User Testing:

Online Journals & Newspapers List Project Report

SI 622 Assignment 8: Team Tiger (7)

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Executive Summary

This paper presents the results of a usability test of the Online Journals & Newspapers List application. It a subsite of the University of Michigan Library that provides access to academic journals for the UM community. The main users are faculty and graduate students.

Test objectives

The research goals in user testing were to assess the effectiveness of OJNL for typical users performing common tasks such as search and browse; identify obstacles to completing search and browse tasks; and employ short, in-person questionnaires to gather information about preferences. During each test, the participant was asked to complete a series of tasks that necessitated use of various features. A follow-up interview gathered participant feedback about using the site.

Ranked findings

We found five issues that should be addressed to improve the application. They are ranked here, most serious to least:

Controls and layout of individual search results are confusing

The lack of consistent order of the result links impedes quick decision-making, the "About" tab is not obvious, the Table of Contents appears unfinished, and the meaning of symbols is not evident.

Results page design hinders efficiency

The small number of browse navigation links presented slows users' progress in accessing journals; the source that determines which journals are Highly Recommended is not obvious; users want control over number of results displayed; and the lack of differentiation among colors, font sizes and font weights hinders rapid scanning of results.

Search controls and options limit precision

The absence of some search options, such as exact search and relevance ranking, lessens site usefulness for some users.

Users do not always know where they are within site

Without an obvious link to return to the Main Page, users take a variety of paths back to the Search/Browse interface for subsequent searching.

Saved Favorites are difficult to access

Users easily Add to Favorites, but they have trouble finding the list of saved Favorites later.

Introduction

Overview

This report discusses five user tests conducted on the University of Michigan Library's Online Journals & Newspapers List, referred to variously in this report as the OJNL, the application or the site. The tests were performed as part of a group project for the School of Information course SI622: Evaluation of Systems & Services and for our client, the UM Library. This report marks the conclusion of the fifth phase of a semester-long OJNL usability research project.

Description of OJNL and Target Users

The OJNL is a subsite of the UM Library web site that provides users access to the journals to which the library subscribes. It is used frequently by administrators, faculty, graduate students, librarians and administrative assistants. In our study, faculty researchers are the target users; however, their goals overlap with those of other types of users. Users rely on the OJNL as a tool for academic research. As an approximate gauge of usage, the Main Page of the OJNL received an average of more than 550 daily page views, 418 from unique visitors, during the first three weeks of March, according to Google Analytics.

From the OJNL's Main Page, users can access three search modes and two browse modes. The results are displayed as a list beneath the search/browse box. The results provide links to journals on the Web or in reference databases, along with information about the journals. Users selecting a results link are sent to a journal web site with subscriber privileges authenticated through the library.

Usability Testing Overview

Our team closely followed the Rubin and Chisnell (2008) usability testing procedures. They define usability testing as a process that "employs people as testing participants who are representative of the target audience to evaluate the degree to which a product meets specific usability criteria" (p. 21). The team observed participants as they performed defined tasks. During each session, a moderator and at least one observer noted how the participant interacted with the interface, the time required to complete tasks, and which features participants used. They also recorded participants' comments.

Goals

The team's goals in user testing were to assess the overall effectiveness of OJNL for typical users performing frequent tasks such as search and browse; identify obstacles to completing search and browse tasks on the site; and employ short, in-person questionnaires to gather additional preference information about search input and results settings (see Appendix G: User Test Plan). The following are specific questions we also wanted to answer:

- What are major usability flaws that prevent users from completing the most common tasks?
- How easily and successfully do participants find a specific journal using the search function (known-item seeking)?
- Do enough errors happen in search box input to justify adding autocomplete?
- How easily and successfully do participants find a specific journal using the browse function (known-item seeking)?
- Does the number of results presented on search results pages present any adverse affect on search/browse usability, especially efficiency?
- How well do users understand the results page information and icons?
- Does the Help page offer useful information?

The site serves hundreds of users daily, so the research team's efforts are directed toward improving a successful site. Our team did not expect to unearth huge problems requiring immediate attention; however, we and our client believe – as a result of prior research and because user feedback has indicated it – that there are OJNL areas that could be made better.

Methodology

Overview

Our team conducted five user testing sessions April 4-8, 2011. The participants were instructed to perform seven tasks on the site and to speak their thoughts using a "Think Out Loud" protocol (see Appendix J: Think Out Loud Protocol). The moderator and observers noted the start and end times and the spoken comments. This provided quantitative data about time on task and qualitative data about users' opinions. Informed consent was obtained from all participants, as well as permission to record the test audio and video.

Physical setup

Testing for three participants was done in the 1278 North Quad study room, and

for two participants at their own offices, using the "Minimalist Portable Lab Setup" suggested by Rubin and Chisnell (2008, p. 100). This offered the benefit of convenience for participants. The team hoped that convenience in location would help in recruiting of faculty members, whom prior experience had indicated can be difficult to recruit; this was the case, as the faculty participant and the most experienced graduate student participant said they could take part only if testing could be done at their offices. The sessions were recorded using the Camtasia Studio 7.1 application, which records screen activity with the user's image and verbal comments. The participant sat in front of an HP Pavilion laptop computer, with the moderator to the right and observers about 6 feet back. The PC was signed-in to the Library site by one of the team members in advance to eliminate any intrusion of authentication screens. Form fields and caches were cleared, and the OJNL Main Page was displayed. The prototype screen for Task F was hidden but active on a different browser tab (see Appendix H: Task F Prototype Screen).

Participant selection

The primary target users of the OJNL are UM faculty. Secondary target users are UM graduate students or other students engaged in academic research. Our overall research project is primarily concerned with current users, so we used a question on our recent OJNL User Survey to recruit faculty participants; unfortunately, none of the volunteers who responded were available during the testing time-frame. The team then recruited one faculty and five student participants through personal contacts.

One graduate student participated in a pilot session. The other five participants completed the actual usability test. One participant was a social sciences faculty member. Three participants were UM graduate students: two in the School of Information MSI program, and one social sciences doctoral student. Three participants had at least some prior experience with the OJNL; two had never used it. All participants reported on questionnaires that they do academic research at least monthly, and some daily (see Appendix F: Questionnaire Results). All participants received a $5 gift certificate at the end of the session.

Researcher roles

The moderator greeted users, obtained informed consent, provided questionnaires, presented tasks, and debriefed participants. He also took general

notes and clarified tasks during the session. Observers recorded task times, and participant actions and comments. At least two researchers were present in the room for each session. One session included all four researchers. After each session, the moderator and observers debriefed to discuss significant observations.

Tasks

During the test sessions, participants performed seven tasks with the OJNL. Participants were told they could take whatever time necessary to accomplish each task and that they could stop if they wished. They also were told to tell the moderator when they believed they had completed a task. Tasks A, B and C were presented in a consistent order because A and B allowed participants to select the path of their choice, and C tested a different feature that was not likely to be affected by learning effects. Tasks D, E, and F were presented in different order for each participant to limit learning effects. Task F used a high-fidelity mockup of a the OJNL Main Page with radio buttons as options for arranging search results by Relevance, Alphabetical Order or Publication Date (see Appendix H: Task F Prototype Screen). Task G was presented last because the research question it sought to answer was least important to the researchers and therefore was expendable if the session risked running beyond the time limit for the session promised to the participants. The tasks were the following (see Appendix I: The Tasks for complete wording):

- **Task A: Find a journal**
- **Task B: Find a journal a different way**
- **Task C: Find several journals in a subject area**
- **Task D: "Save a journal" as a Favorite**
- **Task E: Details from the individual results display**
- **Task F: Impressions of a Main Page prototype**
- **Task G: Use Help and Feedback**

Test script

A test script was written to ensure consistency. It contains the wording for the moderator to read to the participant to introduce the session, ease the participant into the tasks, provide questionnaires, and debrief the participant. The script also contains cues for actions the moderator should take so actions and processes were consistent across the tests (see Appendix A: Session Script).

Questionnaires and participant debriefing

The moderator administered printed questionnaires before and after the testing portion of each session, and debriefed each participant to follow up on any questions emerging from any aspect of the testing session. In the pre-test questionnaire, participants were told to look at the OJNL site, which was active on the test PC screen, asked about their use of the OJNL site, whether it looked easy to use, what it would allow them to do, and how frequently they perform various online research activities. In the post-test questionnaire, participants were asked questions related to the OJNL and their experiences during the session (see Appendix C: Blank Questionnaires). The debrief discussion was influenced by participant actions or comments, but the script contains a basic set of starter debrief questions (see Appendix A: Session Script); the answers are compiled in the logging notes (see Appendix E: Detailed Logging Notes).

Pilot test

Before formally holding the usability tests, our team administered the pilot test. It provided the opportunity to verify the task descriptions were clear and the order made sense. It also let us practice using the testing PC and software under testing conditions and try our script with a real subject. Feedback from the pilot session led to alterations in the script, tasks, and logging forms.

Data collection

Researchers employed three methods for collecting data:

- Participants completed printed questionnaires and gave them to the moderator (see Appendix C: Blank Questionnaires).
- Moderator and observers logged times, errors and qualitative observations on forms (see Appendix B: Blank Logging Form).
- Screen activities and participant video and audio were recorded using Camtasia Studio.

(See Appendices D-F for the data harvested through these methods.)

Evaluation of issues

After the five usability tests were done, researchers compiled and reviewed the notes as a group. The audio and video recordings were reviewed to verify task times and listen to participants' comments at key points. The team prioritized the most common and severe findings, considering the frequency of occurrence of the problem, impact if it occurs, and whether users can overcome the problem once they know about it. We used Jakob Nielsen's five-point rating scale (1994)

to rank the severity of the key findings in the chart shown below (p. 49). The items with the highest severity were deemed the highest priority to be addressed.

Priority (Severity)	Description
4	Highest - usability catastrophe; imperative to fix right away
3	Major usability problem; high priority to fix
2	Minor usability problem; low priority to fix
1	Cosmetic problem or very minor; fix only if extra resources available
0	Do not agree issue is a usability problem

Findings and Recommendations

Our team narrowed the list of observations to provide two primary findings and three minor ones. They are presented in the following table. Each is then addressed in detail in this section.

Finding	Priority	Usability Issue
1	Highest (4)	Controls and layout of individual search results are confusing
2	Major (3)	Results page design hinders efficiency
3	Minor (2)	Search controls and options limit precision
4	Minor (2)	Users do not always know where they are within site
5	Minor (2)	Saved Favorites are difficult to access

Primary Findings

Finding 1: Controls and layout of individual search results are confusing

Priority: Highest (4)

Frequent and high impact

Observations

After users have executed a browse or search – the core purposes for which the majority of users would use the OJNL – they must interact with individual search results. An individual search result is the collection of information beneath one journal title on the results page, grouped together by shading and a thin box. The individual result has one set of controls, which are an "About" tab, a "Journal eSources tab, and for many but not all a "Table of contents" link and an "Add to favorites" link. (see Figure 1, which shows an individual result with all controls

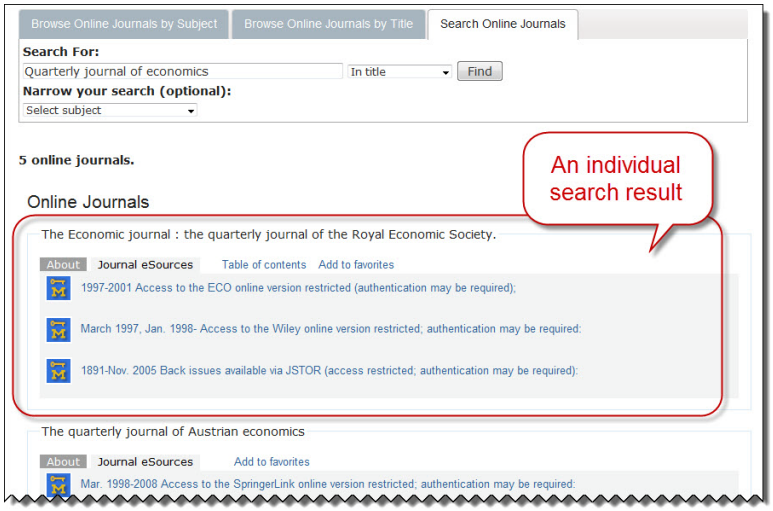

Figure 1. Usability test participants had most difficulty with portions of tasks related to use of the individual results.

present in the default condition immediately following a search). Overall, the problems were most evident in Task E, which asked participants to find a specific journal and then find granular information about the journal that was accessible through the controls of the individual result. The task was the one set up with the longest amount of time allowed for success, 6 minutes. However, only one participant successfully completed the task; the other four ended up off the site, exceeded the time limit, or both. A median was not meaningful because of the number of failures. The range was 4:07-7:26 (see Appendix D: Basic Task Performance Data). Participants also expressed dissatisfaction with the individual results on the post-test survey and the debrief interview. The various problems are discussed below.

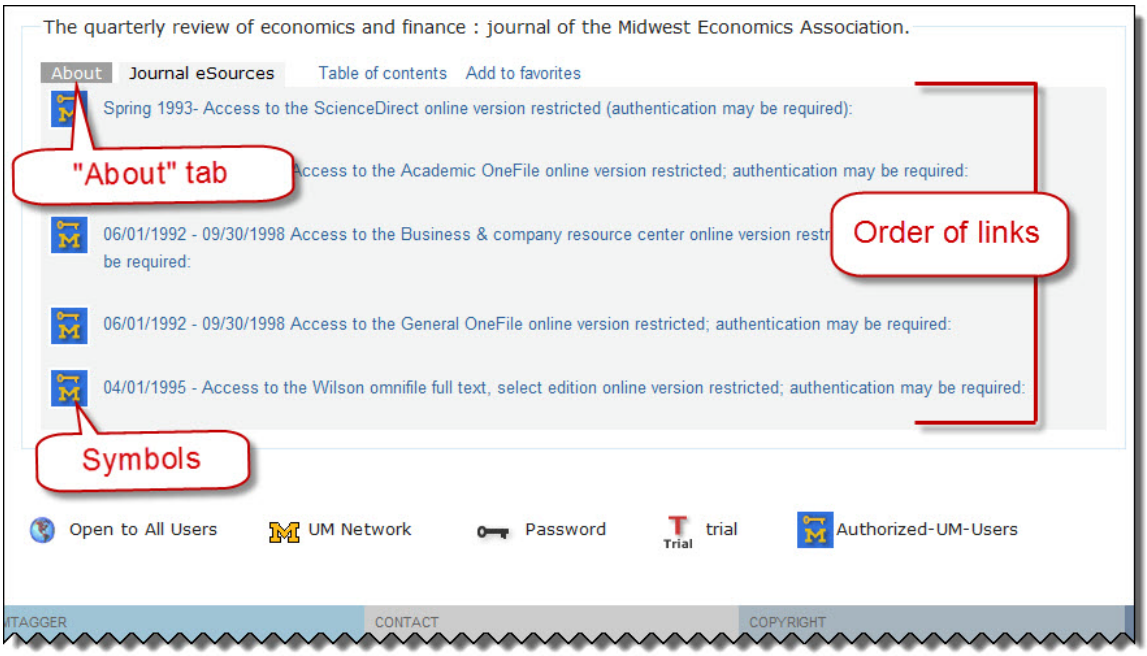

Figure 2. The dark shading of the "About" tab when it was not selected, and the lack of specific date order for the links slowed participants' progress. Four of five participants did not know what the symbols meant and made assumptions, even when the explainer key was visible, as it is at the bottom of Figure 2.

Order of links. One user was concerned the order was not chronologically consistent, which was inefficient for choosing (see Figure 2): "Once you get to the right journal, the holding that has the current issues is not at the top, and I feel it should be. My instinct is just to click the top one, but instead I had to look through the list to find the one with the current year." Another was confused by the presence of overlapping dates and options; that participant wanted a list of date links that a user could use to limit the number of options to simplify the choices; "organize by date, not source."

"About" tab. A significant portion of Task E involved finding information under the "About" tab: the journal ISSN and links to related journals. Two participants, including the faculty member – who had used the site earlier – did not access the "About" tab at all. Others used it but were confused by the darker shading on it than the active "Journal eSources" tab. Comments: "The color of the tabs is odd; the darker one should be the selected one," "Why is About shaded" when it's not the selected one? And "that's unconventional." Participants' confusion over the existence of tab controls and which was selected contributed to task delays and failures. When participants discovered the Related Subjects links under the "About" tab, they found them valuable but not obvious. Said one participant, "The Related Subjects functionality could be useful, but they're kind of hidden."

Graphic symbols. The graphic symbols in the individual results were mildly confusing to participants. Only one found the explainer for the symbols at the bottom of the page to say confidently what the symbol in question (the M-and-key-shape signaling "Authorized-UM-Users") meant. The four other participants used the words "probably" or "I assume" that it means something about authentication. One said the "graphics are kind of mysterious, but not a big deal." None of the participants expressed concern about what the graphics actually meant, perhaps because they simply expect they will have access to any result on the site.

Table of Contents. The problems with the Table of Contents functionality have been detailed in prior reports and are known by the client. The usability tests helped underscore how serious an impediment its problems are. All three participants who tried using it were very confused and commented: "The content is hidden; it needs a larger box," "Why won't it scroll? The citation thing is weird. Why won't it expand?" and "It's weird and unpleasant. It looks like the content is cut off at the bottom. I don't like it."

Recommendations

We recommend reviewing the individual search results layout and controls. Organizing the results in a consistent date order would decrease cognitive load and time users must spend determining which, if any, link will access the desired volume(s) of the journal. "The more structured and terse the presentation of information, the more quickly people can scan and comprehend it" (Johnson,

2010, p. 25). Modifying the "About" tab shading would reduce confusion and help users find the "Related Subjects" links underneath it. Table of Contents improvements would make that feature much more functional.

Finding 2: Results page design hinders efficiency

Priority: Major (3)

Frequent and high impact

Observations

The portions of tasks that involved participants interacting with the search/browse results page generally were completed and handled rapidly. However, participants were confused or slowed by the four issues described below, with all participants offering criticisms or suggestions (see Figure 3 on next page).

Browse navigation links. The tasks involving browsing required many clicks on the navigation links at the top of the page. Participants expressed displeasure at how many clicks were required:

- "I have to click a lot with this."
- "I don't like big, alphabetized links like this ... It's just way too much to wade through. I'd never search for anything this way."
- "This is taking so much time."

One participant suggested that all the available links be provided on the results page, not just six.

It is important to note that the participants were able to use the navigational elements to complete the tasks. Their concern was about the perceived inefficiency of the small number of navigational links.

Highly Recommended/Other Journals. Participants were unsure what constituted a "Highly Recommended Online Journal" and who made that determination. One also was confused by the label above the "Other Online Journals," believing for a short time during the session that they were simply miscellaneous journals loosely related to the search performed. One asked, "Why are some called 'Other Journals'?" and one expressed the belief they might be provided by professors or librarians, or perhaps rated by users.

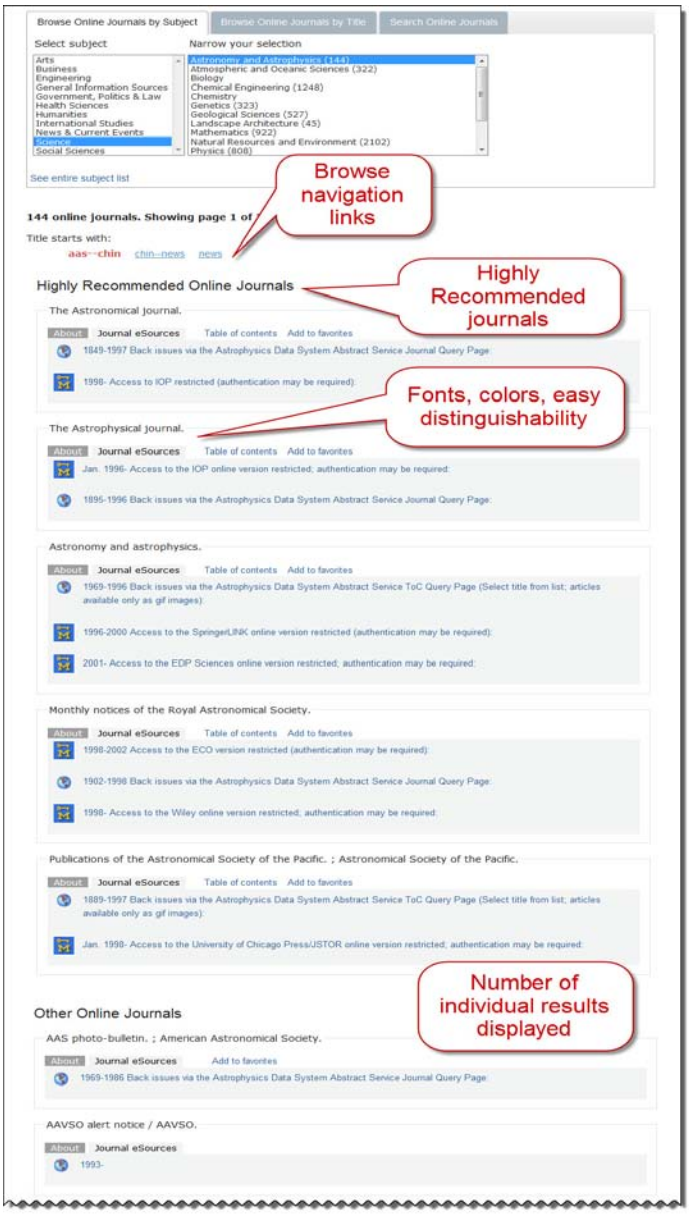

Figure 3. Participants found aspects of the results page design confusing or expressed some dissatisfaction with them.

Number of results. Four of the five participants expressed a desire for the display page to show fewer results than the OJNL shows as its default. Two said they would prefer 20. One said 10-15, but added that fewer would be better if the layout of the page caused a lot of scrolling to see the 15. One participant said "4-5 results – and ideally, just one: the one journal I want." Another said, "All the results" on one page, but added that it would be best to see only a few, with the ability to expand the initial number shown. This issue conveys two valuable insights: First, users vary in their preferences, and second, shorter lists are preferred – generally – to longer ones, especially when lots of scrolling is required.

Colors, fonts. Participants also said the results page was harder to read than other results pages they were familiar with. Concerns expressed during the tasks and debrief interview included "Make the titles more visible with different fonts and colors to distinguish," arrange results "in more colors, font sizes, bold, small," and "the light blue lettering can be hard to read for middle-aged eyes."

Recommendations

A few changes could bolster the efficiency of this design for users. We recommend descriptive text be added to explain who chooses the "Highly Recommended" journals and a star-rating system be installed to let researchers help in the recommendation effort. We recommend giving users the ability to choose how many results to display in the list, and offering an option to display only titles. Adding a Google Images-like "Show more results" expanding set of results could enhance efficiency. Adjusting the fonts, colors or text sizes could enhance scanability and create better distinction among results.

Minor Findings

Finding 3: Search controls and options limit precision

Priority: Minor (2)

Frequent, low impact

Observations

All five participants said search was their preferred way of accessing journals. One said it was the "only way, ever." Throughout the tasks, the participants were able to use the search function easily, and made very few typing errors. Two of the five noticed the "In Title" dropdown menu and kept the default "In Title" selected; the other three did not explicitly address the dropdown. One, who previously had used the site, complained that the site did not allow a precise search for the journals "Nature" and "Science"; they yielded more than one result because those terms appear in many other titles. This participant did not experiment with the "In Title" dropdown, and did not realize "Title Starts With" would largely (but not totally) solve that concern.

Task F sought participants' qualitative impressions of a prototype that included the options to "Display Results by: Alphabetical Order, Relevancy Rank or

Publication Date (see Appendix H: Task F Prototype Screen). Participants expressed interest in having the choice of any of the options. Three said Relevancy Rank should be default; two said Alphabetical Order should be default.

Recommendations

Search is core to the OJNL user experience. We recommend adding Relevancy as a search option and allowing users to choose between Relevancy and Alphabetical Order. We also recommend adding a "Search Exact" option to the search "In Title" dropdown menu. These changes would give more precise control with little additional complexity of operation, ultimately improving the user experience of the application.

Finding 4: Users do not always know where they are within site

Priority: Minor (2)

Frequent, low impact

Observations

Participants used a variety of means to return to the Main Page. These included the persistent "Online Journal List" link in the lower left corner of the page, the browser "Back" button and scrolling to the top. One user looked for and did not see a link or logo to click to return. Another realized only at the end of the testing session that the Search/Browse controls were actually the Main Page, and that all the activity in the test took place on the same dynamic page. One said, "It's confusing without breadcrumbs or something to know where you are in the site." On the post-study questionnaire, two respondents agreed with the statement "I always know where I am in the site," but three disagreed or were neutral. It is also noteworthy that the "Online Journals & Newspapers List" header disappears after the first search or browse is executed, likely contributing to confusion.

Recommendations

We recommend the navigation be improved by adding "Return to Search" or "Return to top" links after every screenful of results. We also recommend that the "Online Journals & Newspapers List" header be made persistent. These changes would reinforce users' sense of location.

Finding 5: Saved Favorites are difficult to access

Priority: Minor (2)

Infrequent, high impact

Observations

Task D, which asked participants only to "save" a journal (Add to Favorites), was completed rapidly by four of the five participants, who saw the "Add to Favorites" link quickly and used it. (The unsuccessful participant never saw the link, misunderstood the task and never recovered from it.) It was obvious that adding to favorites was easy. The task did not ask users to find the list of Favorites; however, three participants tried to do so. None was successful, even though all three are UM Library site users. A few comments:

- "Now how do I get back to My e-Journals to see the favorites? There's no link. A direct link ... would help."
- "I expect a My Favorites link right on the Main Page of the site so I can get back to them easily."
- "I guess the only way to access my Favorites List would be to add something to my favorites every time and then just delete it when I get there."
- "Favorites sucked."

Recommendations

We are aware the Favorites feature likely will be removed in coming months. We recommend simply if something similar replaces it, that a link to the list of saved Favorites be placed in a prominent spot on the OJNL Main Page so it is easily accessible.

Discussion

Our findings are very useful for informing our understanding of trouble areas in the OJNL application. All the testing sessions followed the same procedures; however, there are bias concerns (http://www.umdnj.edu/idsweb/shared/biases.htm). We had only five test participants, certainly not a statistically relevant sample. Our research focuses on current site users, but our testing participants were not all current users, which could yield a proficiency bias; it is likely that some participant behaviors exhibited in the sessions relate to unfamiliarity with the site and would be less common among actual users. Additionally, all but one were acquaintances of the researchers, who are School of

Information students, which might have created a selection bias toward technology-savvy participants. There also could be an attention bias as the subjects sought to please the researchers. Ideally, we would have been able to recruit five current users who are in the primary or secondary user population.

Two concerns might have contributed to an insensitive measurement bias. The Think Out Loud protocol added to time on task, especially for U1, U3 and U5, who talked at length about certain features during the tasks. The Camtasia audio was garbled for U2, so the comments from that participant are not precisely rendered, despite researchers' best efforts.

Two other forms of bias might have been present in our method. An environment bias could have been introduced by three of the tests being done in one "neutral" room, and two being done in participants' offices. The choice of tasks and their wording could be affected by confirmation bias in our team's pursuit of evidence regarding problems we already suspected from prior research.

It also is noteworthy that a few participants misunderstood parts of Task E, so task failures resulting from participants going off-site might have been avoided with different instructions. However, the participants' confusion when figuring out how to use the individual search result controls was unmistakable.

Conclusion

The findings in this report are the result of usability testing of the OJNL. The five participants included one primary target user, three secondary users, and one person who was not technically in the target user group but who had used the site for academic research. Researchers observed the participants performing a set of tasks. From those observations, the following ranked findings were developed:

1. Highest: Controls and layout of individual search results are confusing
2. Major: Results page design hinders efficiency
3. Minor: Search controls and options limit precision
4. Minor: Users do not always know where they are within site
5. Minor: Saved Favorites are difficult to access

These findings support prior findings in phases one through four of our semester-

long usability research project involving the OJNL.

It is important to mention again that the application lets hundreds of users accomplish tasks and achieve goals each day in an uncomplicated way. Our post-study questionnaire showed that four out of five of our usability test participants found the site in its current form “Easy to Use.” However, we are certain that implementing the recommendations based on the findings in this report – especially concerning findings 1 and 2 – would allow users to work faster and help them be even more productive.

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Appendix A: Session Script

Participant: _[#]_____ Date/time_____

I. Provide Consent Form

II. Prepare testing computer *(check off)*

___Make sure **Prototype.jpg** is in a tab 100%
___Make sure **forms history** is clear.
___Try **Add to Favorites**, log in as Mark, **Delete** any favorites
___Run **Camtasia**, position **web cam**

[SIT TO RIGHT OF PARTICIPANT]

III. Session Introduction [2 minutes]

Thank you for taking part in our study. May I have your consent form and the questionnaire, please? Thanks. **[get consent form from participant]**

Today, I'll be working from a script so my instructions to all of our participants are the same. As a first step, I would like you to fill out this questionnaire. Please look at the site on the screen, but don't click on anything. Just let me know when you're done.

[Provide pre-test questionnaire (2 minutes); have OJNL logged in as Mark]

IV. Usability Testing

We are studying how academic researchers use a portion of the library web site.

Today I will ask you to use the site to do a variety of "tasks" and will observe you while you do them. Don't worry about how fast you are going; we don't have to get through any particular number of them.

Please try to Think Out Loud as you work. To have you practice Thinking Out Loud, I would like you to read this Think Out Loud blurb **[provide to participant]**

Thank you. Please know we are testing the web site, not you. There is no such thing as a wrong answer or action.

By the way, our team had nothing to do with the site's design. You won't hurt our feelings. We need to know what you really think.

I will hand you written tasks and observe your progress.

Please read the task **out loud** and then start working when you're ready. At the point when you think you have completed a task, please say you are done.

It is OK to ask me questions. However, I might not answer them right away because we want to simulate the conditions of you using with the site without

assistance. If you get completely stumped, say so – I may be able to give hints then.

The video and audio will be recorded on the PC. Any questions? OK, I'm going to start recording. This will take about 20 seconds. **[Start Camtasia Record]**

V. Administer tasks. Task order **[Make sure D E F are varied each session]**

__A_ _B__ _C__ | *D E F random* ____ ____ ____ | _G__

Task _A__

Page	Comment

Task _B__

Page	Comment

Task _C__

Page	Comment

Task ___

Page	Comment

Task ___

Page	Comment

Task __

Page	Comment

Task _G__(Help page)

Page	Comment

Thank you. That's it for the tasks. Now, I'll stop the video recording. **[Stop it]**

VI. Post-testing questionnaire [5 minutes]

I have a brief questionnaire here to you complete. The information you provide is for our team's use only. Your name isn't stored with the questionnaire data.

VII. Debriefing interview [5 minutes] *Can use Devil's Advocate if applicable.*

How did the session go?

What are your impressions of the site?

Let me look over your questionnaire for a moment. **[Look at it, note any** ?? **issues]**

Here are some specific features you saw today. What are your thoughts about them?

- Search -
- Results page -
- Browse by Title and by Subject -
- Add to Favorites -

You also looked at a nonfunctional prototype screen that had a few different options. What did you think of it?

Do you have any <u>other</u> comments or questions?

VII. Incentive. We have a small thank-you gift. We appreciate your time and opinions a lot. **[Give the incentive]**

VIII. Team debrief Team gathers 30 min to collect thoughts and come to consensus about what we've seen.

Walking through the test … Issues:

Appendix B: Blank Logging Form

Participant #:	Date:	Time:

Task A: Please imagine that you are doing academic research to write a paper and that you want to read an article in the "Canadian Journal of Political Science." You have decided to try using the Online Journals and Newspapers List web site to find that journal. Go ahead and find a link to that journal using the site (but don't click the link).

After you have found the link, return to the main page of the Online Journals and Newspapers List site and tell the moderator you are finished.

Success criterion: *Search or Browse to journal located. Failure if unable to accomplish in < 3 minutes.*

Notes: *Observers count errors, note precise terms & controls used.*

[ ] Successful?

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording
F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date: April 4 2011	Time: 2:26

Task B: Now imagine you are doing more research for your paper. A friend suggested that you look at the "Japanese Journal of Political Science". Please try a different finding method than you used in the first task to locate a link to that journal on the Online Journals and Newspapers List site.

When you have found it, return to the Online Journals and Newspapers List main page.

Success criteria: Able to find journal in results by Browse or Search in < 3 min.

Notes: *Observers count errors, note precise terms & controls used.*

[ ] Successful?

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date:	Time:

Task C: Imagine you are interested in sitting in on a class about solar phenomena and that you want to find a substantial number of journals to read on the subject. Please use the Online Journals and Newspapers List site to find 10 journals that would include "stars" among their topics.

Success criterion: *Able to find 10 journals in Science/Astronomy and Astrophysics. Success if accomplished in < 3 minutes..*

[ ] Successful?

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date:	Time:

Task D: Imagine that you want to return later to a journal you found but without having to go through all the steps of looking for it in the system again. Determine whether there is a way to "save" a journal listing in the Online Journal List. If there is, go ahead and "save" a journal. You can use a journal that is currently on your screen or use one that you found in a prior task.

When you have done this, return to the Online Journal List main page.

Success criterion: *Tries Add to Favorites. Observers note controls used Success if accomplished in less than 2 minutes.*

[ ] Successful?

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date:	Time:

Task E: Use any means you like in the Online Journal List to find a journal titled "American journal of agricultural economics". Then answer these 4 questions:

- Tell what the graphic symbol in the result means.
- Tell the journal's ISSN.
- Is there a means of seeing what articles are inside the journal? If so, tell the moderator the titles of three articles the journal contains.
- Tell if you see a way to go directly to other journals that have related subject matter to this one … and what would you expect to happen if you did that?

  If see such a way, try it.

Success criteria: *The ISSN: 0002-9092 1467-8276.*
Participant finds Table of Contents The related subjects links to browse by subject simply by clicking.

Success if this can be done in < 6 minutes. **[ ] Successful?**

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date:	Time:

Task F: Select the browser tab "**Prototype**".

What are your impressions of what you see?

Feel free to look back at the "Online Journal and News…" tab to compare, if you wish.

Tell the steps you would take if you were using this prototype to search for a journal named "Records Management Quarterly."

What would you expect to see on the results page?

Success criterion: *This is an A/B test to get qualitative information about display by Publication Date / Relevancy / Alphabetical Order*

NOTE: Requires Prototype.jpg w/Pub date, Relevancy, Alpha Order. **[ ] Successful?**

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Logging form

Participant #:	Date:	Time:

Task G: Return to the actual Online Journal Finder site.

Does the site have an area dedicated to providing explanations of its features?

If so, go to that area. Tell the moderator your impressions of it.

If you had a thought or concern to share about the Online Journal List, how would you convey it to the web master?

Success criterion: *Uses "Get help with the Online Journals and Newspapers List link"*

Note: Observer please record qualitative comments. Success in < 4 minutes

[ ] Successful?

Codes: ?: probe at debriefing CU: user comment E: error !: critical incident P: prompted by moderator T: check recording F: frustration CO: confusion QU: user question S: Start END

Debrief with participant

Participant #:	Date:	Time:

Observer, please note the participant's comments.

How did the session go?

What are your impressions of the site?

Items from Post-test Questionnaire

Here are some specific features you saw today. What are your thoughts about them?

- Search –
- Results page -
- Browse by Title -
- Browse by Subject -
- Help -
- Add to Favorites -

You also looked at a prototype screen that offered some different ways of listing the results of searches. Do you have thoughts to share about those options?

Do you have any other comments or questions about today's session?

Appendix C: Blank Questionnaires

Participant #:

Pre-study questionnaire

The web site should be visible on the test computer screen.

Instructions: Please look at the page on the screen, but don't click on it.

1. Have you used this specific site before? Y | N | Not sure
2. If Yes, how many times in the past month? _____
3. Does the site look easy to use? Y | N | Not sure
4. What do you think it will let you do? _____
   _____
5. Would you need to do these activities outside today's study?
   Y | N | Not sure
6. Do other sites you are familiar with seem similar to this one? If so, which?
   _____
7. How often do you do the following activities?

	Never	Once a month	Once a week	Daily	>1 time per day	Don't know
Access academic journals online	❑	❑	❑	❑	❑	❑
Research academic subject areas online	❑	❑	❑	❑	❑	❑
Use the UM Library catalog	❑	❑	❑	❑	❑	❑
Use some other scholarly reference site than UM Library	❑	❑	❑	❑	❑	❑
Search the Internet for scholarly journals or articles	❑	❑	❑	❑	❑	❑

Post-study questionnaire

Participant #:

1. Please indicate the extent to which you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
This site is easy to use	❑	❑	❑	❑	❑	❑
I always know where I am in the site	❑	❑	❑	❑	❑	❑
The site lets me work efficiently	❑	❑	❑	❑	❑	❑
The site is difficult to learn	❑	❑	❑	❑	❑	❑
The online Help page guide is useful	❑	❑	❑	❑	❑	❑

2. If there were 3 things you could change in the site you tried today, what would they be?

   i) _____

   ii) _____

   iii) _____

3. Do you prefer to use Search or to use Browse when doing research with academic journals? _____ Why? _____
   _____
   _____

4. How many results do you prefer to see on the search results page?
   _____

5. Do you have any other comments or suggestions? _____
   _____
   _____

Appendix D: Basic Task Performance Data

Explanation of abbreviations:
NA = not applicable; NM = not meaningful

Task A:	Success rate: 4 out of 5	Median time on task: 1:34	Range: 0:36-5:13
Task B:	Success rate: 5 out of 5	Median time on task: 1:28	Range: 1:28-2:10
Task C:	Success rate: 3 out of 5	Median time on task: 2:16 (incl. fails)	Range: 0:37-4:52
Task D:	Success rate: 4 out of 5	Median time on task: 0:46 (incl. fail)	Range: 0:31-1:33
Task E:	Success rate: 1 out of 5	Median time on task: NM (incl. fail)	Range: 4:07-7:26
Task F:	NM to task		
Task G:	Success rate: 4 out of 5	Median time on task: 0:46 (incl. fail)	Range: 1:08-6:10

Note: The fail on Task G was on time consumed, went way over 6 minutes because participant talked a lot giving impressions

Appendix E: Detailed Logging Notes (Compiled)

Task A

Task A: Please imagine that you are doing academic research to write a paper and that you want to read an article in the "Canadian Journal of Political Science." You have decided to try using the Online Journals and Newspapers List web site to find that journal. Go ahead and find a link to that journal using the site (but don't click the link).

After you have found the link, return to the main page of the Online Journals and Newspapers List site and tell the moderator you are finished.

Success criterion: *Search or Browse to journal located. Failure if unable to accomplish in < 3 minutes.*

Success rate no hints: 4 /5 Median time on task: 1:34 Range: 0:36-5:13

U1 Time to complete: 52 sec.
Put the search into quote marks.
Had trouble returning to Main Page - wasn't clear that Main Page was search/ used Back button
U2 Time to complete 2:10
Search for exact title
Wasn't sure whether U2 could use the tabs
Found the two journals; was confused by the overlapping holdings/multiple links
Back button to return to Main Page
U3 Time to complete :36
Searched for the title, found quickly
U3 understood that the 3 links to different holdings
Checked for default setting for search was [title] and U3 used it.
Said likes the Title as default.
U4 Time to complete: 5:13
Did Browse by Title
C: surprised the search field disappeared, replaced by different controls under Tabs
C: getting a lot of "Canada" titles in results
Assumed complete alphabetical order
C: Have to click a lot
C: Wanted to see a search box, and then you "browse on the titles you liked"
Tried the About tab - found the links.
Looked at the TOC. C: "Kind of a weird box, kind if irritating the way it moves"
Doesn't see a direct link to the main OJNL page; used persistent link at bottom left
U5 Time to complete 1:34
Searched for exact journal title. U5 selects the TITLE option; Finds it right away
C: "I think the other links in the results are prior titles of the journals."

Task B

Task B: Now imagine you are doing more research for your paper. A friend suggested that you look at the "Japanese Journal of Political Science". Please try a different finding method than you used in the first task to locate a link to that journal on the Online Journals and Newspapers List site.

When you have found it, return to the Online Journals and Newspapers List main page.

Success criteria: Able to find journal in results by Browse or Search in < 3 min.

Success rate no hints: 5 / 5 Median time on task: 1:28 Range: 1:28-2:10

U1 Time to complete: 2:10
Browse by Title, clicked on "J", delayed figuring out JAPA or next tab
Annoyed at using a PC instead of a Mac. Wanted to use CTRL-F, didn't execute it.
Question where in site; looking for logo in corner, not clear to user
Thought Search Tab was the Main Page

U2 Time to complete 1:11
Search again "japanese ..." but narrowed it
NOTE: discussion U2 interpreted the task wording differently than all the others
Liked that links were repeated at bottom as U2 linked on through

U3 Time to complete 1:28
Browsed by Title
Asked if could use the Library Search Box, but then used ONJL
JAPA - comment "There are a lot of JAPAs" to click on.
Paged through until found it.

U4 Time to complete 1:14
Searched, no narrowing. Used exact title.
C: Assumed link is to most current title.
Used BACK control on browser to return to Search box

U5 Time to complete 1:51
Comment: Would not use a different methods. Always uses Search. Doesn't like big lists from alphabetized navigation links: "It's just way too much to wade through."
U5 used Browse By Title
C: "I'd never search for anything this way."

TASK C

Task C: Imagine you are interested in sitting in on a class about solar phenomena and that you want to find a substantial number of journals to read on the subject. Please use the Online Journals and Newspapers List site to find 10 journals that would include “stars” among their topics.

Success criterion: *Able to find 10 journals in Science/Astronomy and Astrophysics. Success if done in < 3 minutes*

Success rate without hints: 3 / 5 Median time on task: 2:16 (incl. fails) Range: 0:37-4:52

U1 Time to complete: 1:20
Used Browse by Subject / Science / Astronomy & Astrophyics
Was surprised by not having a Go button, that it "went" automatically
Wanted to know what constituted a "Highly Recommended" journal
for discussion - slowed down some users b/c they wanted to find the BEST journals, not just any journals
Expected an Annual Review to be among Highly Recommended

U2 Time to complete (with Hint) 4:59
U2 search "solar stars" in Narrowed as Science zero responses
U2 revised and searched "solar phenomena" zero responses "Which is weird"
Searched "Stars" and found 7 journals narrowing to "Science"
Just on "Starts" w/o narrowing and found 241
Was not pleased with the titles that resulted b/c not space-related;
***Stumped: Hint "There are other ways of searching"
Used Browse by Subject after hint, took 1:11 – FAIL on time

U3 Time to complete :37
Browse by Subject / Science/ Astronomy
Surprised there was no GO (find) button
Expected to see a third layer of hierarchy under Solar
Asked "Why are some called Other Journals" - was it a librarian, was it a professor, why are they here, Ratings?
C: "Others sounds like a miscellaneous category" - like they weren't as good
It seems "weird to me"
Said would Browse to find Recommended Journals" but wouldn’t expect them under Search
Commented about titles in French and Latin - Probably is in English, but I don't know.

U4 Time to complete 4:52
Tries variety of Searches, Narrow search "Stars" narrowed to Science" "Anywhere"
Found 7 journals
Confused: "by duplicate titles and multiple links"
C: Guesses they are in different sections of the archives
Found only 7
Tried Search on "Solar" and then Search on "Astronomy"; read off a few more titles to satisfy task
** Never tried Browse by Subject – FAIL ON TIME

U5 Time to complete 2:16
Does Browse by Subject, Astronomy & Astrophysics; Finds 144 journals.
C: "I expect the astronomy stuff to be at the top"

TASK D

Task D: Imagine that you want to return later to a journal you found but without having to go through all the steps of looking for it in the system again. Determine whether there is a way to "save" a journal listing in the Online Journal List. If there is, go ahead and "save" a journal. You can use a journal that is currently on your screen or use one that you found in a prior task. When you have done this, return to the Online Journal List main page.

Success criterion: *Tries Add to Favorites. Success if accomplished in less than 2 minutes.*

Success rate without hints: 4 / 5 Median time on task: 0:46 (incl. fail) Range: 0:31-1:33

U1 Time to complete: 0:46
Clicked Add to Favorites
Said it was easy to use
Decision of which journal U1 wanted to add seemed to take time; knew how to do it immediately; time spent was making a decision about the journal itself
U1 had just started using that feature on MLibrary on its own; finds it very useful

U2 Time to complete 1:25
U2 tried TOC again,
!! critical error - clicked on a link to go off-site
Saved an article from offsite as a PDF - didn't understand what the task wanted participant to do
Do not see Favorites at all

U3 Time to complete 0:36
Didn't like that it opened to a new tab; thought the Back button should take user back to OJNL.
"Kind of annoying"
Couldn't figure out how to find in My e-journals /
Thought that the delete X near MGETIT button was bad idea b/c their use is so different
Never could figure out how to get to the Favorites list
"I don't know where to get it now; where is this Favorites List? I guess the only way to access my Favorites List would be to add something to my favorites everytime and then just delete it."

U4 Time to complete :31
Went directly to Add to Favorites link
closed browser tab to get back
Tried to look at My Library Account, Search Tools - couldn't find My e-journals (not part of task, though)

U5 Time to complete 1:33
C: "Never bookmarks sites." U5 "knows the journals U5 needs already."
U5 finds Add to Favorites quickly, clicks it.
Clicks add to favorites: Cannot find the favorites list again. Wants a link from the page
c: Now how do I get back to My E-journals to see the favorites? There's no link. A direct link to My E-journals would help."

TASK E

Task E: Use any means you like in the Online Journal List to find a journal titled "American journal of agricultural economics". Then answer these 4 questions:

- Tell what the graphic symbol in the result means.
- Tell the journal's ISSN.
- Is there a means of seeing what articles are inside the journal? If so, tell the moderator the titles of three articles the journal contains.
- Tell if you see a way to go directly to other journals that have related subject matter to this one … and what would you expect to happen if you did that?
  If see such a way, try it.

Success criteria: *The ISSN: 0002-9092 1467-8276.*
Participant finds Table of Contents The related subjects links to browse by subject simply by clicking.

Success if this can be done in < 6 minutes.

Success rate without hints: 1/5 Median time on task: NM (incl. fail) Range: 4:07-7:26

U1 Task incomplete, stopped at 4:45
U1 never saw the Results "About" tab and solved the task by visiting the journal itself
Search by Title, used "" around entire title.
Confused that it pulled up "Farm Economics Journal" in results
45 seconds in, U1 found the journal was looking for
1:15 Went to JSTOR, chose it over other dbs b/c likes JSTOR
1:30 Clicked JSTOR pub info button
1:40 Found ISSN on the pub itself, not in OJF
2:50 Found TOC w/in JSTOR, was confused by newer JSTOR journals not having TOCs
3:45 Went back to OJNL
3:55 C: "Farm Econ journal could be related"
4:15 Realizes that Farm Econ is old name for the American JOurnal of Agricultural Economics, expressed that U1 was impressed they had both versions of the title but wanted some clarity on the site
U1 presumed the second journal listed on task E was the "related subject" material, then old name for same never
FAIL 4:45 Gave up, didn't see way to see related material
Assumed what the icon meant; didn't see the key at bottom of page

U2 Time to complete: 7:26
Browse by Title "This is kind of slow"
C: "This is not that easy to find"
c: "This is not efficient, I guess"
c: "this is taking so much time"
Wanted a list of everything, all the links
Graphic - probably authentication, but not certain; never saw the Key explainer
Used About tab ISSN
Used TOC able to read all 3 but wanted a larger box for the TOC, said the content was "hidden"
c: "I feel like there should be a larger window for this."
Commented on the weird HMTL characters in the title
Found Related Subjects, clicked the link - c: "The Journals seem to be related"
Completed the task, no errors – FAIL by time

U3 Time to complete 4:07

Spent a lot of time talking on the task; was not confused but moved through slowly because of ThinkOutLoud.
Search - TOC - "What issue is this?" Problems with the TOC; can't scroll, citation thing is weird, found the box difficult
Confused by whole TOC interface "Why won't it expand." Content is hidden
Found the key to the symbols!
Found the About. Found the tabs "weird" "why is About is shaded" when it's not the selected one
C: "The Related Subjects functionality could be useful, but they're kind of hidden."
Thinks the Highly Recommended journals are selected by librarians but wants confirmation of that.
Question" Will the related subject links lead me to journals"

U4 Time to complete 6:25 (not completed fully)

Searched on exact term
Assumed graphic was authentication, but only assumed so. Didn't see Key at bottom
Used About tab
Confused that selected tab gets lighter. "Unconventional"
TOC - Jittery TOC box is odd, "don't like it." Looks like box content is "cut off at the bottom," maybe needs a scroll bar. Weird, unpleasant.
Assumed the "Journal of Farm Economics" is related b/c it is another result.
** Maybe a task flaw - is a reasonable way to interpret the task
Tried the link; link takes to most recent version.
Confused: Why doesn't date listed in link limit the results to those dates instead of taking to most recent edition? Why does a journal that goes says it is from 1919-1967 take me to most recent journal when I click it?
Task incomplete - particpant never goes to the Related Subjects FAIL BY TIME

U5 Time to complete 4:56

Searches for title "In Title" and finds it easily.
Key - U5 assumes it means you have to be UM user to access journal. U5 never sees the key to the symbol even though it's right there below the results.
!! critical
** task fail: U5 visits the journal itself offsite, gets ISSN and three article titles from the journal itself
U5 never returns to OJNL

TASK F

Task F: Select the browser tab "**Prototype**".

What are your impressions of what you see? Feel free to look back at the "Online Journal and News…" tab to compare, if you wish. Tell the steps you would take if you were using this prototype to search for a journal named "Records Management Quarterly."
What would you expect to see on the results page?
Success criterion: Time not relevant. *This is an A/B test to get qualitative information about display by Publication Date / Relevancy / Alphabetical Order*

U1 - Time to complete: Not Relevant - entirely qualitative task
:20 comment "notes the filtering options"
:32 Said U1's process would be to "Title" and search by relevance. Would expect ONE journal to result
Spent a lot of time saying didn't think Relevancy would be useful
*** Said Would only search for one journal at a time, not do broader searches

U2 Task time not relevant
U2 didn't notice a difference, couldn't get back to main OJNF page
HINT: There is an extra box on this page
U2 said would Search, click to dispaly by Alpha Order

U3 Time not relevant
Noticed the extra box, Display Results by
Thought the page looked "busier" wanted to know why radio buttons instad of pulldown
Wasn't interested in Pub date, would go to google books or historical DB for older info"
Not sure if Alphabetical or Relevance is better
If search by journal name, Alpha is better
Typically searches by title, not sure what "relevance would do for me"
Would would want default to be Alphabetical order"
Would not expect Recommended Journals at top of results list
Prefers if a button was selected automatically

U4 Time to complete Not relevant
C: Likes Display By options "Gives you more control up front."
C: Would search, try relevance rank first - hopes that would give an exact title result
Results - expects the precise title to be first, then any others that were close

U5 Time to complete not relevant
U5 would choose Relevance Rank among the options
C: "There's generally not much overlap in journal titles. I would use this tool to find journals I already am familiar with."
C: "Publication date makes no sense at all."
C: "How are you ranking them, if you're using relevance?"

TASK G

Task G: Return to the actual Online Journal Finder site. Does the site have an area dedicated to providing explanations of its features? If so, go to that area. Tell the moderator your impressions of it.

If you had a thought or concern to share about the Online Journal List, how would you convey it to the web master?

Success criterion: *Uses "Get help with the Online Journals and Newspapers List link"*

Note: Observer please record qualitative comments. Success in < 4 minutes

Success rate without hints: 4 / 5 Median time on task: 0:46 (incl. fail) Range: 1:08-6:10
Note: The fail was on time, went way over 6 minutes because participant talked a lot giving impressions

U1 Time to complete 2:16 - lots of Thinking Out Loud
:05 in sees link, clicks on it to Help
:20 "I'm not sure what I'm seeing" - didn't make sense what the page was
:48 "I'm not sure why there's a mockup" - confused by why they would use a mockup on the help page
1:40 "I guess it describes what it does"
2:00 The help section "provided no info that participant had not intuited already"
2:20 "Pointers for effective use would be helpful" - how to use the tool better, not just the basics
Didn't see the Feedback area at the bottom of the page
Used the Contact/ Feedback on main page, so not a fail per se

U2 Time to complete 1:08
Went to the global Help box in the Global Nav
Never sees the "Get help with" link
Said U2 thought the "research guides" (up in Get Help) would be helpful
Gives impressions about site itself, not Help

U3 Time to complete 2:44
She accessed help link quickly
"Weird, this doesn't look at all like the search results look like."
Q: Why does prototype look different on Help than the real tool. Notice dthe difference
Figured it was an older version.
Said Title better default than Anywhere
Finds feedback link at bottom.

U4 Time to complete 6:10 (gave lengthy commentary in TOL protocol)
C: I don't think there's anything on here that provides much explanation beyond what I already know how to do."
C: I'd like it to explain why multiple journal entries and different dates and links are there
C: Maybe give those explanations
C: Assumes the lists "pull data from multiple sources, llike JSTOR, Ingesta, AEA" - sources not meaningful to U4
C: Just prefers to see dates that are available, suggested the dates be provided, when user click on date, links appear to the sources based on the link, rather than having to read through all of them.
Found feedback form.
C: "Would be nice if it prepopulated based on where you have been, like what tool you had been using so you didn't have to fill in all the fields from scratch."

U5 Time to complete 1:23
Finds the link to Help, and the Feedback link right away at bottom

DEBRIEF INTERVIEW

- U1 C: "I don't see the point of the tool; I don't see the advantage of the site or what it gives me."
- Search is only function that is really useful; later mentioned Browse By Subject also useful.
- Surprised that the older title of a journal also listed
- "Would never browse by title; why would it be useful?"
- Wants Annual Reviews included in Highly Recommended journals
- Thought the prototype's ability to organize results was *potentially* useful but wanted to see in operation.
- U2 Said not impressed the layout of interface, wanted to see the results be more "user friendly"
- Thought MLibrary site was easier to use (general library portion) and normally uses Search Tools
- Wanted to see MGETIT logos to get journals, strange not to see them
- Search easy if you know specific title to type in. "Stars" gave unrelated articles.
- Results - hard to identify titles plus dates and authors. Arranged in more colors, font sizes, bold, small to est. hierarchy.
- Browse by Title - Not efficient; list is too short; wants whole list, wants just title as a link (like Stanford site) Get rid of the other info in the results list
- Browse by Subject "Kind of helpful"
- Prototype - Pub. Date most useful; we always want to find the most recent articles, newer is better.
- Don't usually use relevance rank, not usually helpful.
- U3 Wanted "Go" button for browsing
- "likes the new site way better than the old site."
- Pretty fast, holdings info is easy to read.
- Doesn't pay much attention to the icons. Graphics "kind of mysterious, but not a big deal."
- Search - nice clean design, no desire to Narrow Your Search, I know what I'm looking for.
- Results Page - Contrast seems low on the page; might be hard ot see for some people. Icons don't seem necessary.
- Suggested Google Images-like "Show more results" or Facebook-like ("older posts") incrementally expanding set of results
- Browse. Wants it consistent with Search controls ("Find" button)
- Wants feedback that something is happening
- Add to Favorites - "sucked"
- Prototype - Wants Alphabetical Order to be default checked. Why not use a drop-down list?
- U3 Other comments. U3 contacted the research team the day after the study to express this additional information: "I just looked up Quarterly Journal of Economics on the Online Journals page and noticed something that I didn't like that might be useful for you: a) it's not the top result (my terms were quarterly journal of economics, without quotes), b) once you get to the right journal, the holding that has the current issues is not at the top, and I feel like it should be. My instinct is just to click the top one but instead I had to look through the list to find one with the current year."
- U4 Only realized the Search/Browse tabs controls were the "main" page right at end of session
- "It's confusing without breadcrumbs or something to know where you are in the site"

- Impressions - Seems straightforward with tabs
- Records display seems confusing. Suggests a 1-2 sentence descriptive blurb under the title describing the journal; kind of covers the main topic areas, "this is a journal for whatever, it's published by a certain group -- a quick introduction to what it is"
- Results page: Terms don't make complete sense. Why the multiple listings/links? Might make sense, but why do dates overlap? The color of the tabs is odd; the darker one should be the selected one.
- Browse had lots of results; c: "Seemed like a lot of clicking to get to the one I wanted"
- Add to favorites. Seems like adding them works fine. C: I expect a My Favorites link right on the Main page of the site so I can get back to them easily.
- Prototype screen - Likes the options for pre-filtering
- U5 Impressions of site: "It seems decent for what it's intended for."
- There needs to be a link directly from the OJNL to the favorites list. "There's no way to get you back to your account from this page."

Appendix F: Questionnaire Results

Pre-Study Questionnaire

Used site before:	U1 Y	U2 Y	U3 Y	U4 N	U5 N
How many times past month:	U1 2	U2 2	U3 3	U4 NA	U5 NA
Does it look easy to use?	U1 Y	U2 Y	U3 Y	U4 Y	U5 Y

What do you think it will let you do?

U1 It will let me look up electronic journals by title
U2 Search for articles & journals
U3 Find online Journals and their holdings info
U4 Allow me to search the online journals available through the UM Library Web site
U5 Find journals in areas of interest

Would you need to do these activities outside today's study?

U1 Y U2 Y U3 Y U4 Not sure U5 Y

Do other sites seem similar to OJNL? Which?:

U1 Y - The library home page
U2 N
U3 N - maybe same thing @ other libraries
U4 Use main UM Library site occasionally
U5 Seems much simpler than what I'm used to

Access academic journals online:

U1 Daily U2 Once/mo U3 3 times/wk U4 7 Once/month U5 Daily

Research academic subject areas online:

U1 Daily U2 Once/mo U3 3 times/wk U4 Once a month U5 Daily

Use the UM Library catalog:

U1 Daily U2 Once/mo U3 3 times/wk U4 once/month U5 Daily

Use some other scholarly reference site than UM Library:

U1 Once/mo U2 Never U3 3 times/wk U4 once/month U5 Once/wk

Search Internet for scholarly journals or articles:

U1 Once/wk U2 Once/mo U3 3 times/wk U4 once/mo U5 Daily

Post-Study Questionnaire

1) Site easy to use:	U1 A	U2 D	U3 A	U4 A	U5 A	4 As 1D
I always know where I am in the site:	U1 A	U2 D	U3 A	U4 D	U5 N	2 As 2 Ds 1N
Site lets me work efficiently:	U1 A	U2 D	U3 SA	U4 N	U5 N	2As 1D 2Ns
Site is difficult to learn:	U1 SD	U2 N	U3 D	U4 D	U5 D	no agree or SA
Online Help page is useful:	U1 N	U2 DK	U3 SD	U4 D	U5 N	no agree or SA

2) Top three things to change:

U1 i) Be able to access generally-titled journals like "Science" & "Nature" precisely.
ii) Wants to search for specific articles within journals too
U2 i) Having more colors to distinguish controls, look nicer
ii) make the titles more visible with different fonts and colors to distinguish
iii) Presents journals in a list with just titles and year of publication
U3 i) Get rid of Recommended Journals
ii) Why is 3rd tab (Search) Default (should be at left)
iii) Make the Favorites list more easily accessible
U4 i) Make it easier to browse by title by allowing for an initial search, include a search box first
ii) Make the layout of the results; organize by date, not source
iii) I would add the alphabetical order, pub date and relevance rank control box from prototype
U5 i) Light blue lettering can be hard to read
ii) Non-active tabs on main page can be hard to read for middle-aged eyes

3) Prefer to use Search or Browse for academic journals?

U1 Search; it's almost always faster
U2 Prefers to use Search b/c faster than browsing through pages of results
U3 Uses Search for targeted info; browse for broader information gathering
U4 Search, then browse. I would like to search first and have related items come up with my search terms, especially if it's a topic new to me.
U5 I prefer to search at the article level, not the journal level - need very specific things

4) Preferred number of results on results page:

U1 4-5. Wants very few, want it to be pretty exact on search term. For seeking broader search, show 10 results; really only wants the major journals
U2 20
U3 All results, but using Google's "Show more results" or Facebook's "older posts" expanding set
U4 20; actual number depends on layout & scrolling involved; fewer if lot of scrolling involved
U5 10-15

5) Other comments/suggestions:

U1 Seeks specific titles: Wants to find it alone. When seeking general topics, just give the Major ones in the field, maybe top 5. "I don't want EVERY journal in the field."
U2 Said page (the site) wasn't very user friendly
U4 Make link to the home page for the OJNL more prominent (than at the bottom left corner)
U5 I would not use this tool except for finding specific journals.

Appendix G: User Test Plan

The Online Journals & Newspapers List Usability Baseline Test Plan – FINAL

`The Online Journals & Newspapers List` has been in use since November 2010, following a relaunch. The client has received usability-related complaints from users, and heuristic evaluations have found the usability of some features potentially problematic. In consultation with our client, we will conduct a usability test to gather objective data to determine where problems occur and how those might be fixed by the client's development team.

Overall objectives for the study

We will gather baseline data about the overall effectiveness of `The Online Journals & Newspapers List`. The goals of this study are to:

- Assess the overall effectiveness of `The Online Journals & Newspapers List` for users performing basic, common tasks such as search and browse.
- Identify obstacles to completing search and browse tasks on the site.
- Create a repeatable usability study protocol.
- Use in-person surveys to gather additional preference information about search input and results settings.

Research questions

In addition, in this study will try to answer these questions:

- What are the major usability flaws that prevent users from completing the most common tasks?
- How easily and successfully do participants find a specific journal using the search function (known-item seeking)?
- Do enough errors happen in search box input to justify adding autocomplete?
- How easily and successfully do participants find a specific journal using the browse function (known-item seeking)?
- How easily and successfully do participants find a journal of a specific subject when many possible options are present (browse by subject -- exploratory seeking)

Does the number of results presented on search results pages present any adverse affect on search/browse usability, especially efficiency?

Do users have a significant number of errors related to the presence of two search boxes on the `The Online Journals & Newspapers List` page?

Does the Table of Contents feature present obstacle(s) to usefulness?

Does lack of search results relevancy hinder search usefulness?

Does the Favorites feature's function match users' mental model of how such a function would work?

How do users feel about how long it takes them to find a journal?

How well do users understand the results page information and icons?

Does the Help page offer useful information?

At the end of the sessions, we will have quantitative data:

Errors by search – we will know how many and which errors participants made during the search task(s)

Errors by title browse – we will know how many and which errors participants made during the title browse task(s)

Errors by subject browse – we will know how many and which errors participants made during the subject browse task(s)

Whether participants completed a search – we will know, even if participants make errors on the way, if they can complete the search

Whether participants completed a browse by title – we will know, even if participants make errors on the way, if they can complete the browse to a specific journal

Whether participants completed a browse by subject – we will know, even if participants make errors on the way, if they can complete the browse to a journal in a subject area

We'll also have qualitative data:

The verbal protocol – the running commentary that participants make as they think aloud – will give us indicators about what participants were confused by and why

Debriefing interviews will tell us what stands out about the experience of using the site, which should help us set priorities on potential changes to the site

Location and setup

We will use the participants' locations to conduct the sessions, using the general setup described by Rubin & Chisnell (2008) as "Minimalist Portable Lab." The study will take place in

faculty offices on campus, and reservable spaces in North Quad and/or the university library buildings. There will not be a one-way mirror or a separate observation room. Participants will use a Windows PC and Firefox 3.6.16, with a high-speed connection to the Internet. The PC the participant uses will also have Camtasia Studio 7.1 installed and a web camera attached. The web camera will capture the participant's face; the Camtasia software will record what's happening on the screen (and can collect other data). A microphone in the web camera will record audio, also captured in Camtasia Studio.

Recruiting participants

We will select participants who are affiliated with the University of Michigan and have experience doing online research with academic journals. Some participants will have used `Online Journals & Newspapers List`, but not all. The six participants' characteristics are listed below.

Characteristic		Desired number of participants
Participant type		
pilot		1
regular		5
backup	(as needed, likely a graduate student)	--
	Total number of participants	6
Role		
faculty		2
graduate student		4

We will exclude people who are:

Taking SI622

Involved in planning or maintaining the site

Methodology

This usability study will be somewhat formative/exploratory but will also gather assessment data about the effectiveness of `The Online Journals & Newspapers List`. We will use a "within-subjects" test design. We will collect data about error and success rates as well as qualitative data about participants' experiences using the site.

We will use a within-subjects design

In this within-subjects study, each participant will try all major `Online Journals & Newspapers List` features in counterbalanced order to mitigate learning effects. Our moderator will conduct up to five individual 50-minute usability study sessions. We will use:

2 minutes of each session to explain the session to the participant and review basic background information with the participant,
5 minutes for a pre-testing background questionnaire,
5 minutes for a post-test questionnaire and
8 minutes for a debriefing interview.
30 minutes in the middle of the session will be allotted to tasks in which participants work to find journals, add them to favorites, and view tables of contents.

Session outline and timing

The test sessions will be 50 minutes long. The moderator will use 20 minutes of each session for pre-test introductions and post-test debriefing interviews. The sessions will take place at users' locations or reserved campus single-room spaces (as needed).

Pre-test arrangements (5 minutes)

Have the participant:

Review and sign nondisclosures and recording permissions.

Fill out a very short background questionnaire (computer and research experience, participant's prior experience with usability studies and focus groups).

Introduction to the session (2 minutes)

Discuss (via script):

Purpose of the usability session & importance of their involvement in the study.

Who we are: Team & Moderator's role, observers' role.

Technology: Camtasia, webcam, observers, etc.

What the `Online Journals & Newspapers List` is, generally.

Our relation to the site (testing team, not developers).

The protocol for the rest of the session, incl. how moderator will respond to requests for help/hints.

Our goals: Feedback & test the system.

Think Out Loud.

Tasks (30 minutes)

Participants will use search, browse by title and browse by subject to find various journals. On results pages, they will try Favorites, Table of Contents and answer questions about the results listings for meaning of text and icons.

Post-test survey (5 minutes)

Variety of questions to collect preference, key problems and other qualitative data.

Post-test debriefing (8 minutes)

Ask broad questions to collect preference and other qualitative data.

Follow up on any particular problems that came up for the participant.

Session schedule

The table below lays out a daily schedule of sessions for the study.

Thursday March 31	Monday April 4	Monday April 4	Monday April 4	Tuesday March 5	Thursday March 7
Pilot session 9:30am NQ 1278	B.M. 9 a.m. 1269 East Hall	D.B. 3 p.m. 1278 NQ	S.M 3:30 p.m. 1278 NQ	M.K. 2 p.m. 1278 NQ	C.G. 2 p.m. 3044 East H.

Report contents

The team will deliver a draft of the final report to the client that:

Briefly summarizes the background of the study, including the goals, methodology, logistics, and participant characteristics

Presents findings for the original questions to investigate

Gives quantitative results and discusses specifics as appropriate to the question and the data

Provides visuals of pages of `The Online Journals & Newspapers List` that are relevant to specific questions where they will help reviewers understand what we are talking about

Discusses the implications of the results

Provides recommendations

Suggests follow-up research

Project schedule

Planning meeting / kickoff / prior studies

We had a planning meeting in January, as well as prior study phases in which we investigated user needs related to the site. Those phases included interviews, a competitive evaluation, heuristic evaluations and a user survey. Based on our prior discussions and findings, we are now creating this test plan.

Session script and materials

We will create a session script and data collecting materials that we will use during the sessions. This ensures that all of the participants receive the same instructions and that we gather data on the same issues throughout the study.

Moderator role

The moderator will sit in the room with the participant while conducting the session. S/he will introduce the session, conduct a short pre-test interview, provide a pre-test questionnaire, and then introduce tasks as appropriate. Because this study is somewhat exploratory, S/he may ask unscripted follow-up questions to clarify participants' behavior and expectations. S/he will take brief notes while moderating.

The observer/notetaker(s) will take detailed notes and record the participants' behavior and comments on the logging forms.

Sessions will be digitally recorded on video and audio using TechSmith's Camtasia product. The moderator and observers will debrief with observers at the end of the session. After the session is concluded, observers will contribute their observations about surprises and issues and we will continue to identify and tally those throughout the sessions. This way, observers have an active part in the sessions and reach consensus about major issues before the final report comes out.

Reviewing, tabulating, and analyzing data

Using compiled notes and the Camtasia recordings, the team will tabulate and analyze the data to answer the key questions (listed in the Goals section of this document) with findings and recommendations. We will provide these results in a final written report.

Project timeline

What	When
Finalize test plan	March 29
Recruit participants	March 22-March 29
Draft final session script	March 28
Pilot run of the session script	March 31 (9:30am)
Five usability study sessions of 45 minutes each	April 4 – 8
Draft written report	April 9-11
Edits to written report	April 12
Submit written report	April 13 (Due April 14)

Deliverables

A test plan (this document) describing the general approach and schedule for the study.

A Consent form for participation & audio/video recording.

Draft and final copies of the session checklist (a script that I also use for note taking during the sessions and observers can use to follow along).

Pilot session of session checklist.

Five usability study sessions of 50 minutes each.

Debriefings with observers after each session.

Camtasia recordings of each session.

A final written report of complete findings.

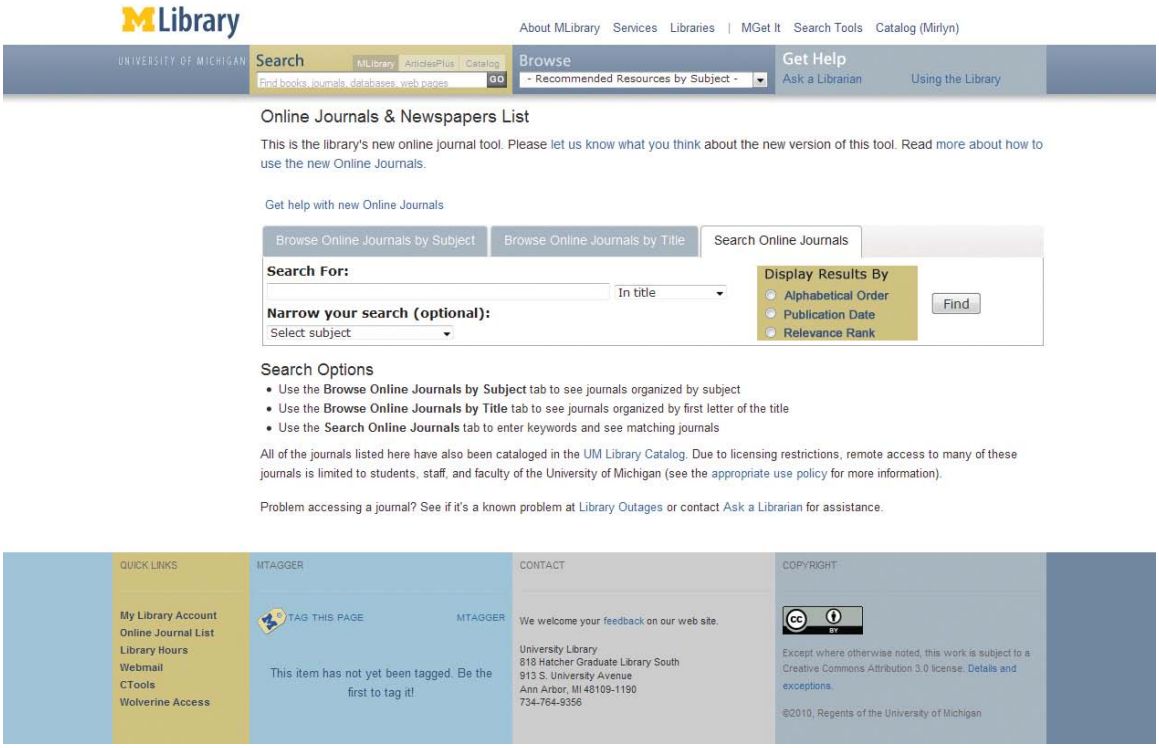
Tasks

Participants start from `The Online Journals & Newspapers List` main page. They will use search, browse by title and browse by subject to find various journals. On results pages, they will try Favorites, Table of Contents and answer questions about the results listings for meaning of text and icons.

(Format for Test Plan borrowed with permission from Rubin & Chisnell, www.wiley.com/go/usabilitytesting/Ch05 Hdotcom_test_plan.doc)

Appendix H: Task F Prototype Screen

This JPG prototype screen was used in Task F to solicit participants' thoughts about the additional features provided in the beige "Display Results By" box.



Appendix I: The Tasks

- **Task A: Find a journal**
  Please imagine that you are doing academic research to write a paper and that you want to read an article in the "Canadian Journal of Political Science." You have decided to try using the Online Journals and Newspapers List web site to find that journal. Go ahead and find a link to that journal using the site (but don't click the link).
  After you have found the link, return to the main page of the Online Journals and Newspapers List site and tell the moderator you are finished.
  Success criterion: Search or Browse to journal located. Failure if unable to accomplish in < 3 minutes.
  Notes: Observers count errors, note precise terms & controls used.

- **Task B: Find a journal a different way**
  Now imagine you are doing more research for your paper. A friend suggested that you look at the "Japanese Journal of Political Science". Please try a different finding method than you used in the first task to locate a link to that journal on the Online Journals and Newspapers List site.
  When you have found it, return to the Online Journals and Newspapers List main page.
  Success criteria: Able to find journal in results by Browse or Search in < 3 min.
  Notes: Observers count errors, note precise terms & controls used.

- **Task C: Find several journals in a subject area**
  Imagine you are interested in sitting in on a class about solar phenomena and that you want to find a substantial number of journals to read on the subject. Please use the Online Journals and Newspapers List site to find 10 journals that would include "stars" among their topics.
  Success criterion: Able to find 10 journals in Science/Astronomy and Astrophysics. Success if accomplished in < 3 minutes.

(Tasks D, E and F were presented in varied orders)

- **Task D: "Saving a journal" as a Favorite**
  Imagine that you want to return later to a journal you found but without having to go through all the steps of looking for it in the system again.

Determine whether there is a way to "save" a journal listing in the Online Journal List. If there is, go ahead and "save" a journal. You can use a journal that is currently on your screen or use one that you found in a prior task. When you have done this, return to the Online Journal List main page.
Success criterion: Tries Add to Favorites. Observers note controls used
Success if accomplished in less than 2 minutes.

- **Task E: Details from the individual results display**
  Use any means you like in the Online Journal List to find a journal titled "American journal of agricultural economics". Then answer these 4 questions:
  - Tell what the graphic symbol in the result means.
  - Tell the journal's ISSN.
  - Is there a means of seeing what articles are inside the journal? If so, tell the moderator the titles of three articles the journal contains.
  - Tell if you see a way to go directly to other journals that have related subject matter to this one ... and what would you expect to happen if you did that?

  If see such a way, try it.
  Success criteria: The ISSN: 0002-9092 1467-8276.
  Participant finds Table of Contents
  The related subjects links to browse by subject simply by clicking.
  Success if this can be done in < 6 minutes.

- **Task F: Impressions of a Main Page prototype**
  (This task uses a high-fidelity mockup of a the OJNL Main Page with radio buttons as options for arranging search results by Relevance, Alphabetical Order or Publication Date. See Appendix H: Task F Prototype Screen.)
  Select the browser tab "Prototype".
  What are your impressions of what you see?
  Feel free to look back at the "Online Journal and News..." tab to compare, if you wish.
  Tell the steps you would take if you were using this prototype to search for a journal named "Records Management Quarterly."
  What would you expect to see on the results page?
  No failure possible

- **Task G: Using Help and Feedback**
  Return to the actual Online Journal Finder site.
  Does the site have an area dedicated to providing explanations of its features?
  If so, go to that area. Tell the moderator your impressions of it.
  If you had a thought or concern to share about the Online Journal List, how would you convey it to the web master?
  Success criterion: Uses "Get help with the Online Journals and Newspapers List link"
  Note: Observer please record qualitative comments.
  Success if done in < 4 minutes

Appendix J: Think Out Loud Protocol

The following wording was read from a paper sheet by the participants before they undertook the tasks:

Think Out Loud

As I look at the pages in this usability testing session, I will think out loud. When I think out loud, I'll say whatever is on my mind.

If I'm reading something, I'll read it out loud and say anything that comes to my mind as I read. If I would normally skim the text, I will still speak out loud as I skim the words.

If I stop talking, the moderator will remind me to keep talking.

Here are some guidelines I'll follow for thinking out loud:

• I'll say whatever is on my mind. I won't hold back hunches, guesses, wild ideas, intentions, etc.

• I'll speak as continuously as possible. I'll say something at all times, even if it's only, "I'm drawing a blank."