
This project presents recommendations and wireframes for the University of North Carolina at Chapel Hill (UNC) Libraries to update the display and navigation to available digital resources to ensure a high quality patron experience. It uses existing usability studies to determine the research needs and behaviors of patrons and applies those studies to the current digital resources web portal at UNC. It discusses how each recommendation will meet patrons’ needs and allow a better browsing experience for patrons looking for digital resources.

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REIMAGINING THE E-RESEARCH BY DISCIPLINE PORTAL

by
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Introduction

Finding resources in the library used to be fairly straightforward. A patron could search the catalog to find books and other print resources. However, as more resources become available in digital form, searching has become more complicated. In addition to the catalog, libraries now often have access to online databases. The databases contain other digital resources a patron can access like peer reviewed academic articles, documents, and eBooks. Research universities usually have licensing agreements for access to these databases and may have access to several hundred at any given time. For example, the library system at University of North Carolina at Chapel Hill (UNC) currently has access to approximately 1,400 different databases that house digital resources. With so many resources available through so many discovery tools, it is difficult to determine the best way to design a library’s website so patrons can easily find the available resources. Librarians have tried to solve this problem in many ways. One way to solve this problem is by creating online pathfinders, also known as subject guides. Librarians select a topic and manually curate a list of applicable resources and descriptions of those resources to serve as a starting point for researchers. Another approach is to automatically generate a subject list that relates the databases to each applicable subject. Many college and university libraries use a mix of all these approaches to provide multiple options for patrons. The purpose of this project is to use existing research regarding how patrons currently search for resources online and use
content management systems to browse databases and provide UNC Libraries with wireframes and navigational recommendations describing an alternate way to allow patrons to find digital resources.

**Literature Review**

A review of the literature shows mixed results when it comes to the best way for patrons to find digital resources to use. The first main consideration when deciding the best way to have patrons navigate to digital resources is how users currently search for digital resources. The second main consideration is what existing usability studies show about the current use of navigational options within academic libraries.

According to self-reporting polls, the majority of Internet users prefer Google as their main search engine (Pew Internet & American Life Project, 2012). Google is used as an inception point for not just for personal searches, but also scientific research (Haglund & Olsson, 2008). Many researchers now use Google or Google Scholar as the starting search point for academic queries. Since Google and Google Scholar provide such a simple search mechanism, it is easier for researchers to start their searches there. Without help from others, some researchers would also end their searches there. Many of them have to use colleagues or peer networks to discover subject specific sources and databases to use (Haglund & Olsson, 2008; Stelmaszewska, Wong, Bhimani, & Barn, 2010).

Providing a single search box matches patrons’ current way of searching for digital resources. Multiple usability studies that include a component regarding a single search box have been performed on academic library websites with varied results. Serials
Solutions’ Summon is one popular product used in academic libraries that attempts to pattern Google and Google Scholar by “providing instant access to the full breadth of the library’s collection through a single search” (Serials Solutions, 2014). Summon uses a federated search system to find resources from its own central index and any other repositories the library chooses to add, such as the library’s own catalog. However, Summon gets most of its article metadata from individual publishers so a search in Summon could potentially provide vastly different results than a search using a database vendor (Newcomer, 2011). Per Newcomer (2011), Summon is “particularly useful for introductory and interdisciplinary research” (p.62) but could fall short when users need subject specific resources. One major issue with the discovery system is that it does not provide any context for exactly what is indexed and what is being searched (Newcomer, 2011; Majors 2012). For example, at UNC, it is estimated that only 50-70% of the library’s digital resources can be indexed in Summon. Also, while some subject areas have better coverage than others, there is no context to explain the coverage difference.

Because single search box solutions like Summon often fall short, academic libraries have different tools to try and fill in the gaps. One solution is a tabbed search interface. A study performed at North Carolina State University (NCSU) by Teague-Rector, Ballard, and Pauley in 2011 tested a tabbed search interface. The results indicated that users made use of the tabs which searching. One hundred percent of participants used the correct tab when searching for a particular journal, but only 55.5% chose the correct tab when asked to find a journal article instead. This highlighted a particular issue that “end users have difficulty distinguishing between journal articles and databases” which infers a breakdown between library jargon and end users’ vocabulary (Teague-Rector,
Ballard, & Pauley, 2011, p. 90). Majors (2012) also found that the terminology used by libraries confused end users.

Due to these shortcomings with searching, many academic libraries provide the capability to browse through lists of subjects and databases or provide subject guides for users. These lists can be manually curated or generated by a content management system (CMS) such as LibGuides. CMSs are also not without issues. Multiple usability studies have discovered navigational issues like “LibGuides users tend to be overwhelmed by clutter and too many pages, boxes, and links” (Sonsteby & Dejonghe, 2013, p. 84). Pittsley and Memmott (2012) anecdotally noticed a low percentage of users that went to a LibGuides main page, would also navigate to secondary pages of the guide. One way they tried to increase the percentage was by removing navigational tabs and adding sidebar navigation. The study found that this option increased the percentage of hits on secondary guide pages. When commercial systems do not meet all of a university’s needs, some universities create their own systems to fill in the gaps. UNC has created its own browsing interface titled ‘E-Research by Discipline’ which allows patrons to view lists of databases for each officially recognized discipline at the university.

**Current Context**

Four user stories were developed to highlight the needs of a typical patron using subject specific databases. The user stories are: (1) patron needs to find a database for a specific subject area, (2) patron needs to find information about a database to evaluate if it will meet their research need, (3) patron needs to find suggested resources for a specific topic, and (4) patron needs to find contact person for a specific subject area.
Patron Needs to Find a Database for a Specific Subject Area

When a patron needs to find a database for a specific subject area at UNC, the patron starts on the libraries’ home page (http://library.unc.edu, see Figure 1). From the home page, the user clicks on the “E-Resources by Discipline” link and is taken to the official list of UNC disciplines (see Figure 2). If the user chooses a discipline from this page, they are taken to a page showing a comprehensive list of databases that are related to that particular discipline (see Figure 3). This page displays an alphabetical list of recommended databases and an alphabetical list of all the other databases relevant for that subject area below that.

Patron Needs to Find Information about a Database to Evaluate If It Will Meet Their Research Need

When a patron needs to find information about a database to evaluate if it will meet their research need, they can start on the page with the list of databases. The recommended databases have a short description of each database available and all the databases have a link labeled “info” next to their titles. If a patron clicks on the “info” link, they are taken to a page that shows a full description of the database (see Figure 4). This page can provide enough information for a patron to determine if the database will be useful.
Figure 1. The UNC Libraries home page.

Figure 2. UNC Libraries E-Research by Discipline page.
When a patron needs to find suggested resources for a topic, they can start from a particular discipline page (see Figure 3). From this page, the patron clicks on the
“Guides” tab and sees a list of subject guides related to that discipline. An example of the Psychology Guides tab is displayed (see Figure 5). If a user clicks on a guide title, they are taken to a page like the Tests and Measures guide (see Figure 6).

![Figure 5. UNC Libraries Psychology discipline subject guide list.](image)

![Figure 6. UNC Libraries Test and Measures subject guide for Psychology.](image)

**Patron Needs to Find Contact Person for a Specific Subject Area**

When a patron needs to find the contact person for a specific subject area, if the
user starts on the home page of a subject guide, a librarian profile is shown on the right corner of the screen (see Figure 6). Alternatively, the patron can start on a discipline page (see Figure 3) and click on the “Contacts” tab, which displays a subject librarian’s profile (see Figure 7). The profile includes the name and contact information of the best librarian to assist the patron with research in the subject area.

Since the need for providing effective navigation to subject specific databases is not unique to UNC, looking at how other universities address this challenge provides some ideas for updating the layout at UNC. At Stanford University, if a user needs to find a database for a specific subject area, the patron starts at the library’s home page (http://library.stanford.edu) and clicks the “Databases” link. In contrast to UNC’s page that presents browsing options, Stanford’s page displays all the databases that Stanford has access to (see Figure 8). From this page, the user can narrow the results by subject from the list on the left side of the page. When a patron needs to find information about a database to evaluate if it will meet their research need, they can click on the “show summary” link on the same page to see a description of the database. The information for
all the databases displays on the same page versus users navigating to a different page to view the description. At Stanford, the suggested resources for a specific topic are in another section of the website. The patron starts on the home page and navigates to “Research support” then “Topic guides”. This page displays a list of topics that the patron can select. Once the user gets to that page, the contact information of the librarian for that subject is displayed, much like at UNC.

Figure 8. Stanford University Libraries databases page.

Unlike at UNC, the University of Washington (UW) does not fully meet the first two patron needs. A patron cannot easily find a database for a specific subject area because UW does not provide a list of databases categorized by subject. If a patron needs to find information about a database, the patron starts at the library’s home page (http://www.lib.washington.edu) and clicks on “Articles & Research Databases”. The patron sees a list of databases with a brief description of each one (see Figure 9). When the patron clicks on the database name, they are taken to the individual database without any further description or context provided. The last two needs are met much like they
are at UNC. When a patron needs to find suggested resources for a specific topic, the patron starts from the home page of the libraries and clicks on “Subject Guides”. A list of disciplines is shown and a patron can select one. The patron finds the contact information for a specific subject area on the main page of each individual subject guide.

![University of Washington Libraries Articles & Research Databases page.](image)

**Figure 9.** University of Washington Libraries Articles & Research Databases page.

A patron at North Carolina State University (NCSU) will find similarities to a patron at UNC but may have an easier time navigating. To find a database for a specific subject area, a patron starts on the library’s home page (http://www.lib.ncsu.edu). The patron clicks on the “Databases” link and goes to a page where they can choose a specific subject area. A broad topic can be chosen from the list on the left side of the screen, a subtopic can then be chosen, and a list of applicable databases is shown (see Figure 10). What makes NCSU simpler to navigate is that the three other patron needs can also be met from the same page. To evaluate information about the database, the patron sees a short but descriptive explanation of each database. When a patron needs to find suggested resources for a particular topic, they click on one of the subject guides listed under
“Related Links” on the left side of the page. To find the contact information for the subject specialist, the patron looks right above the “Related Links” section, and sees the section labeled “Librarian Specialists”. That section provides links to the librarian profiles so the patron can contact the appropriate librarian.

Figure 10. NCSU Libraries Agricultural Economics subtopic page.

**Recommendations**

The following recommendations describe navigational changes that should be implemented at UNC in order for patrons to successfully use the site to find digital resources. Implementing these recommendations will allow patrons to more easily meet their research needs on the UNC Libraries website. The recommendations are written with the assumption that UNC will continue to use the E-Research by Discipline page as the main way for patrons to browse for databases.
Patron finds a database for a specific subject area

When a patron wants to find a database for a specific subject area, the patron will start on the library home page (http://library.unc.edu). The patron will then click on the “E-Research by Discipline” link to see a list of all the official disciplines offered at UNC and will click on the particular subject (see Figure 11).

![E-Research by Discipline](image)

*Figure 11. UNC Libraries potential new E-Research by Discipline.*

**Patron Needs to Find Information about a Database to Evaluate If It Will Meet Their Research Need**

When a patron needs to find information about a database to evaluate if it will meet their research need, the patron will select the subject from the “E-Research by Discipline” page. When the list of databases is displayed, the databases on the recommended list will have a full description of the database. The remainder of the
databases will have an option to expand the descriptions so the patrons do not have to navigate to an additional page for the database details (see Figure 12). The recommended list also appears in order of usefulness instead of alphabetically.

![Image of Psychology subject page]

**Figure 12.** UNC Libraries potential Psychology subject page.

**Patron Needs to Find Suggested Resources for a Specific Topic**

When a patron needs to find suggested resources for a specific topic, the patron will use the updated subject databases page. Instead of a tabbed navigation across the top of the page, a “Subjects & Course Guides” link will be available via sidebar navigation on the left side of the page. When the user clicks on the link, the list of course guides for that topic will be displayed (see Figure 13).
Figure 13. UNC Libraries potential Psychology course guides page.

**Patron Needs to Find Contact Person for a Specific Subject Area**

When a patron needs to find the contact person for a specific subject area, the patron will be able to find that in multiple places. The subject librarian’s profile can be featured prominently on the right side of each page related to a particular subject, including the “Databases” and “Subject & Course Guides” pages (see Figures 12, 13). This change will help patrons to find the correct contact person at any point during their research.

**Conclusion**

As searching for digital resources becomes more complex, it is important to
design web portals so that users can easily find the resources they need. UNC currently uses a mix of pathfinders and automatically generated subject database lists so patrons can browse databases that hold digital resources. It is suggested that UNC continues to do so with some modifications. The recommendations and wireframes presented in this project are meant to serve as a starting point for UNC Libraries to update their navigation to subject specific databases. While many of the recommended changes are small, they should help patrons navigate to subject specific resources more effectively and also highlight the subject librarians in case patrons need additional help. Each of the recommendations will be presented to the library representatives that make decisions regarding the website design and be discussed prior to implementation. The feasibility of implementing the recommendations depends on the capability of the software that UNC uses to display database navigation.
References


