Web Design for Customer Usability

Andrea Bartelstein  andi@jhu.edu
Michael Creech  mcreech@jhu.edu
David Reynolds  davidr@jhu.edu

Johns Hopkins University
Sheridan Libraries Profile

- Support schools of Arts & Sciences, Engineering, Business and Education
- Large and growing part-time and distant student population
- Other Hopkins libraries (medical, international studies, music, etc.) manage their own Web sites
Sheridan Libraries Web Redesign Timeline

- **July 2002**: Began CMS needs analysis
- **January 2003**: Reviewed three commercial CMS products
- **July 2003**: Focus Groups
- **January 2004**: Began moving content into CMS
- **July 2004**: Card Sorting/Link Naming, Heuristic Analysis and Online Survey
- **January 2005**: Launched redesigned Web site

**Timeline**

- **Content creation usability testing**
- **Reviewed three commercial CMS products**
- **Focus Groups**
- **Began moving content into CMS**
- **Heuristic Analysis and Online Survey**
- **Launched redesigned Web site**
Challenge 1: Home-grown CMS did not work for content creators

- Difficult to create and publish Web content
- Performed needs analysis for commercial CMS
- Content creator analysis confirmed need for CMS and helped drive selection process
Heuristic Evaluation and Field Observation

- Problems with consistency, ambiguity, and efficiency
- Limited system communication
- Supported decision to conduct CMS needs analysis
Many content creators lack Web publishing skills

Overlap of roles

Duplication of effort
Challenge 2: Conceptual framework not effective

► “Find it, get it, use it” concept was confusing

► Functional analysis and focus groups reinforced need for change

► Card sorting/link naming exercise provided better data about users’ conceptual models
Functional Analysis

► Web site used to complete specific tasks
  ▪ Catalog searching
  ▪ Using other electronic resources
► Not usually interested in exploring site
► Site too cluttered; should be simplified
► Problems with repetition, terminology
Focus Groups

► Customers use site for very specific purposes
► Most used: “Find It.” Least used: “Use It”
► Little interest in customization, “My Library”
► Web site reflects “culture of helpfulness”
Challenge 3: Home page “too democratic”

- Focus groups felt the Web site should help rank the relative importance of items.
- Insufficient usability work at outset led to “too democratic” home page.
- Non-usability considerations overly influenced design decisions.
Strategies

- Card sorting and link naming
- Heuristic evaluation of other library sites
- Survey/ballot of page designs
Card Sorting & Link Naming

- Used an online card sorting and link naming tool (available from NIST)

- Asked users to sort links from home page as they would expect them to be organized

- Asked users to name items based on functionality
## Link Naming

This card-sorting and naming study involves two steps. The first step is naming. Please read the description for each of these link names. Think about what you would call that page. If you would change the name of the page, please write the new name that you would suggest in the “Better name?” text box next to that link name.

Please don’t use leading and trailing spaces or double quotes or —, as they will be removed from any names which you enter.

<table>
<thead>
<tr>
<th>Link name</th>
<th>Description</th>
<th>Better name?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting from Home or on the Road</td>
<td>Links to options for using library resources away from campus.</td>
<td></td>
</tr>
<tr>
<td>Call Number Locations</td>
<td>Table of Call Numbers and their corresponding floor locations.</td>
<td></td>
</tr>
<tr>
<td>Find out if we have electronic access to a specific journal</td>
<td>Link that helps you find out if the library has an electronic version of a specific journal.</td>
<td></td>
</tr>
<tr>
<td>ICPSR, Census, Health, Business</td>
<td>Links to statistical resources for Census, Health, Business and more.</td>
<td></td>
</tr>
<tr>
<td>Eisenhower Express Photocopy Order Form</td>
<td>Form for Eisenhower Express.</td>
<td></td>
</tr>
<tr>
<td>New Tools for a New Publishing Era</td>
<td>Information about the JHU Scholarly Communications group and open access initiatives at JHU.</td>
<td></td>
</tr>
<tr>
<td>Archives</td>
<td>Links to information about the JHU archives in Special Collections.</td>
<td></td>
</tr>
<tr>
<td>Use It Accurately. Citing Sources</td>
<td>Information on how to cite a source correctly.</td>
<td></td>
</tr>
<tr>
<td>Sheet Music</td>
<td>Links to digitized historic sheet music collection in Special Collections.</td>
<td></td>
</tr>
<tr>
<td>Guidelines for the Preparation of Dissertations and Theses</td>
<td>Guidelines for the preparation of JHU dissertations and theses.</td>
<td></td>
</tr>
<tr>
<td>Area Libraries</td>
<td>Find links to local college, university, public, and other research libraries.</td>
<td></td>
</tr>
<tr>
<td>LexisNexis Congressional, LexisNexis State ...</td>
<td>Links to the LexisNexis Congressional and LexisNexis State database.</td>
<td></td>
</tr>
<tr>
<td>Popular CD ROMs</td>
<td>Link to list of popular government CD ROMs.</td>
<td></td>
</tr>
<tr>
<td>Newspapers</td>
<td>Links to electronic newspapers or databases of newspaper articles citations.</td>
<td></td>
</tr>
</tbody>
</table>
Card Sorting Exercise

Instructions:
The second step is sorting. Please assign each of the items in the list on the left to one of the category boxes on the right, putting items that you think belong together into the same category. After all the items have been sorted, name each category by typing in the box at the upper left hand corner. You may make as many categories as you wish. Please put every item into a category. You may make changes until you decide that you are finished and hit the Done button.

Items:
- AccessUN, UN Treaty Col., Source ODEE, UNO Online
- Additional Resources, Sources
- Albert Schweitzer Library Reading Room (the ASTR)
- Archives, Wall Maps
- Area Libraries
- Articles and More
- Audiball Center
- Borrowing & Renewing JHU Libraries Materials
- Borrowing from Other Libraries
- Calendar of Events
- Call Number Locations
- Catalog of U.S. Govt Publications
- Collection Policy
- Congress, Federal, Maryland, Baltimore City
- Contracting From Home or on the Road
- Digital Resources
- E-Journal Collections (JSTOR, Project MUSE, etc.)
- Email Reference Service
- Eisenhower Express Document Delivery
- Eisenhower Express Photocopy Order Form
- Employment Opportunities
- Exhibits
- Find out if we have access to a specific journal
- Finances of the Library
- George Peabody Library
- Government & Public Affairs
- Hall of Names
- Guidelines for Prep. of Dissertations and Theses
- ICPSR, Census, Health, Business
- Interlibrary Loan
- Indexes, Full-Text Databases, Ref Works, Datasets
- Information for People with Disabilities
- Interlibrary Services Request Form
- International
- Is it Worth Using? Evaluating Internet Information
- JHU: Dissertations/Theses
- JHU Libraries Catalog
- John Woodman Newton Library
- Johns Hopkins University
- Legal Resources
- Library Associates, Wrl, etc.
- Library of Congress, Legislative
- Library of Congress
- Library Nominations
- Manuscripts
- Maps & (G)
- Milton S. Eisenhower Library
- Mirror-Park Request Form
- New Resources
- New Tools for a New Publishing Era
- Newspapers
- Notes
- Off-Campus & Distance Learning Library Services
- Popular CD-ROM
- Print & Microforms
- Print & Photocopying
- Reader's Guide to the Periodical Literature
- Rare Books
- Readings
- Renew a Check-out Item
- Research Guides
- Reviews
- Selecting Fiction
- Selected Science and Engineering Journals
- Silent Movies
- Special Collections
- Special Collections Digital Resources
- Statistical Resources
- Statistical Regressions, Cases, Patients
- Submitting Course Reserves Lists
- Thesaurus Catalog
- UN, Interorg Organizations, Foreign Countries
- U.S. Legal: Copyright
- Update: Your Library Information
- Writing for Publication, Tools for Getting Started

Categories:

Create new category

Comments:
Heuristic Evaluation of Library Sites

► Used *US News and World Report’s* list of universities

► Rated features, site architecture and general layout of library sites for top 40 universities

► Identified three design types to show users
### Other Library Web Site Evaluation Summary

<table>
<thead>
<tr>
<th>Link to</th>
<th>Number of Libraries</th>
<th>Percent</th>
<th>Links</th>
<th>Average Number</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Guides</td>
<td>26</td>
<td>76%</td>
<td>Average Number</td>
<td>66.3</td>
<td>High</td>
</tr>
<tr>
<td>Gov. Docs</td>
<td>9</td>
<td>26%</td>
<td>To Lib Depts</td>
<td>1 Link</td>
<td>20</td>
</tr>
<tr>
<td>Special Collections</td>
<td>15</td>
<td>44%</td>
<td>Lib Info Pages</td>
<td>Single Link</td>
<td>14</td>
</tr>
<tr>
<td>ILL</td>
<td>23</td>
<td>68%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Reserves</td>
<td>22</td>
<td>65%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask a Librarian</td>
<td>26</td>
<td>76%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Box</td>
<td>29</td>
<td>85%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **High**: 202
- **Low**: 16
- **More than 1**: 14
- **Many Links**: 14
- **Average for Many**: 7.8
Survey/Ballot of Page Designs

- Created three designs based on types from heuristic evaluation
- Asked users to rate designs and give opinion of each
- Held drawing for MP3 player as participation incentive
Lessons Learned

- Users wanted items organized by activities they perform
- Features and design trends identified in other library sites informed our own
- Preferred design emerged, based on nearly 1300 user submissions
August 2004 - present
Questions?
Andrea Bartelstein  andi@jhu.edu
Michael Creech  mcreech@jhu.edu
David Reynolds  davidr@jhu.edu