Metasearch Portal Design and Usability Study

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Introduction

The purpose of this study was to understand the concept behind metasearch systems and to create and test a prototype for the Grainger Engineering Library homepage which incorporates the use of this facility. One part of this study involved learning ASP and techniques used to carry out broadcast searches across multiple resources. For producing a prototype for the library homepage, we used the existing multiple portlet design created by Prof Mischo and the Grainger Engineering Library staff as a starting point and proposed an alternative approach using tabs [http://shiva.grainger.uiuc.edu/top/goportlettop.asp].

Prototypes

For our first mockup, we constructed a quick design using Microsoft Word which would enhance upon the existing portlet design [http://leep.lis.uiuc.edu/publish/pchilan2/Spring06/Grainger/Metasearch/Mockup1/mockup1.htm]. At this stage, we also explored the idea of using tabs and came up with this initial idea:

[http://leep.lis.uiuc.edu/publish/pchilan2/Spring06/Grainger/Metasearch/Mockup2/Metasearch/mockup2Tabs.htm] We decided that we should further experiment with the tabs approach and our subsequent mockups focused on building upon this idea.

Our intermediate mockups primarily focused on experimenting with aesthetic approaches to displaying both the selected and deselected tabs which would best convey
the difference between these tabs to the user. The approaches we considered were using the hover method and underlined text. We also experimented with color choices, and the positioning of the tabbed interface on the screen. Initial technical considerations were given to implementing the header and side navigation menus (i.e., creating the hover effect via Javascript).

**Progress of the tab design through various stages:**


Mockup #5: [http://hades.grainger.uiuc.edu/parmit/tabInterface/tabInterface.asp](http://hades.grainger.uiuc.edu/parmit/tabInterface/tabInterface.asp)

Final version: [http://hades.grainger.uiuc.edu/brian/tabinterface_test/tabinterface.asp](http://hades.grainger.uiuc.edu/brian/tabinterface_test/tabinterface.asp)

**Rationale**

Our aim was to construct a cleaner, efficient interface using tabs to facilitate for a more intuitive, streamlined search and retrieval process for the user. There is some belief that the multiple portlet approach has the advantage of allowing a user to assess all available search options on the initial download of the page. However, with our approach we attempted to show that a tabbed interface is less overwhelming for the user, as the user is not forced to assess text fields within the various portlets irrelevant to the criteria of their search. Rather, the user can simply defer to the heading on a tab to navigate between portlets and customize searches. Some of the questions that motivated the design process: Will users see the tabs? How do we get users to click on the tabs? Should a traditional menu of links accompany the tabbed interface?

At the initial stage of this project, we analyzed implementations of tabbed interfaces among several academic university libraries. Our consideration was to identify
what constitutes an effective approach to a tabbed interface design in an academic library environment, identifying possible standards and/or similarities amongst implementations. Those academic libraries we referenced in our analysis included the University of Arizona Library, Columbia University Libraries, and New York University Libraries.

A similarity we noted among the implementations was that the selected tabs corresponded and/or connected to the tab panel content usually by background color or an outlined frame (see references – University of Arizona Library and New York University Libraries screen shot), which provided for coherence in navigating between selected tabs and deselected tabs to generate new tab panel content. Another similarity we identified among many tab implementations was that when a new tab was selected, the entire page would reload with the tab panel content, which is an approach that we ultimately avoided. Instead, we opted to load all of the content associated with each tab on the initial download of the page. Therefore, when a new tab was selected the content associated with the selected tab would immediately appear within the tab panel.

We ultimately decided to use underlined text to convey a link associated with a deselected tab, believing that users would associate the underlined text with an active link and be more prone to recognize it as such and click on it.

**Implementation Details**

The majority of work on the final mockup involved the use of javascript and cascading style sheets to create the functionality of the tabbed interface.

**Javascript code:** tabs.js

**Stylesheets:**

**body.css:** Defines the general aesthetics within the body of the interface, such as background color/image and font specifications.
**footer.css**: Defines the style sheet of the footer.

**gate.css**: Style sheet for Library Gateway navigation menu bar at top of page.

**library.css**: Style sheet for each div within table structure, including width and height. Also, div#middle_column specifies aesthetic of the outer most portion of the tab panel.

**tabs.css**: Style sheet for tab panel. Includes specifications for selected and deselected tabs.

**tabs.js**: Allows all tab content to load within the same panel.
References

Screen shot of tabbed interface from the University of Arizona Library
http://sabio.library.arizona.edu/search/X

Screen shot of tabbed interface from the New York University Libraries.
http://library.nyu.edu/collections/find_ejournals.html
Screen shot of tabbed interface from the Columbia University Libraries.
http://www.columbia.edu/cu/lweb