Project Cover Sheet

Project	**Art, Architecture & Engineering Library (AAEL) Website Redesign & Usability 2006**
	Overview Report for all user tests conducted in 2006
	The Library's current website (http://www.lib.umich.edu/aael/) was launched in the Fall of 2004. With various functionality changes on the horizon, a full round of user-testing was conducted in order to determine how to best implement these changes with the needs of the user in mind.
Committee & Members	AAEL Redesign & Usability Committee
	Suzanne Chapman, Annette Haines, Robert Tolliver
Report Info	Report Author: Suzanne Chapman
	Contact Information: suzchap@umich.edu
	Report Date: May 2006 Last Revised: Dec 2006
Objectives	Design objective was to incorporate a new article and general search box that was created for the University Library webpage. Due to the size of the new search box it was clear that a homepage redesign would be required. The group took this opportunity to assess the entire homepage for efficiency and usability.
Methodology	Methods: Heuristic Evaluation, Visual Analysis, Use Statistics, Formal User Testing using design mockups.
	Dates of study: January 2006 – May 2006
Results & Analysis	Use statistics showed that some items from the "How Do I?" drop-down menu could easily be eliminated resulting in a shorter and more user-friendly list. Homepage link statistics showed that there are some redundancies and areas that could easily be consolidated. User tests on two different design proposals provided positive and negative feedback to help inform the final design.
Recommendations	Because this was a design and usability project, the usability test results were immediately incorporated into the design process. The final product has been developed and implemented and will be tested again at a future time.

Art, Architecture & Engineering Library (AAEL)

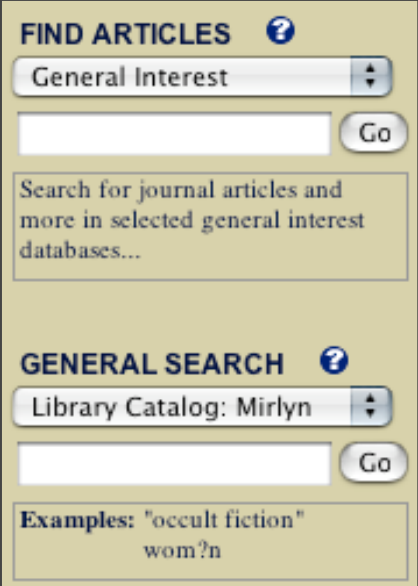# Website Redesign & Usability 2006 Overview

Overview

The Art, Architecture and Engineering Library's current website (http://www.lib.umich.edu/aael/) was launched in the Fall of 2004. The overarching goal of the project has been to design and maintain a user-centered website. The process thus far has been necessarily iterative to enable the Redesign and Usability Committee to make small changes as needed and larger changes when time allows.

The impetus for the redesign was the introduction of new search functionality, developed for the University Library website (http://www.lib.umich.edu/).

Because the AAEL website currently only searches AAEL web pages, the staff felt that adding the additional search feature would be beneficial to the AAEL site. Due to the large amount of space needed to accommodate the new search feature, a home page redesign was needed. The Design and Usability group began by assessing the current site, looking at previous usability tests, and analyzing use statistics to determine problem areas that may need to be remedied during the redesign process. Once this was completed, new designs were drafted and discussed among the entire reference department. Some changes followed, and two varying designs were decided on. The group then conducted eight formal usability tests using the two designs. Based on the results of these tests, one new design was drafted to reflect the findings and was implemented in the summer of 2006.

Methodology – Heuristic Evaluation, Visual Analysis, Use Statistics, Usability Tests using design mockups in PowerPoint and Think-aloud protocol.

The process thus far is outlined and summarized in the following sections:

1. Current Site Assessment
2. Current Use Statistics
3. Previous Usability Test
4. New Site Designs (round 1)
5. Usability Tests & Analysis
6. New Site Designs (round 2)
7. Future Recommendations

1│*Current Site Assessment*

To begin, an informal visual and heuristic analysis was conducted on the content and layout of the AAEL home page. The goal was to look for terms that might be confusing, how the page "real estate" is divided, and sections that might be organized more efficiently.

Mirlyn link does not describe what it is (new library users won't know this is the catalog

Do people understand what this is?

Links in paragraph format aren't as effective as lists of links

Wasted space; Ask Us Now! Graphic only appears when service is live – but this is not obvious, might be confusing to users that it's there sometimes and not others.
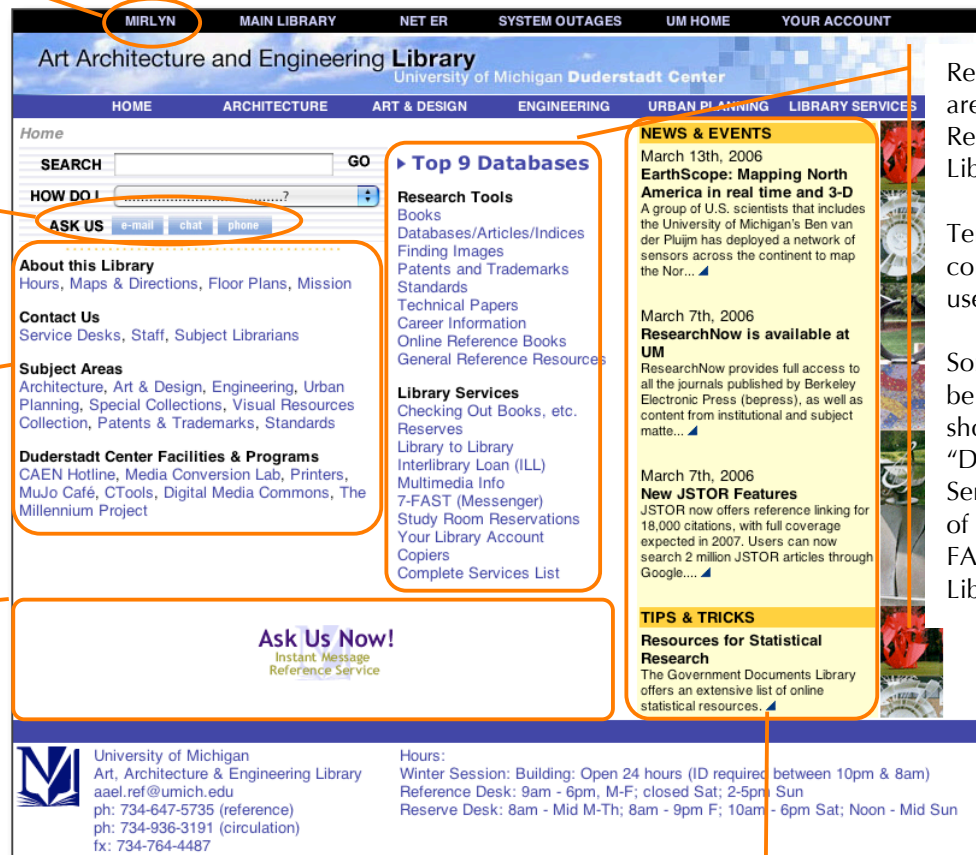
Relatively small area dedicated to Research and Library Services

Terms may not correspond to user's definitions

Some terms could be grouped to shorten the list (use "Delivery Services" instead of separate ILL, 7-FAST & Library to Library links)

Large area dedicated to News & Events – perhaps this could be minimized. Tips & Tricks is not a favorite staff section so use stats may be able to determine whether it should stay

2│*Current Use Statistics*

The "How Do I?" drop-down menu statistics

The purpose of this feature is to provide quick access from any page to either potentially difficult to find information or frequently asked questions. The "How Do I?" drop-down menu currently contains 33 options, far too many to navigate easily. By eliminating infrequently used items, the list will become much more useful.

Most "How Do I" articles directly correspond to a source article. This set up allowed us to easily compare use statistics for the source page (accessed via navigation or search) and the "How Do I?" version (accessed via the drop-down menu).

Results –
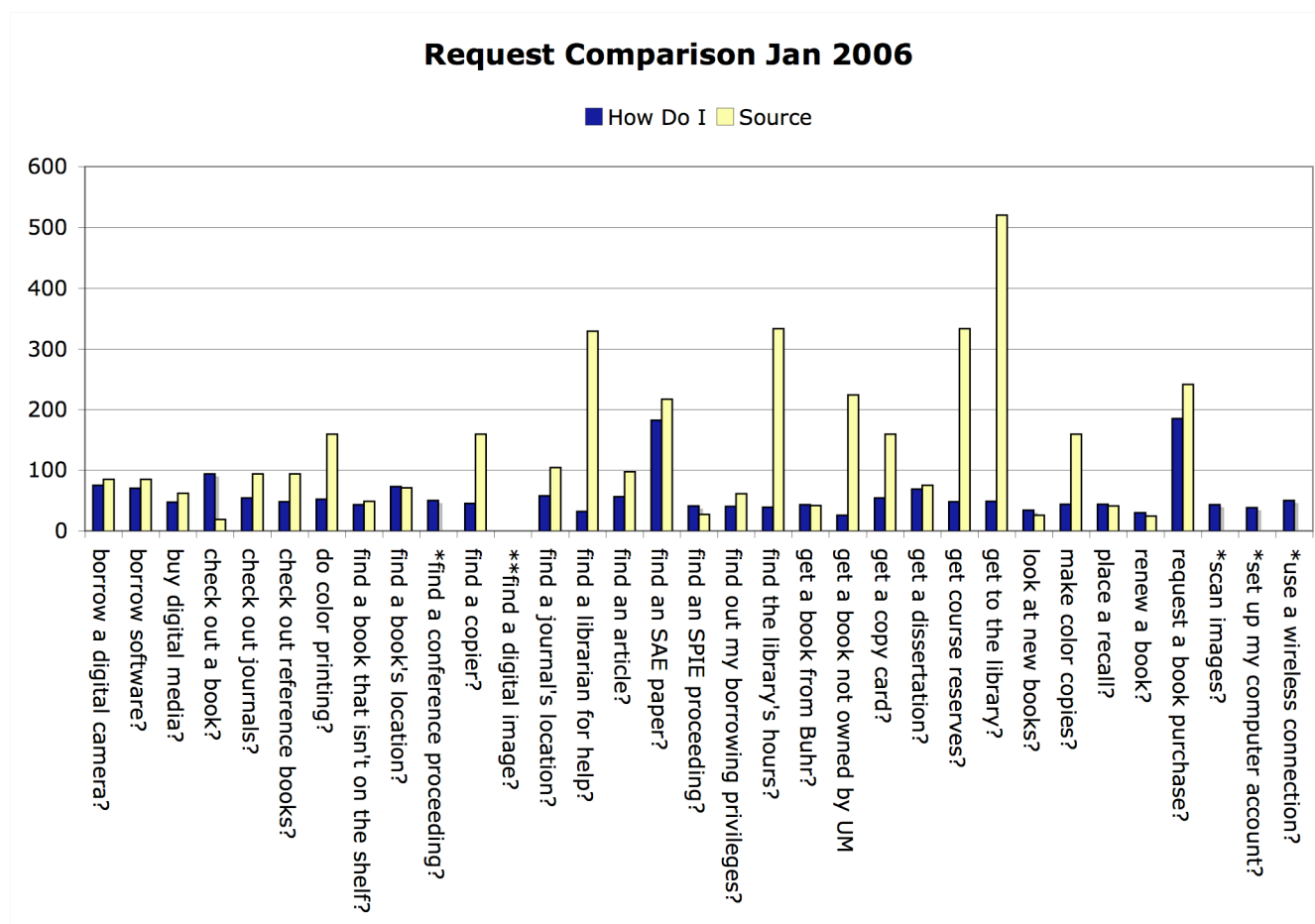
*= There are no directly corresponding "source" articles to the How Do I.
** = Stats are actually <10 & there is no directly corresponding article.

Recommendations:
Decisions for eliminating items were based on the ratio of the "How Do I?" vs. Source. For example, a page that has low "How Do I?" statistics and high Source statistics means that users are able to find the information easily without use of the How Do I menu and in fact do so. On the other hand, when a "How Do I?" page is accessed heavily in comparison to its corresponding source article, this may be interpreted as a need to improve access to the information beyond the use of the "How Do I?" menu, via navigation.

Get Rid of:
Find a librarian for help
Find the library's hours
Get a book not owned by UM library
Get a copy card
Get course reserves
Get to the library
Make color copies
Need Better Alternative outside of How Do I:
Check out a book
Find a book's location
Find a journal's location

Homepage Link Statistics

During the site assessment, it was discovered that there might be some links or areas of the page that might be minimized or eliminated. In order to make informed decisions about what to change, a full analysis of use statistics for all the links on the home page was needed. Below are the findings from this analysis along with suggestions for possible solutions.

Problem/Question	Possible Solution/Recommendation
Your Library Account link (under Library Services) – links directly to Mirlyn	Stats for this link are not easily discoverable since it links directly to Mirlyn. There is an identical link in the top left corner so this link is redundant. If it went to an internal page that describes how to use the Library Account that would be better, but the recommendation is to eliminate it.
Do people understand that the black column headers are links to broad content pages?	People do click the headers. However, use might increase if headers were more obviously links to broad content pages. <table><tr><td>Research Tools</td><td>241</td></tr><tr><td>Library Services</td><td>341</td></tr><tr><td>Subject Areas</td><td>241</td></tr><tr><td>About this Library</td><td>166</td></tr><tr><td>Duderstadt Center</td><td>162</td></tr><tr><td>News & Events</td><td>3601</td></tr></table>
There are 2 Patents & Trademarks links on the home page that go to different pages (art 26 & div15) and have about the same stats (228 & 258)	This must have been an oversight – we really only need one link to Patents & Trademarks.
Copiers and Printers are logically related (& same article) but on totally different areas of the site (library services & Dude)	Combine them and put under Library Services

3│*Previous Usability Test*

Some of the findings from the previous year's usability test have already been implemented, but others were put on hold until the group was ready for a more extensive redesign. Other findings proved important as a way to compare data from upcoming tests.

Findings from Usability testing March/April 2005

Problem	Possible Solution
When prompted, 50% tested used the top level navigation (Art & Design, Architecture, Engineering, Urban Planning, Library Services) & 50% used the links located in the Subject Areas section	Make sure there are alternate way to access the subject division pages (i.e. don't rely on the links in the blue bar) & maybe make it clearer what the links lead to (i.e. "Architecture Guide")
Confusion over meaning of ILL vs. L2L	Consider having one link on home "Delivery Services" (that leads to a page with ILL, L2L, 7-FAST, BUHR along with descriptions of these services. This would also lessen the number of links on home page.
People found "Borrowing Library Materials" to be confusing	Change it to a more conventional "Borrowing & Circulation"? "Borrow, Renew, Request" Or better?
Top 9 Database needs to be more obviously a list	One adjustment has already been made by changing it to a drop-down menu instead of a link menu. Also- consider eliminating the "Top 9" and just call it "Databases" with a link to a full list of databases by subject.
Display options (limit function) is not used/noticed & Second level pages offer too many options	Would be more noticeable in upper left corner and maybe change title to "filter your results" or something else.
"General Reference" not used/understood	Consider renaming or combine with Online Reference Books.

4│*New Site Designs (round 1)*

Design questions:
- What do we want on every page? Search, How Do I?, Top 10 Databases
- How large should the News & Events section be?
- If we move the subject areas banner to the bottom, will people still see it?
- Should drop-down menus be incorporated more into the content links? (i.e. separate How Do I? like menus related to library services and research?

After we considered the pros and cons of each question, and the results from the heuristic, visual, previous usability tests, and use statistics analysis we decided that we needed to make two designs for use in testing. The group came up with new design ideas, which were then mocked up in Photoshop to use in discussions and usability testing.

Examples of each design can be found in the next section.

5 | *Usability Tests & Analysis*

Usability tests were conducted in April of 2006.

Participants – For this round of usability testing, we used a total of 8 participants. The demographics included a staff member, Undergraduates, and Graduate Students from the fields of Engineering, Urban Planning and Architecture. All of the participants currently use the AAEL website for research purposes but their skill levels ranged from novice to advanced.

Methodology – Overall, the usability tests comprised of a combination of traditional task related questions and participatory design questions. Each session lasted approximately 30 minutes and each participant was given a $2.50 voucher for the coffee shop located in the same building as the Library. A short questionnaire was filled out prior to the tests to determine demographics and skill levels. During the test, participants were asked to think-aloud to express how they were processing information about using the web page. After the primary tasks were completed participants were asked follow-up questions about certain decisions they had made.

Test Setup – The two design mockups (A and B) were placed in a PowerPoint slide presentation to better simulate an actual functioning website. The designs included 4-6 drop-down menus that played an important role in navigating to information so it was important that the participants be able to see what each menu contained. In order to simulate this, boxes were drawn (set to no shading and no border) around the area of each drop-down menu and then set to be a hyperlink that would, on mouse click, jump to a duplicate slide with the corresponding menu list in addition to the layout. So when the participant clicked on a menu, it would appear that the list of links popped up.

Each participant was shown either design A or design B and asked to describe how they would proceed in finding certain kinds of information or complete certain tasks. After a series of questions, they were shown the alternate design and differences in the two designs were described. The participants were then asked to provide their opinions about which they preferred and why.
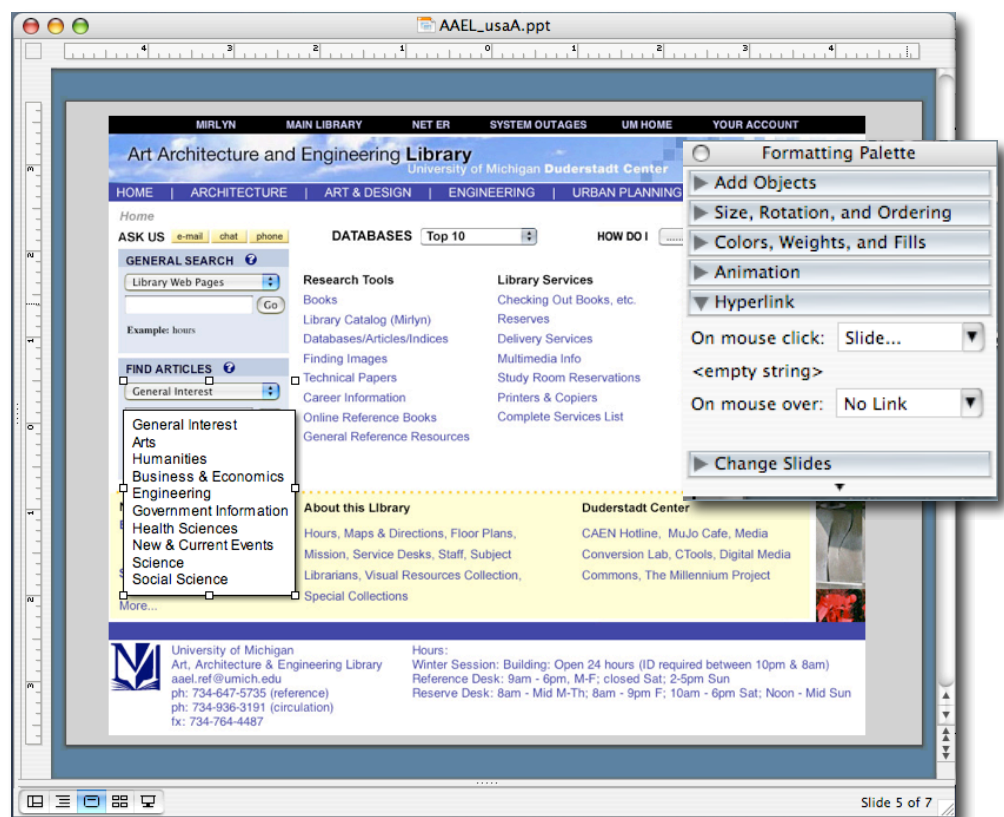
Questions:

1. [Overall look] *Give the participant a few seconds to look at the design then ask:*
   - What is the first area of the site that your eye is drawn to?
   - What else do you notice?

2. [VRC link]
   - Someone told you that there is a room in the library that has videos, DVDs, and slides. See if you can find out where this room is.

3. [How do I?]
   - You found a book in Mirlyn that said that it's located at the "Buhr Shelving Facility - Ask at any library" – Where can you find information about how to get this book?

4. [Ask Us]
   - Its 10 pm and you have a question for a librarian & would like to try to contact one if possible. Can you find any information about this?

5. [Subject Area]
   - The <u>Art & Design/Architecture/Engineering</u> Librarian showed your class a page with a bunch of resources specifically <u>for Art & Design/ Architecture/ Engineering</u> students. Where might you be able to find that page?

6. [Find Articles search]
   - You need to find some articles for a research paper for your English class. Where might you look?

7. [Top 10 databases]
   - You saw a librarian pull up a quick list of some common resources where you can find articles- you think one of them was called Art Index / Avery Index / Engineering Index.

8. [News & Events]
   - You heard there is something interesting going on in the Duderstadt building this week & would like to find more information about it.

9. [Search Box] *Point out the top search box.*
   - We have the option of making this pop-up menu default to "Search this website" (which would search only the contents of the AAE Library website and not articles, Mirlyn, etc) or "Library Catalog: Mirlyn" (which would immediately take you to Mirlyn for your search results. → Which of these do you think you'd prefer (or be more likely to use)?

10. [Alternate Design] *Show the participant the alternate design*
    - Now, look at this different design. On first impression, which do you like better? & Why?
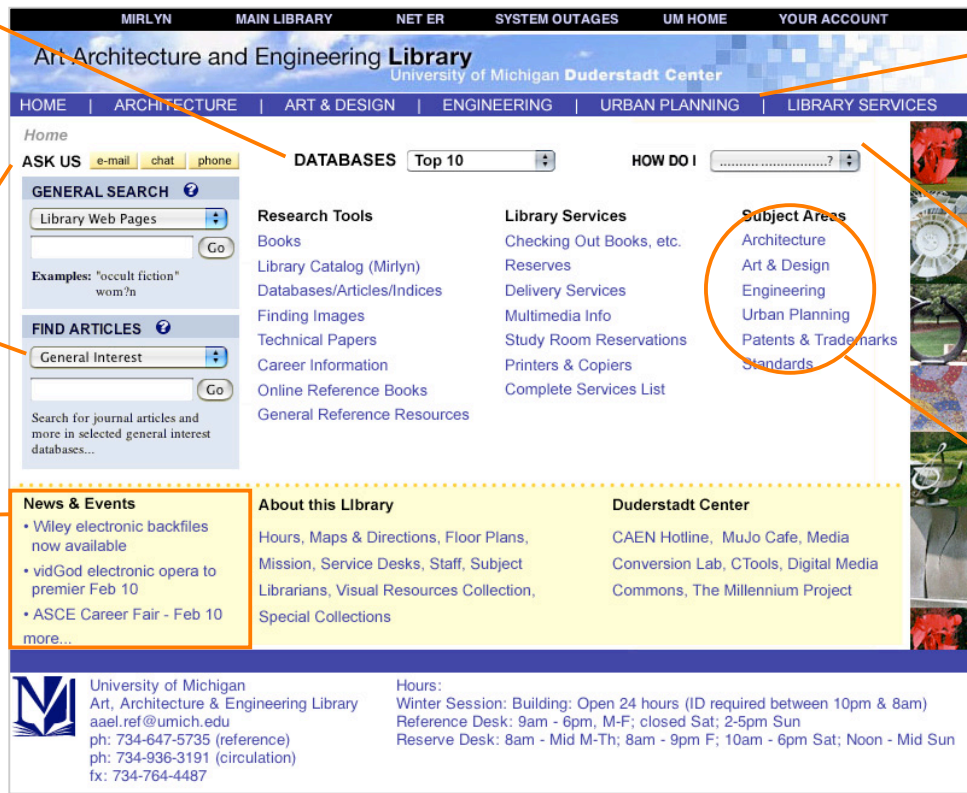   - Specifically point out: search, subject bar, subjects in body

Design A – Key Findings (Tested by 4 of 8 participants)

1 of 4 found this as an option for a "quick list of article resources"

1 of 4 would use Ask Us to find help

2 of 4 would use this search for finding articles

4 of 4 found this easily

2 of 4 chose these links to find subj. related information

People preferred term "How do I" to options in Design B

1 of 4 chose these links to find subj. related information

MIRLYN | MAIN LIBRARY | NET ER | SYSTEM OUTAGES | UM HOME | YOUR ACCOUNT

Art Architecture and Engineering **Library**
University of Michigan **Duderstadt Center**

HOME | ARCHITECTURE | ART & DESIGN | ENGINEERING | URBAN PLANNING | LIBRARY SERVICES

Home

ASK US e-mail chat phone   DATABASES Top 10   HOW DO I ....?

GENERAL SEARCH ❓
Library Web Pages
Go
Examples: "occult fiction" wom?n

FIND ARTICLES ❓
General Interest
Go
Search for journal articles and more in selected general interest databases...

Research Tools
Books
Library Catalog (Mirlyn)
Databases/Articles/Indices
Finding Images
Technical Papers
Career Information
Online Reference Books
General Reference Resources

Library Services
Checking Out Books, etc.
Reserves
Delivery Services
Multimedia Info
Study Room Reservations
Printers & Copiers
Complete Services List

Subject Areas
Architecture
Art & Design
Engineering
Urban Planning
Patents & Trademarks
Standards

News & Events
• Wiley electronic backfiles now available
• vidGod electronic opera to premier Feb 10
• ASCE Career Fair - Feb 10
more...

About this Library
Hours, Maps & Directions, Floor Plans, Mission, Service Desks, Staff, Subject Librarians, Visual Resources Collection, Special Collections

Duderstadt Center
CAEN Hotline, MuJo Cafe, Media Conversion Lab, CTools, Digital Media Commons, The Millennium Project

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Art, Architecture & Engineering Library
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ph: 734-936-3191 (circulation)
fx: 734-764-4487

Hours:
Winter Session: Building: Open 24 hours (ID required between 10pm & 8am)
Reference Desk: 9am - 6pm, M-F; closed Sat; 2-5pm Sun
Reserve Desk: 8am - Mid M-Th; 8am - 9pm F; 10am - 6pm Sat; Noon - Mid Sun

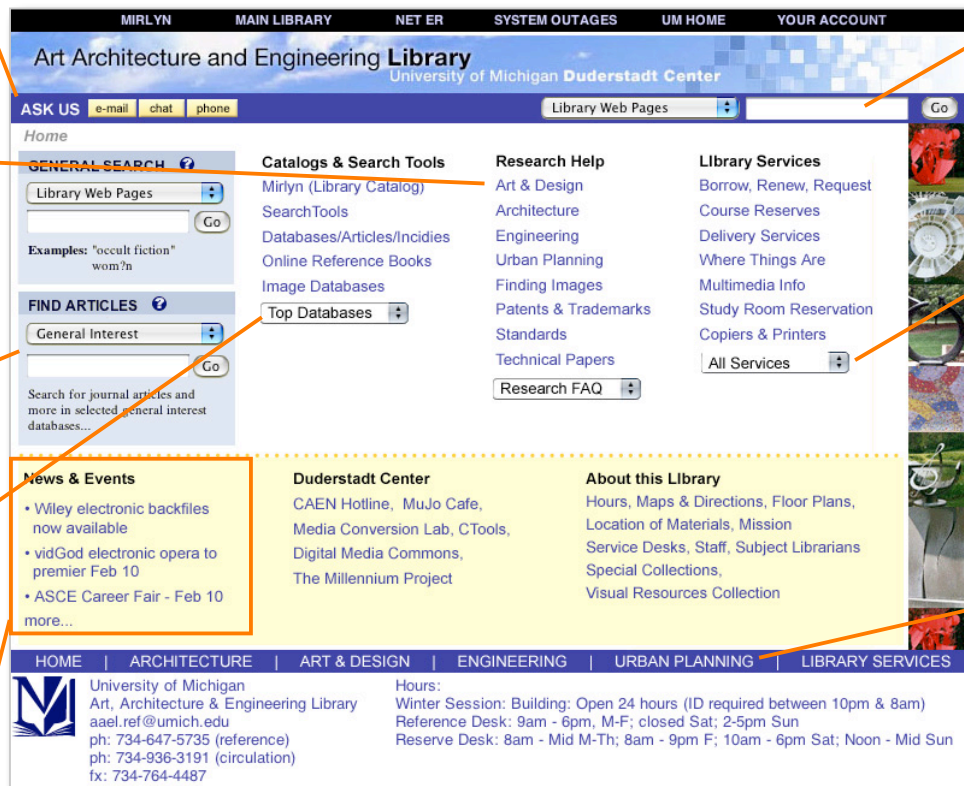## Design B – Key Findings (Tested by 4 of 8 participants)

2/4 found these links

2 of 4 would use subjects in center to find subj. related resources

4 of 4 would use this search for finding articles

0 found this as an option for a "quick list of article resources"

4 of 4 found this easily

Positive response to extra search option in top banner – would also be on all interior pages

Drop-down menus relate more to content; Negative response to "FAQ" and placement of all menus

2 of 4 would use subjects in bottom banner to find subj. related resources

MIRLYN | MAIN LIBRARY | NET ER | SYSTEM OUTAGES | UM HOME | YOUR ACCOUNT

Art Architecture and Engineering **Library**
University of Michigan **Duderstadt Center**

ASK US e-mail chat phone   Library Web Pages   Go

Home

GENERAL SEARCH ❓
Library Web Pages
Go
Examples: "occult fiction" wom?n

FIND ARTICLES ❓
General Interest
Go
Search for journal articles and more in selected general interest databases...

Catalogs & Search Tools
Mirlyn (Library Catalog)
SearchTools
Databases/Articles/Incidies
Online Reference Books
Image Databases
Top Databases

Research Help
Art & Design
Architecture
Engineering
Urban Planning
Finding Images
Patents & Trademarks
Standards
Technical Papers
Research FAQ

Library Services
Borrow, Renew, Request
Course Reserves
Delivery Services
Where Things Are
Multimedia Info
Study Room Reservation
Copiers & Printers
All Services

News & Events
• Wiley electronic backfiles now available
• vidGod electronic opera to premier Feb 10
• ASCE Career Fair - Feb 10
more...

Duderstadt Center
CAEN Hotline, MuJo Cafe, Media Conversion Lab, CTools, Digital Media Commons, The Millennium Project

About this Library
Hours, Maps & Directions, Floor Plans, Location of Materials, Mission, Service Desks, Staff, Subject Librarians, Special Collections, Visual Resources Collection

HOME | ARCHITECTURE | ART & DESIGN | ENGINEERING | URBAN PLANNING | LIBRARY SERVICES

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fx: 734-764-4487

Hours:
Winter Session: Building: Open 24 hours (ID required between 10pm & 8am)
Reference Desk: 9am - 6pm, M-F; closed Sat; 2-5pm Sun
Reserve Desk: 8am - Mid M-Th; 8am - 9pm F; 10am - 6pm Sat; Noon - Mid Sun

Issue	Findings	Assessments/Possible Solution
Locations of Subject Area links	Total A & B – 4/8 mentioned either banner links or center content links. Design A – (top banner links) 2/4 would choose subject in center 1/4 would choose subject in banner Design B – (bottom banner links) 2/4 would choose subject in center 2/4 would choose subject in banner -One person thought top banner links go to the different schools/departments -One person thought top banner and center page links go to different pages	-Locating links in bottom banner does not seem to affect visibility. Suggestion: In addition to subjects in banner, try an alternative drop-down menu instead of redundant list of links.
Ask Us visibility	Total A & B – 3/8 found the Ask Us links *(5/8 said they would call)*	-Most people looked to bottom of page for contact info Suggestion: add another link for Ask Us to bottom of page & make it more descriptive so people might understand what its for.
New Search Features	Total A & B – 6/8 would try the Article Search option *(though most mentioned it along with 2-4 other things they might try)*	-Good visibility could = flexibility in placement of search area Suggestion: try a combined search feature in top banner.
News & Events Visibility	Total A & B – 8/8 quickly found this area.	-Good visibility Suggestion: would still be nice to have an expanded news & events area since it's such a popular feature.
Default Search Preference	6/8 – Prefer Mirlyn 2/8 – Prefer Library webpage search	Suggestion: Either make the default Mirlyn, or don't have a default – i.e. default would be something like "select search option"
Overall preference	2/8 – Prefer Design A 6/8 – Prefer Design B *(More or less)*	-Most people liked design B because it looks less cluttered and liked the Ask Us and search options in the banner (& so on every page) Suggestion: new design should remain clutter-free (and be even more so)
Top 10 Databases	Design A – 1/4 found the Top 10 Databases menu Design B – 0/4 found the Top 10 Databases menu *Note that most participants did find something that would help them find articles.*	-The Top 10 Databases list is a useful feature, but most participants didn't notice it or didn't think it was the right thing to click. Suggestion: If all drop-down menus are in the same location, people may notice them more and start to use the area for quick navigation (this might be encouraged by a list of quick links (as suggested by one of the participants).

Based on all of the previous studies, a new design was created. This design will be used in further usability tests to determine its effectiveness. Below the Design C is a breakdown of how the new search banner will work as well as content lists for the drop-down menus.

One of the major changes in this design is that the large search box (that was the impetus for the redesign) is gone and replaced by a more streamlined search feature. Even though most participants stated Mirlyn as their default search preference, it was decided that there would be no obvious default and the drop-down menu will simply state "Choose A Search." This will have to be tested, but the goal is to encourage users to look at the rest of the options in hopes that they discover additional functionality. If no option is selected, but terms entered and "Go" clicked, Mirlyn will be searched. Another difference is that the Subject Areas list that was located in the center content area has been replaced by a drop-down menu on the left side. This allowed us to have a more balanced center content area. By grouping all of the drop-down menus in one area (with the addition of a new quick links list as suggested by one of the participants) we hope to have created a central navigation area that the site lacked in previous versions.

Design C:

New Search Functionality

SEARCH [CHOOSE ONE ▼]

(If nothing is selected, search will default to Mirlyn search)

Title Keyword
Author Keyword
Subject Keyword

SEARCH [Library Catalog (Mirlyn) ▼] for [_____] in [Keyword anywhere ▼] [GO]

SEARCH [SearchTools (Articles) ▼] for [_____] in [General Interest ▼] [GO]

SEARCH [AAEL Website ▼] for [_____] [GO]

SEARCH [All Library Websites ▼] for [_____] [GO]

SEARCH [Find Databases ▼] for [_____] [GO]

SEARCH [Find e-Journals ▼] for [_____] [GO]

Arts
Humanities
Business & Economics
Engineering
Government Information
Health Sciences
News / Current Events
Science
Social Sciences

Drop-down menu items

[Databases ▼]

Top 10
ACM Digital Library
Art Index
ARTbibliographies Modern
Avery Index
CSA Technical Review
Engineering Index & INSPEC
IEEE Xplore
ISI Web of Knowledge
SAE Technical Papers

More Databases

[Quick Links ▼]

Library Catalog (Mirlyn)
Search Tools (Articles)
C-Tools (CourseTools)
Course/Electronic Reserves
e-Journals
UM Directory
Wolverine Access

[Resources by Subject Area ▼]

Art & Design
Architecture
Engineering
Urban Planning
-
Standards
Patents & Trademarks
Technical Papers

[How Do I.........? ▼]

Same list as
current site but
with some
changes based on
use statistics

7 | *Future Recommendations*

In addition to conducting another round of usability tests on Design C, it is recommended that the Redesign and Usability Group conduct more tests once the new changes are implemented. This will allow for more extensive testing on the aesthetics, functionality, and usability of the new design.

One important usability technique that has yet to be employed by the AAEL staff is an online survey. This could be deployed via a link on the home page or using a site intercept. The survey could work to discover more about user satisfaction and functionality preferences in a more quantifiable way.

Ideas about a Google-like interface began as a joke as a result of conversations about how to design a library interface for users that only seem to "understand" Google. However, the more we joked about it and discussed how it might work, the more interested we became in the idea. The key to this idea would be in what happens after you submit your search request. What would it search? Mirlyn, AAEL web pages, all UM library pages, the web? The answer could be all of the above. Essential to this idea would be how the results would display. Results could be clustered by source and filtering options could be employed to help the users narrow their results. A full directory or site index would be necessary along with Google-like "Did you mean" search suggestions.