminating the cumbersome methods of checking multiple databases separately. Beyond the cataloging controls, Koha's extensive support for patron and circulation controls are feature-rich and compare well to that of other ILS; the reporting and acquisitions modules will allow us to track the usage of our collection to a fine degree, thus allowing our selection teams to better address gaps or portions of the collection that see the most use.

Koha's biggest weakness in regards to Miskatonic's deployment is that it is *not* as seamless an experience as a proprietary variant, and the responsibility for maintaining both the system and the hardware on which it runs falls to our technical support teams. It certainly lacks in other areas, many of which were noted during the evaluation portions of this report, but by design, those can be adapted or altered to suit our needs. Each adaptation, of course, costs both time and money, narrowing the savings gap Koha provides, but they also allow us to configure our system *exactly* as we desire rather than us working under a one-size-fits-all product.

Additional References

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