University of Waterloo's Open Data Guide

Assignment 3: Investigating Map & Geospatial LibGuides

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Introduction

LibGuides is a branded application that helps librarians create subject-specific finding

aids and link to online resources. Many academic libraries make LibGuides for each of the

departments on campus, including a geography-themed guide. As Dougherty (2013) describes in

her review of forty academic libraries' uses of geography LibGuides, patrons benefit from being

directed to subject-specific library resources, rather than weeding through all the library's

general resources. Most geography LibGuides provide access to recommended books and

journals, databases, links to external websites, and contact information for the LibGuide's

librarian author/s.

The library at University of Waterloo, in Ontario, Canada, has taken a relevantly

innovative approach to the typical geography LibGuide. Rather than focus on print resources and

journal indexes, Waterloo's Open Data Guide directs users to raw data sources and platforms to

visualize these data. It is the product of three librarians at the University of Waterloo: Eva

Dodsworth, a geospatial data services librarian, Kathy Szigeti, a liaison librarian, and Agnes

Zientarska-Kayko, a liaison and government information librarian. The breadth of these three

librarians' specialties comes together to form a unique geographic data toolkit.

Data Results

The University of Waterloo Library's Open Data Guide homepage consists of five tabs,

each of which delves into a relevant subtopic. (To view a schema of this LibGuide, and see

specific links from each tab, please refer to Appendix A.) "Open Data" is the tab automatically

open when users access the site; this is not actually a subtopic so much as an introduction to the

guide. In addition to a definition for open data, this tab offers support for the importance of open

data resources to the sciences. Users can also view the authors of the LibGuide here. All three

authors posted their direct contact information, though not profile images. Dougherty (2013)

suggests that profile images and direct contact info can help "foster connections with students

and faculty," by making the author librarians more familiar. For the Open Data Guide, with its

semi non-traditional content, fostering connections between librarians and users is very

important, as users may be especially unacquainted with the resources presented.

Throughout the LibGuide, there is a consistent header, footer, and navigation. The header

provided only the title of the LibGuide. The footer contains options to print the guide, subscribe

to the RSS feed, share the guide via social media, report technical issues, and view in a mobile

device format. The footer also notes that the Open Data Guide was last updated on June 3, 2013.

Navigation for the guide includes not only the guide tabs, but also a breadcrumb path allowing

the user to return to the Subject Guide homepage or Library homepage. A customized search bar

is also available from every page: search terms can be processed through "This Guide," "All

Guides," "Primo," (library catalog) or "Web." All LibGuide authors have the option to customize

the search bar tool, but Dougherty (2013) found that generally the institutions that did so were

larger and possibly had also done usability testing to support their customization. University of

Waterloo is a large school, with a graduate geography program, which puts it into Dougherty's

"larger" category, so perhaps it too conducted a usability study.

Next tab is labeled "GIS," and is one of two resource-rich tabs. While the Open Data

Guide does not offer much explanation or context for the resources it links to, it does give basic

metadata for each. For example, in this tab, users can learn what GIS is, what formats GIS files

come in, and where to find these files. They can also link to four examples of open GIS data

platforms and applications: OpenStreetMap, Ontario Butterfly Atlas Online, wikimapia, and

GEO-Wiki. The LibGuide authors even embedded a tutorial video for GEO-Wiki—what it's purpose is and how to use it.

"Open Government Data," the third tab, is the other resource-rich section. A box on the eight principles of government data and external links to three government-sponsored open data projects in both the U.S. and Canada open the door to innumerable amounts of data. The other section on this tab is "Initiatives," which puts these data sources in context by linking to catalogs of many other open data projects in Canada and around the world.

I followed one of the government data links under this tab—Data.gov—to simulate a user experience. The Open Data Guide describes this resource as: "From the federal government of the United States of America, the site provides datasets and tools to use and manipulate the data," (Dodsworth, Szigeti, & Zientarska-Kayko, 2013). The Data.gov website is visually appealing, and the homepage has a large, but not overwhelming number of links. I liked that the homepage features a slideshow highlighting different recent data sets, like "Credit Card Complaints," and "National Bridge Inventory." This is a good exploratory tool. For the purposes of the exercise, however, I pretended that I was a student who needed data on stream flows over the past fifty years in the western United States. Data.gov is the resource I would have chosen from the Open Data Guide, and now that I was here, could I find the information I needed? First, I navigated from the homepage to "Data and Tools." This brought me to a directory of federal departments, which was confusing because I didn't know which department would have stream flow information. Forest Service? Geologic Survey? National Oceanic and Atmospheric Association? Bureau of Land Management? The answer is that probably quite a few of these departments monitor stream flows, but I didn't want to go through them one by one.

I returned to the homepage and chose "Data" from the top navigation bar. Here, I found a search bar claiming to index over 90,000 data sets, with the ability to filter results by location, tags (e.g. "ocean" or "temperature"), communities (e.g. "safety," or "energy"), format, and organization. I searched for "stream flow" without any filters, and retrieved 276 results. Next, I filtered these results by limiting the location to the western United States (143 results), and the tag "stream flow statistics." Of the resulting five datasets, all were relevant, but some were too geographically limited (e.g. only stream flows for Idaho). One, however, was titled "USGS Streamgages Linked to the Medium Resolution NHD," and had data from over 23,000 gages in the United States and Puerto Rico available for download in Shapefile format. This is exactly the geospatial information I needed, and was not difficult to find. Therefore, Data.gov was a good resource for the Open Data Guide to recommend.

Back to the LibGuide, the remaining two tabs are "Funding Agencies Data Policies" and "Data Management Day 2012." Under the former, users can link to the Canada Institutes of Health Research Open Access Policy, and the Social Sciences and Humanities Research Council Data Archiving Policy, both of which may be important for user research projects and grant applications. The latter publicizes an event hosted annually by the library (although the tab title says 2012, it links the information about the 2013 event). In my opinion, including this event information on the same level as the other tabs is not appropriate because it doesn't provide the same sort of resources.

Discussion

Examining the Open Data Guide under the same standards that Dougherty (2013) used is difficult, because this LibGuide exposes users to different types of resources than a more traditional geography guide might. For instance, most of Dougherty's LibGuides included links

to recommended books, e-books, and journals. The Open Data Guide links to none of these. Instead, it directs users to raw data sources, rather than publications based off of the data. I think that adding recommendations for published resources would be an excellent addition to the Open Data Guide, but for now, its resource scope is fairly narrow.

The guide does link to recommended websites and databases, such as the various government data sites. Through my experience with one such database—Data.gov—I would say that these are quality resource links. However, the Open Data Guide does not offer its patrons any support in using Data.gov or any other external database. A simple tutorial via PDF or screencast could greatly improve users' experience once they leave the Open Data Guide and enter the external database site. For instance, although my experience on Data.gov was overall positive, I would have benefited from a tutorial that showed me to go directly to the "Data" navigation option, instead of me getting lost first and coming upon the right page later. This guide could further improve by directing users to specific government databases, rather than the main portal for *all* open data from the entire country. For instance, from the Data.gov website, I could navigate to 55% of the top five geospatial data sources as listed by Dougherty (2013)— National Map, Geo.Data.gov, USGS Seamless Server, TIGER, and the National Geopspatial Digital Archive—but doing so was far from simple. Providing links to these databases directly from the Open Data Guide, along with metadata for each, would be useful.

Some of the non-governmental resources provided by the Open Data Guide are interesting, but arguably not pertinent. The authors spend a lot of space, for example, on GEO-Wiki, which is a citizen science project that aims to improve the database of global land cover by having people who live in or are familiar with certain areas validate existing categories. This is a valuable project, but not a great source of data for LibGuide users (although they can download a

KML file of landcover validations from the database, this is an incomplete source). A LibGuide should primarily direct users to resources, not to opportunities to become a resource themselves.

The Open Data Guide does have other non-governmental resources that are more pertinent. Similar to examples that Dougherty (2013) describes, OpenStreetMap and wikimapia are interactive map resources. OpenStreetMap is a project to crowdsource the creation of a free, editable map of the world, and users can view customized maps for different locations and themes. Wikimapia is another open-content project with the goal of marking all geographic objects in the world. The guide also directs patrons to attribute data and statistics sources. One of these is the Ontario Butterfly Atlas Online, which displays 195,000 georeferenced observations of butterflies across Ontario. Users do not appear to be able to add or download content, but the attribute data is presented visually on Google Maps.

Finally, the Open Data Guide does not have any information on professional organizations, mapping software (other than the GIS platforms mentioned above), or geographical names. Cartographic citation style guides were also absent, as Dougherty (2013) found was common in her study population.

I don't know that this LibGuide would be very useful to any of my Project 1 interviewees. John, the paper-map preferer, probably would not use it at all. Travis, the farmer/chef, also wouldn't find much need. Cindy, the GIS technician, and Mike, the ecologist, may have uses for the data referenced within the guide, but likely are already familiar with the specific databases they need for their jobs. Faerthen, the field station manger, would be most likely to use this guide, but only because she's a curious person, not because it offers her a particularly relevant resource.

Conclusion

All in all, University of Waterloo's Open Data Guide is an exemplary LibGuide for its concept, but not its approach. The concept that geography students need to be able to access raw geographic datasets is vital. While published books and articles offer synthesis and analysis, students must also gain experience synthesizing and analyzing data themselves. That said, throwing users into a sea of data download options with no substantial metadata or tutorials to actually guide them is a weak approach. While it is lacking now, the Open Data Guide also has slightly fewer pages than the average LibGuide: 5 versus 6.85 (Dougherty, 2013). It appears to be a fairly new LibGuide, that is actually well placed to build in more metadata and tutorials, and create a richer, more useful finding aid experience. I wouldn't recommend the Open Data Guide to my Project 1 participants or future clients at its current stage, but I will check in throughout the future with the hopes that this guide will grow into itself.

References

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Appendix A: Navigation Schema for the U Waterloo Open Data Guide

TIER 0 (Site)	TIER 1 (Home Page)	TIER 2 (Tabs)	TIER 3 (External Links)
Open Data Guide	Open Data	What is Open Data?	Open Definition
			Open Data Handbook
		Open Data in Science	Panton Principles
			PANGAEA
			IQSS Dataverse Network
		Government of Canada Perspective	Research Data Strategy
		uWaterloo Perspective	"Big data and city living - what can it do for us?"
			uWaterloo Open Data Initiative
	GIS	Open Data in GIS	Data.gov
			Data BC
			toronto.ca/open
		Crowdsourcing	OpenStreetMap
			Ontario Butterfly Altas Online
			WikiMapia
		Citizen Science: GEO-Wiki	GEO-Wiki Project
	Government	Open Government Data	8 Principles of Open Government Data
			Canadian Open Data Pilot Project
			United States Open Data
			Ontario Open Data
		Initiatives	Open Data Initiatives in Canada
			DataCatalogs.org
	Funding Agencies Data Policies		Canada Institutes of Health Research Open Access Policy
			Social Sciences and Humanities Research Council Data Archiving Policy
	Data Management Day 2012	2012 Event Info	
		2013 Event Info	