Chapter 3

Enhancing LibGuides Usability and Discoverability Within a Complex Library Presence[1]

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Introduction

At the University of Michigan Library, we use Springshare's LibGuides to manage subject, course, and specialized information guides comprising thousands of individual web pages. While LibGuides can be used to build a robust library website, complete with features for managing electronic reserves and databases, we maintain it as a supplementary tool focused around instruction and guidance. LibGuides is one of several open-source and proprietary components making up our library's complex web presence. There are three primary tools and resources beyond LibGuides. The main website (http://www.lib.umich.edu) is based on the open-source Drupal content management system. We have a multi-tiered set of discovery interfaces, including a homegrown "bento-box" style search interface that presents results from multiple sources (the catalog, our Summon-based article discovery service, our journal and database finder, etc.) in a single display. Our main library catalog interface is powered by the open-source VuFind discovery software, providing a faceted interface to bibliographic records.

In such a complex online environment, it can be challenging to make LibGuides content discoverable and to present it as a functional, integral part of the whole. Doing so, however, is critical if we are to efficiently connect users to relevant information resources. In the following

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chapter, we will share examples of how we have integrated LibGuides into our library website and learning management systems (LMS) in order to facilitate access to content through search and discovery.

History and Background

When we adopted LibGuides in February 2008, the University of Michigan Library was in the process of moving its library website to Drupal 6. Prior to this point, the library's website was a collection of HTML files, PHP code, and other items without a consistent design or structure. There were three different tools used to create guide-like content: two independent custom PHP applications and a set of HTML templates. As we planned our work, we realized that recreating guide-like functionality was beyond the scope of what we could manage, and so decided to consolidate these three independent tools into the LibGuides product.

Following the decision to consolidate content in LibGuides, we faced the challenge of determining how to place guides in the library website in a way that would make them easy to find when sought after, but not more prevalent than they needed to be. The information architecture of the new Drupal website was based largely on the organization of schools and departments across the campus. This system became the driving force behind several search and discovery tools, including a new books tool (http://www.lib.umich.edu/newbooks), a mechanism to match subject specialists to user search queries, an Academic Discipline catalog facet, and a series of browse pages (http://www.lib.umich.edu/browse).

We knew it would be important to integrate LibGuides into the existing frameworks of the library website. Additionally, we observed a strong desire from library staff to place more library-generated content within CTools, the university's Sakai-powered LMS. To achieve these goals, we decided to provide access to LibGuides content in three places within the library

website, and to create an automated workflow to provide appropriate subject and course guides to courses in the university's LMS.

Use Cases

Library Website Integrations

Within our library website, we expose our guides in search results, browse results, and staff profiles. To develop these points of integration, we first came to an arrangement with Springshare to obtain a weekly export of our LibGuides system data. The data were provided as an XML file, a standard format for representing hierarchical data in plain text through the use of consistent tags to indicate labels for the data. This XML file reproduced Springshare's database structure, and included data such as a guide's title, its authors, tags, and content in separately demarcated lines. Though we had the full content of each guide available in the export, we decided not to ingest it all to reduce weaker matches in our site search. On a weekly basis, we would ingest each guide's metadata for title, author, tags, and description into a Solr (http://lucene.apache.org/solr) index to facilitate searching. Solr is an open-source indexing tool that is designed to work with XML or other fielded data. It allows us to search on specific fields and adjust their relative relevance weight, making it a flexible and customizable search tool for the library website.

Search Results

When users submit queries through our library website's site search, they're presented with search results from LibGuides in the right-hand sidebar of a bento box-style interface (see Figure 3.1). This placement keeps guide results separate from our most frequently used search targets, while making them available to people searching explicitly for them. The site search can

be used to retrieve guides relevant to a specific course, academic discipline, or topic. Only the
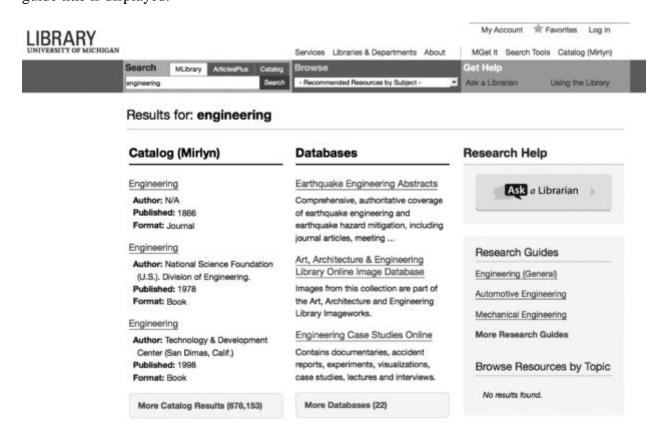
guide title is displayed.

Figure 3.1. Search results displaying guides related to engineering.

Browse Results

While our initial exports of LibGuides XML data contained the information needed to

match individual guides to a site search, they did not contain the metadata needed to associate

guides with a controlled vocabulary of browse categories. We considered building an application

to track extra metadata separately from LibGuides' native interface. With a separate application,

guide authors would be able to edit guide content normally in LibGuides, and edit a list of

relevant browse categories for each guide in another web site. We decided that the extra burden

on guide authors of maintaining guide information in multiple locations would have outweighed

the benefits of using a fully supported controlled vocabulary. Instead, we applied tags to guides to record this information.

When users browse our library website, they're prompted to select one or more of 257 browse categories. After making a selection, they're directed to a bento box-style interface that includes results from LibGuides in a prominent second column (see Figure 3.2). Up to three guides, with truncated descriptions, are displayed by default.
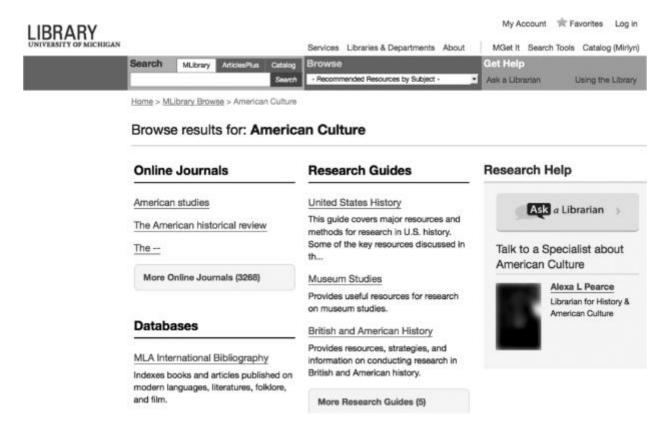
Figure 3.2. Browse results displaying guides related to American culture.

When more than three guides are associated with a browse category, users can view a lengthier results page that separates guides into two sections: Highly Recommended and Other (see Figure 3.3).

Browse results for: American Culture in Research Guides

Highly Recommended Research Guides

1 - 4 of 4

United States History
This guide covers major resources and methods for research in U.S. history. Some of the key resources discussed in this guide are America: History and Life, Making of America, and Early American Imprints (Evans).

Museum Studies
Provides useful resources for research on museum studies.

British and American History
Provides resources, strategies, and information on conducting research in British and American history.

Digital Humanities
An introduction to tools and projects in the field of digital humanities.

Other Research Guides

1 - 4 of 4

History (General)
Provides resources, strategies, and information on conducting research in history.

Figure 3.3. Extended browse results for guides related to American culture.

The browse associations are controlled entirely by tags. All of the guides shown in Figure 3.3 appear because they contain the tag *international_studies*. The first nine guides appear as Highly Recommended because they include the tag *best_bet*. The tagging guidelines we developed include underscores because LibGuides has not always supported tags containing spaces. Because the tags are added manually, we have encountered challenges related to scope (guides appearing in the wrong category) and syntax (guides not appearing because a tag is malformed or misspelled).

Staff Profiles

The third LibGuides integration within our library website involves staff profiles. Users viewing a staff profile will encounter a list of guides authored by the staff member (see Figure 3.4). This information is updated as often as we ingest data from LibGuides. Guides will only appear if the staff member is the primary guide owner. Collaboratively authored guides that the staff member does not own will not appear.
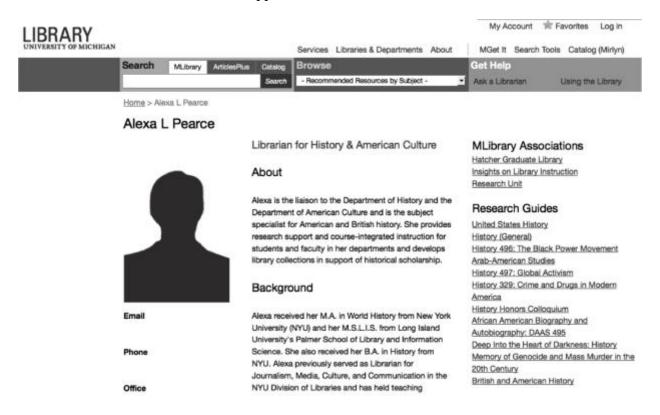

Figure 3.4. Profile displaying guides authored by a staff member.

LMS Integrations

CTools (Sakai)

The first version of LibGuides did not include tools for integrating content with CTools, our university's Sakai-powered LMS. Consequently, we developed an LTI-compliant tool for retrieving guides associated with specific courses. LTI, or Learning Tools Interoperability, is a standard method for one system to provide information to another. The standard specified

formats for sharing information of particular value in academic settings, such as course names and numbers, departmental affiliation, and more. More to the point, it is the standard way to include external data in our campus' learning management system, where students view their course syllabi and reading lists, interact with faculty, submit their homework, and view their grades. From our perspective, building an LTI-compliant tool was fairly unremarkable. The tool is a single-page website which receives input in a clearly defined format, and provides HTML as output. As with the library website browse pages, this integration is dependent on metadata placed in tags. A single tag indicating that a guide should match a specific section of a course might look like *subject:english course:125 year:2015 term:fall section:097*.

To add a guide to a CTools course, a course designer (or an instructor or an authorized delegate with appropriate access permissions) adds a tool called Research Guides to the course site navigation. The tool is automatically configured with basic information about the course to which it has been added (subject, course number, section, campus, term, and year). The tool then queries our university registrar's office for the name of the course's instructor and the list of any courses cross-listed with it. With a list of one or more courses to retrieve guides for, the tool matches against the tags for the most specific combination of subject, course number, section, term, year, campus, and instructor. The tool requires that the subject matches, but any of the other course attributes are allowed to be more loosely matched. For example, a guide can be designated to match any English course by professor Smith (*subject:english instructor:smith*), or only section 097 of English 125 in the fall term of 2015 (*subject:english course:125 year:2015 term:fall section:097*).

When this tool works successfully, course participants who access it from course site navigation are presented with a page containing a hyperlink to the relevant subject or course

guide (see Figure 3.5). If a matching guide isn't found, a link to the LibGuides homepage appears instead.

Figure 3.5. CTools site where Research Guides tool has retrieved a relevant course guide.

Canvas (Instructure)

When the University of Michigan announced it would begin a transition to Canvas, an Instructure-powered LMS, library and campus IT stakeholders agreed it would be advantageous to provide course designers with a LibGuides tool similar, if not identical to, the one appearing in CTools. While the tool the library developed for CTools is LTI compliant and should work in every popular LMS, we chose to explore other options for initial Canvas integrations.

Shortly before the campus began its transition to Canvas, our library migrated to a new version of LibGuides (LibGuides 2). The new version included an LTI tool that, when enabled, would permit course designers to embed LibGuides content (entire guides, or individual pages or boxes) in course modules or assignments (see Figure 3.6). We worked with campus LMS

administrators to enable this tool across campus. Features of an LTI tool, such as links for course

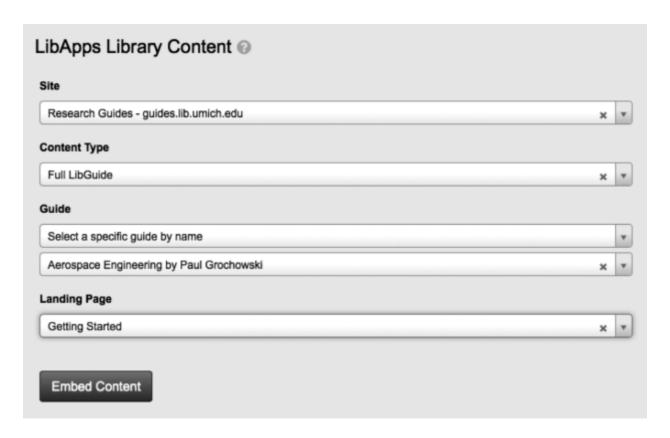site navigation, are provided to an LMS with an XML file.

Figure 3.6. Selection options for embedding LibGuides content in Canvas.

The vendor-provided LTI tool we've integrated with Canvas has notable differences from

the tool we developed for CTools. Instead of matching a relevant guide to the course site by

default, it requires a course designer to manually select the content they would like to display.

Instead of launching content in a new window, it launches within the same frame of the course

site. We are still exploring the capabilities of this tool, as well as the possibility of implementing

our CTools tool within the Canvas environment. We have also met with Springshare to provide

feedback on their LTI tool based on our experiences.

Effects of Migrating to LibGuides 2

As mentioned in the preceding section, our library's migration to LibGuides 2 required us to re-evaluate our existing LMS integrations. Additionally, the migration enabled us to improve some of the website integrations we had already developed. Whereas we previously worked with Springshare to obtain weekly XML data exports, we now use tools within LibGuides 2 to export LibGuides data and reindex it in our website on daily basis. We are also exploring options for using LibGuides 2 features for adding internal metadata fields to replace our current practice of placing browse category and course-related metadata in public-facing tags. We anticipate we will continue to improve our existing processes with the new tools available.

Challenges and Opportunities

Running LibGuides as a content management solution for a subset of our library's web content opens up a number of opportunities, as well as presents a number of challenges. A significant challenge is that very fact: we are running two content management systems. Our library website has search interfaces to our licensed content, books, and discovery services; as well as information about our physical locations, collections, services, and staff. Our instance of LibGuides has subject-specific information, including links to subject-focused databases. Aside from the duplicated technical overhead of managing user accounts and permissions in two distinct places, this can lead to user confusion about which site to use and what content is properly sought in which service. While we have tried to resolve this by presenting LibGuides content in relevant places within the library website, the dual services still present some user experience challenges.

We have attempted to minimize the impact of these challenges through interface design. While LibGuides and the library website have different visual themes, they appear as members of the same graphic family and share a common set of navigation links. Over time, we have repeatedly tweaked the CSS style sheets in LibGuides and removed capability to minimize content authors' ability to add colors, fonts, and other elements. Ensuring consistency of the interface across the library's web presences helps provide an aura of quality beyond the actual words on the page.

Furthermore, LibGuides content provides access points to the broader library website, with direct access to our library catalog and other discovery tools (the article, database, and journal finders, for example). An Ask a Librarian chat widget is present in both sites, providing a continuity of in-person service between them. While we suspect that students are less aware of the library's brand when they view our LibGuides, as opposed to our other online sources, we hear from faculty that they appreciate seeing the library brand and knowing they can trust the information and understand that links to full-text licensed content will therefore work seamlessly.

One of the most significant challenges we face is that the overwhelming majority of LibGuides usage comes from Internet search engines, not the library website. Between January-April 2015 (which closely corresponds to the University of Michigan's winter term), Google Analytics reports that there were 466,221 user sessions. Of those, nearly 83% (386,718) originated with Internet search engines; Google alone accounted for 375,305 of those sessions. Of the remaining user sessions, 48,462 (10.4%) came from direct links, leaving only 29,311 (about 7%) of user sessions originating from all other sources. Links from the library (the main

website, the catalog, etc.) accounted for 19,512 sessions—slightly more than 4% of total sessions—with the remaining 9,799 coming from other campus websites.

Google Analytics reports that 43,981 sessions (9.4% of the total) originated in Ann Arbor, Michigan, the home of the University of Michigan. While not all U-M students, faculty, and staff are in Ann Arbor, this seems a reasonable proxy for usage by U-M affiliates. More than half (53%) of usage came from an impressive 224 countries other than the United States. These usage statistics raise questions about the intended and actual audiences of this large swathe of content.

The way we index LibGuides content on our main website may provide part of the answer. As noted above, we currently index only the high-level metadata for each guide (title, author, subject, tags, and description), not the full text of the guide's content. We rely more heavily on the guide's subject to trigger its appearance in a particular location (as part of the Research Help section or a browse page).

Conclusion

In February 2016, we will have used LibGuides for eight years. Reflecting on the website and LMS integrations we've developed during that time, we've learned that—for institutions using LibGuides as more than a standalone website—dramatic improvements in guide discovery and access can be made relatively quickly and at low-cost. Some of the integrations we've mentioned in this chapter were developed and implemented by individual library staff, while others were completed by small, functional teams. It has been helpful for us to have access to many staff with a wide range of technical expertise; however, we believe these integrations can be replicated by significantly smaller organizations.