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The study identified many areas for improvement in the use of page space. Participants repeatedly suggested space-saving techniques and improvements to the layout of the sidebar, the services options, and to the list of resource options on the customization pages. Participants suggested compact lists and menus, such as drop-down menus, or mouse-over menus to avoid long scrolling pages.

Finally, participants wanted a bright and colorful portal. They approved of the Chicago skyline banner but felt that the default gray for the section labels was drab and uninviting. Even though the styles and colors were customizable by the user, the test group suggested that the default page of My Chicago Library needed a more professionally designed look.

### Conclusions

The users in this study appeared to have difficulty understanding the discipline-specific nature of the My Chicago Library portal. Following instructions to create a history account rather than making personal selections may have hindered users from understanding the level of control they had over the portal content. In designing a study in which all users performed the same tasks with the same content, the investigators may have inadvertently prevented participants from learning and understanding the intended purpose of the portal. Moreover, the participants suggested that the portal include university services and university headlines. This request and their presumption that the UIC logo be linked to the university homepage rather than to the library indicate a different orientation to the library than the designers expected. The participants considered the university to be the next logical par-

ent site as opposed to the library’s main homepage.

Study results indicate that even experienced computer users struggle with customizing My Chicago Library. However, results also suggest that when users overcome this learning curve, they appreciate the shortcuts offered by the portal. The individualized pages direct users to crucial resources and provide shortcuts through the universe of information available from the library. My Chicago Library can be a useful alternative to traditional library Web sites in which users must navigate through many layers of pages to reach the resources they seek.

Although appreciative of the streamlined access the portal provides, some participants stated that they would use the “customize” tool to include all the resources from their discipline to ensure a comprehensive list of relevant resources. This comment and others suggested to the investigators that users want to select high-quality resources in their discipline, but they resist any other limitations on their options.

Objections to the lengthy explanations, overly long lists, and ubiquitous help links showed the investigators that My Chicago Library navigation needs to conform to common Web features by including shorter pages or making page sections easily accessible through the use of anchors. This is especially important when managing potentially long lists. Designers should value clarity of visual layout and minimize textual explanations in future iterations of the portal.

This study bolsters Augustine and Greene’s assertions that user misunderstanding of librarian-defined resource categories remains a serious stumbling block to library Web site usability.<sup>30</sup> Librarians must label resources using common language, even at the risk of incomplete or slightly inaccurate descriptions. As demonstrated by participants in this study, users frequently misunderstand how libraries organize information if they have not had library instruction.

### Implications and Suggested Research

Since this study was performed, the UIC library has implemented MyLibrary version 2.63, dubbing it MyLibrary@UIC. The portal now more closely resembles the UIC library Web site and incorporates the colors and the finished quality that test participants requested. Also, the list of disciplines has been expanded to include all courses of study at UIC. An FAQ page explaining the portal's purpose and functionality has been added. Currently, the library is investigating ways to incorporate automated methods of uploading electronic resources into the MyLibrary database.

In future studies, a screening survey revealing the participants' experience with customizable Web products might be helpful. An exit survey designed to collect detailed perceptions of the portal also could provide valuable data, as would a standard measure of computer skills. The investigators anticipate conducting another usability study following the changes made to the My Chicago Library portal based on study findings and after implementing new versions of the MyLibrary software.

By designing the study to measure the completion of specific tasks in My Chicago Library, the investigators were able to identify both problems and good design elements of MyLibrary as modified for Chicago-area UIC students and faculty. By creating tasks that fall into three categories of use—Administrative Functions, Category Recognition, and Content Manipulation, the study helps the investigators understand the participants' behavior in a conceptual framework. Results viewed in this framework allow librarians to apply data or lessons learned to other Web-based interactive research tools. As Web functionality expands and becomes more complex, interactions with Web-based research tools can be improved by usability testing that incorporates functional categories to the test design. This study and others like it may help libraries determine how to incorporate a portal into their electronic services or how to create a portal that meets the research needs of their user population. The investigators hope that this study will assist librarians in creating intuitive and user-friendly research tools, and provide a template for librarians conducting usability testing on library research tools.

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## APPENDIX A

### List of Tasks in the Order in Which They Were Performed

1. Create a new account. Use "buttercup" as your user name and "Illinois" as your password. Select "history" as your discipline. When you are logged in, select "Just show me my page."
2. Create a link to the *New York Times* Web site (<http://www.nytimes.com/>) in your "My Links" section. Then return to My Chicago Library.
3. Link to the UIC History Department. Then click the browser's "Back" button to return to My Chicago Library.
4. Remove the link from the "Electronic Journals" to the electronic journal *International Review of Social History*. Then return to My Chicago Library.
5. Change the background color of My Chicago Library to yellow.
6. Log out of My Chicago Library. Then log in again. When you are logged in, select "Just show me my page."

7. Add a resource to the "Other Resources" section from the film discipline. Then return to My Chicago Library.
8. Add an electronic journal to the "Electronic Journals" section from the alphabetical list of electronic journals. Then return to My Chicago Library.
9. Use the portal to find the definition of the word *neologism*.
10. Remove the link to "Archives USA." Then return to My Chicago Library.
11. Add a link in the "Electronic Journals" section to the electronic journal *Asian Art*. Then return to My Chicago Library.
12. The UIC library owns the novel *A Day Late and a Dollar Short*. Link to the library catalog you would use to get the call number for this book. Then click the browser's "Back" button to return to My Chicago Library.
13. Remove the link to "Sports Scores."
14. The novel *A Day Late and a Dollar Short* is checked out. Use the portal to recall it.
15. Change your discipline to "psychology." Merge your presently customized selections with the suggested selections of the new discipline.
16. Remove "Sage Family Studies Abstracts" from the "Finding Articles" section. Then return to My Chicago Library.
17. Change the title of "My Chicago Library" to "My Strawberry."
18. Add two databases to the "Finding Articles" section from the sociology discipline. Then return to My Chicago Library.
19. Find today's *Chicago Sun-Times* headline. Then click the browser's "Back" button to return to My Chicago Library.

## APPENDIX B

### The Participant Screening Survey

How long have you been using a computer?

0-1 years	1-3 years	3-5 years	5-7 years	More than 10 years
0	0	1	5	2

What kinds of things do you use the computer to do?

Word processing	Internet searching	Online chat	E-mail	other
8	8	7	8	8

What is your status at the University of Illinois at Chicago?

undergraduate	graduate	faculty	staff
0	7	0	1



How much experience do you have using the UIC library?

Never used	Occasional use (once a month)	Frequent use (once a week)
0	3	5

Have you had a library instruction session?

yes	no
2	6

Which of the following UIC library resources have you used on the World Wide Web?

UICCAT	Article databases	Electronic journals	Electronic reference materials
8	3	5	4

How often do you use the Internet?

Never	Rarely (once a month)	Occasionally (once a week)	Frequently (once a day)
0	0	0	8

On a scale from 1 to 5 with 1 being low and 5 being high, how would you rate your comfort with using computers in general?

1	2	3	4	5
0	0	1	1	6

On a scale from 1 to 5 with 1 being low and 5 being high, how would you rate your comfort with using Internet resources?

1	2	3	4	5
0	0	2	1	5

On a scale from 1 to 5 with 1 being low and 5 being high, how would you rate your skill at using computers in general?

1	2	3	4	5
0	1	0	3	4

On a scale from 1 to 5 with 1 being low and 5 being high, how would you rate your skill at using Internet resources?

1	2	3	4	5
0	11	1	2	4

Are you more comfortable using a PC or a Mac?

PC	Mac
8	0

## Notes

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