

# Heuristic Evaluation: Online Journal Finder Project Report

**SI 622 Assignment 6: Team Tiger (7)**



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## Executive Summary

The third phase of our team's usability study of the University of Michigan Library's Online Journal Finder gathered information through a heuristic evaluation. We found site successes and flaws as they related to an industry-standard set of 10 heuristics. The team debriefed to discuss problems, rank severity, and group them into eight topical areas. Below are highlights from the findings and recommendations as related to the eight areas:

**Search feature issues** – The search box offers no “helps” such as autocomplete or spelling correction, search results are listed only alphabetically, and showing the general library search box near the journal finder search box is confusing. Providing listings by relevancy, adding search assistance, and removing the library search box would enhance usability.

**Results listing pages** – These require excessive scrolling. Layout of listings does not facilitate skim-reading. Usability would improve with shorter pages, decreased “white space,” use of bold titles, and heavier background color behind results.

**Browse functionality** – Navigation of results is inefficient. Redesigning this feature would greatly enhance usability.

**Identity of journal finder within MLibrary site** – Inconsistent labeling and lack of a distinct appearance make the journal finder blend into the MLibrary site. Fixing this would require only cosmetic changes but would improve usability.

**Table of Contents usability** – Deficient controls and an unfinished appearance hurt TOC functionality. Finishing the feature would let it work properly.

**Favorites functionality** – Users are pulled away from results pages when they Add a Favorite. Nothing indicates the existence of saved Favorites, and no direct link to the Favorites page is evident. Addressing these issues would bolster this helpful feature.

**Help page issues** – Help describes a different version of the site and lacks much really helpful information. A rewrite would benefit users.

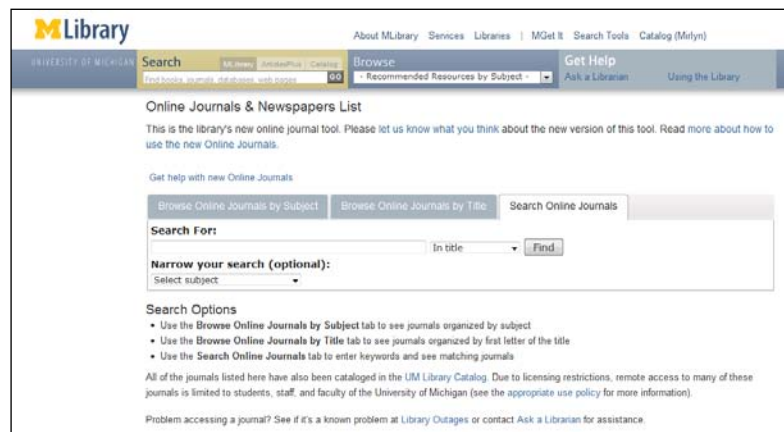
**Main page look and feel** – It uses too many words to explain self-evident items.

On the success side, the journal finder has rapid response times, helpful feedback messages, and easily accessed persistent controls; most important, it already lets users accomplish search, browse and access goals. The recommendations in this report seek to improve a successful, working site.

## Introduction

The Online Journal Finder is an application on the UM Library web site that provides access to the online journals to which the library subscribes. It is used frequently by administrators, faculty, graduate students, librarians and administrative assistants. In our study, faculty users are the target audience, although their user goals overlap with those of other users. Users rely on the journal finder as a tool for academic research (Behm, Hegge, Thompson-Kolar, & Xu, "Personas & Scenarios," 2011, p. 3).

The application is linked from the MLibrary Home page, the Search Tools page, and the results of MLibrary catalog searches. From its main page, the journal finder interface provides three search modes: by search term(s) in title and metadata, by search term(s) in title only, and by terms starting with beginning of title. It



**Figure 1. The Online Journal Finder offers users three search modes and two browse modes. They all are accessible from the main page.**

provides two browse modes: by subject and subcategory, and by title. The search and browse controls are on a page controlled by three tabs (see Figure 1). The results of a browse or search appear on the main page beneath the controls. The results link to journals on the open web or in commercial reference databases. Users selecting a results page link go to a journal web site with subscriber privileges authenticated through the library.

The usability study our team is performing for our client, the UM Library, involves five research phases. In the first phase, the team interviewed users and created personas to understand user needs and goals; the second phase involved comparing “competitor” web sites’ features with the journal finder’s. Some recommendations in the first two phases (Behm, Hegge, Thompson-Kolar, & Xu, 2011, “Comparative evaluation”) included performing a heuristic evaluation to further analyze the following journal finder features:

- Length of results pages and number of results
- Amount of space each result occupies
- Browse usability
- Ordering of browse by subject results

- Search usability
- Possibility of two search boxes causing confusion
- Table of Content controls

In a heuristic evaluation, evaluators examine “the interface and judge its compliance with recognized usability principles (‘the heuristics’)” (Nielsen, 1994, p. 26). This phase three report provides findings and recommendations from the heuristic evaluation as they relate to users’ needs and goals. The findings address the concerns from the earlier reports and other problems found by our team. We grouped the findings into the following eight topical areas, which will be detailed in the Findings section:

- Search feature issues
- Results listing pages
- Browse functionality
- Identity of journal finder within MLibrary site
- Table of Contents usability
- Favorites functionality
- Help page issues
- Main page look and feel

## **Methods**

In this third phase, we followed the heuristic evaluation procedure outlined by Jakob Nielsen, with additional direction provided by Thomas Finholt (2011). Our goal was to explore the site to find problems and assess their severity, especially as these relate to user needs and goals. Problems appear in four places: a single place in the site; in two locations that need to be compared; throughout the site as a structural issue; and as an omission, features that should be present but are not (Nielsen, 1994, p. 56). By evaluating the journal finder this way, we aimed to quickly gather actionable intelligence for our client (Nielsen, 1994, p. 25).

## **Procedures**

The analysis had six steps. First, the team defined the scope of the evaluation to encompass the site pages on the Interaction Map (See Appendix A). Second, we chose a list of heuristics – usability principles – to apply and discussed how we would apply them consistently. Third, each team member independently evaluated the site at least twice, spending about two hours inspecting all pages and controls, and comparing them to the heuristics (See Appendix D). Team members executed tasks our persona users would do, such as searching, browsing, accessing journals, viewing help pages and adding favorites. The evaluators also addressed the concerns from research phases one and two. In all, 48 heuristic issues were noted as problems; six items were identified as successes. Fourth, the evaluators applied severity ratings to the issues,

considering three factors (Nielsen, 1994, p. 49):

- Frequency with which the problem occurs;
- Impact of the problem and difficulty for users to overcome;
- Persistence of the problem – can it be overcome as users gain site experience?

The severity ratings used Nielsen's five-point scale (1994). It suggests priorities in expending resources to address issues:

- 0** – Do not agree issue is a usability problem
- 1** – Cosmetic problem or very minor; fix only if extra resources available
- 2** – Minor usability problem; low priority to fix
- 3** – Major usability problem; high priority to fix
- 4** – Usability catastrophe; imperative to fix

In the fifth step, the team held a debrief session to discuss, aggregate and prioritize the 48 individual issues, and determine a group severity rating for each issue. In the sixth step, the team considered which problems would most impede users' abilities to achieve goals; we eliminated some low-severity issues from the findings list and combined others into a list of 30 issues. We grouped them into the eight topical areas stated in the Introduction; they are presented in detail in the Findings and Recommendations section.

### **Materials**

Few materials were required in this phase. The team selected Jakob Nielsen's "Ten Usability Heuristics" (See Appendix B) as the general interface design principles for use in evaluation because they are broad enough to cover any problem we would discover in the journal finder but specific enough to allow for in-depth analysis.

To provide additional context for analysis, we also referred to two web sites besides the journal finder. This was not a comparative evaluation of sites but a way to deepen our understanding of types of interactions similar to those we found in the journal finder. The two sites were:

- **The Stanford Electronic Journal and Newspaper List.** This is Stanford University's e-journal finder.  
URL: <http://sul-sfx.stanford.edu:3410/sfxlcl41/az>
- **MLibrary site.** This is the University of Michigan Library's main site.  
URL: <http://www.lib.umich.edu>

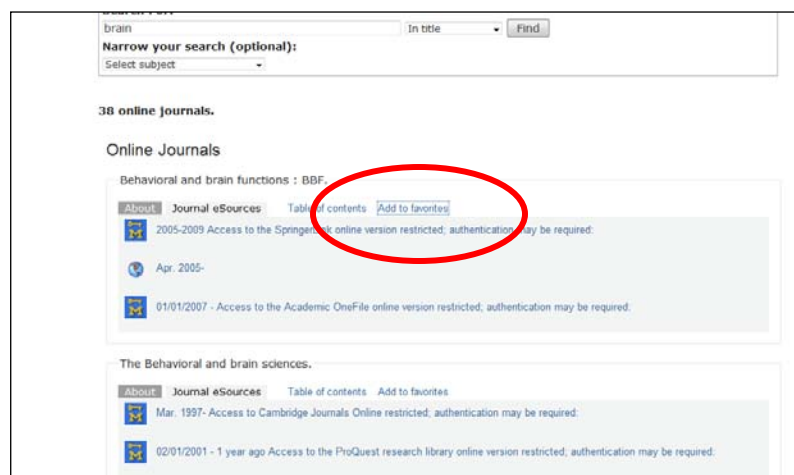
## Findings and Recommendations

The heuristic evaluation method provides a “list of usability problems in the interface with references to those usability principles that were violated by the design” (Nielsen, 1994, p. 31). Our team’s results are given below.

### Summary Results

The team’s evaluation outlined six success findings and 48 problems. There was overlap among evaluators on many issues. Three issues were noted by four evaluators; five by three evaluators, 15 by two evaluators, and 26 by only one evaluator (See Appendix C for aggregated list). This underscores the value expressed by Nielsen (1994, pp. 31-35) in having a few people evaluate a site.

**Successes:** We noted that the journal finder has quick response times for page loads, helpful feedback messages when response requires more than about 4 seconds, easily accessed persistent controls, a valuable Add to Favorites feature (see Figure 2), is easy for even novices to use, and above all allows users to accomplish their browse and search goals on an ongoing basis.



**Figure 2. The Add to Favorites feature is a useful element of the Online Journal Finder that could be enhanced to become even more usable.**

**Most severe eight:** The team rated eight issues at “4 – Usability catastrophe-imperative to fix.” The eight are presented briefly here. Details are in the Key Findings and Recommendations section.

- Search results display only in alphabetical order (See page 8).
- Search results pages require excessive scrolling (Page 9).
- Results listings are difficult to skim (Page 9).
- Navigation through large search results lists is too limiting (Page 10).
- Browse by Subject navigation is inefficient (Page 11).
- Browse by Title navigation is inefficient (Page 11).
- Table of Contents box controls are incomplete (Page 12).
- Help does not match the current interface (Page 12).

## Key Findings with Recommendations

Below are the 30 problems, with fixes that are the recommendations for each. To address users' needs, they are grouped under eight topic areas, which are the findings. The findings are listed in order of relevance to users' needs, e.g. Findings 1, 2 and 3 affect users' ability to achieve key goals with the site; Findings 4-8 relate to less goal-oriented features.

(Reminder of severity ratings: 4-imperative to fix, 3-important to fix, 2-low priority, 1-cosmetic, 0-not a usability problem.)

### Finding 1. Search feature issues

#### Search results are displayed only in alphabetical order

In most search engines, results are displayed by relevancy. With only alphabetical ordering, the best result(s) might be listed last.

- Violates: "Match between system and the real world" (H2)
- Severity: 4
- Fix: Add results by relevancy; if this isn't possible, include "Highly Recommended Journal" results first, as with the Browse results.

#### Search box has no error prevention or input help

There is no error prevention for typing in the Search box. If a word is misspelled, no results are found (see Figure 3).

- Violates: "Error prevention" (H5)
- Severity: 3
- Fix: Implement autocomplete or "did you mean" functionality.

The screenshot shows a search interface with the following elements:
 

- Header: "Get help with new Online Journals"
- Navigation: "Browse Online Journals by Subject", "Browse Online Journals by Title", "Search Online Journals"
- Search Form: "Search For:" label, a text input field containing "architec", a dropdown menu set to "In title", and a "Find" button.
- Optional Section: "Narrow your search (optional):" with a "Select subject" dropdown.
- Result: "No results found"

 A red circle highlights the misspelled word "architec" in the search input field.

**Figure 3. If a user misspells a word, no results are found, which means time is lost each time it happens.**

#### Cursor doesn't start in journal finder Search box

Users arriving at the journal finder must first move the cursor from the MLibrary search box to the "Search for" box before they can search.

- Violates: "Flexibility and efficiency of use" (H7)
- Severity: 2
- Fix: Position cursor in journal finder search box automatically.

#### Search limiter "Anywhere" is unclear

This limiter's effect on search function is not obvious.

- Violates: "Match between system and the real world" (H2)
- Severity: 2
- Fix: Clarify pulldown labeling.



- Alternate fix: Add explanation in Help.

### Presence of two search boxes confusing

The MLibrary search box and the journal finder search box are too close and confusing, leading evaluators more than once to type into the wrong box.

- Violates: “Error prevention” (H5)
- Severity: 2
- Fix: Remove the MLibrary search box on the journal finder page.

### No list of prior searches provided

User must remember previous terms searched.

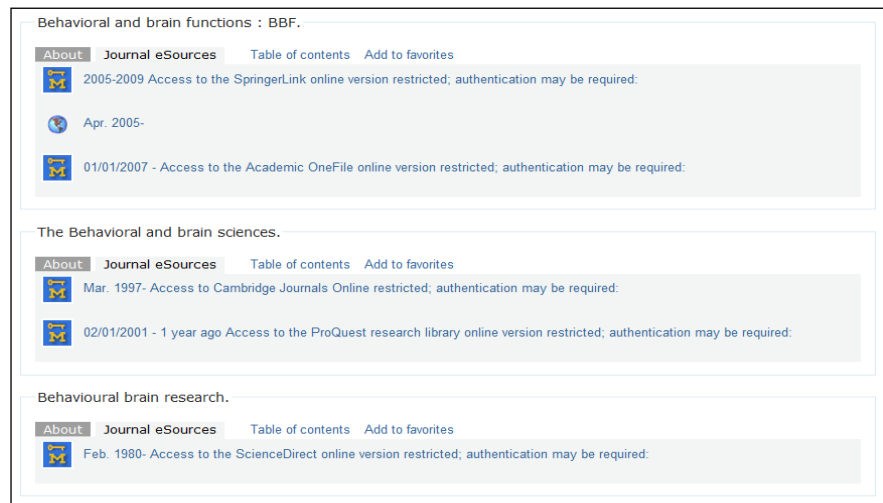
- Violates: “Recognition rather than recall” (H6)
- Severity: 2
- Fix: Provide list of recent searches.

## Finding 2. Results listing pages

### Search results pages require excessive scrolling

A 50-result page takes 14 scrolls to view, and 14 more to return to top (see Figure 4).

- Violates: “Flexibility and efficiency of use” (H7)
- Severity: 4
- Fix: Re-design results to reduce the amount of space between journal title and information, as well as the space between results. Make icons 25% smaller.
- Fix 2: Add “Return to Top” control at bottom.
- Alternate fix: Display journals as an expandable list as described on the current Help page.



**Figure 4. A full, 50-item results page requires 14 scrolls to view. Usability could be greatly improved by reducing the amount of space taken by each result.**

### Results listings are difficult to skim

Similar fonts, nearly equal font-sizes, light background shading and thin box rule lack sufficient contrast for easy skimming.

- Violates: “Aesthetic and minimalist design” (H8)
- Severity: 4

- **Fix:** Darken the background shading; enlarge it to include the entire result. **Bold and enlarge the title.** (See Stanford's E-Journal finder: <http://sul-sfx.stanford.edu:3410/sfxlcl41/az>)



**Figure 5.** Here, 10 pages of results are available for viewing, but only six links are provided. Offering a complete set of links to all 10 results pages would improve efficiency.

### **Navigation through large search results list too limiting**

Result pages indicate the number of total results but provide links to only six pages. This is inefficient (see Figure 5).

- Violates: “Flexibility and efficiency of use” (H7)
- Severity: 4
- **Fix:** Offer direct links to all results pages (See Stanford's E-Journal Finder “Browse by Title” functionality).
- **Alternate fix:** Provide control to let user input number of page to access (e.g. “Page [30]”).

### **Results tab control interaction violates conventions**

Cursor does not become pointer when user mouses-over unselected tab.

- Violates: “Consistency and standards” (H4)
- Severity: 3
- **Fix:** Make cursor become hand pointer on mouse-over.

### **Key to icon meanings is at bottom of results page.**

Users do not find the meanings of the access icons in the results until they reach the bottom of the page.

- Violates: “Recognition rather than recall” (H6)
- Severity: 2
- **Fix:** Put key to icons higher on page.
- **Alternate fix:** Use hover-text with icons.

### **Finding 3. Browse functionality**

#### **Browse by Subject navigation is inefficient**

Inadequate navigational controls make browsing slow.

- Violates: “Flexibility and efficiency of use” (H7)
- Severity: 4
- Fix: For all categories, offer category/subcategory/sub-subcategory levels of hierarchy. Provide links to all results pages (see Stanford’s E-Journal Finder “Browse by Subject”).
- Alternate fix: Offer limiter facets such as publication-date ranges, databases-only, journal sites-only, or only open to all users.

#### **Browse by Title navigation is inefficient**

With only six links provided, “Title starts with:” links are inefficient if journal is far down the alphabet.

- Violates: “Flexibility and efficiency of use” (H7)
- Severity: 4
- Fix: Offer complete set of links to all results pages (See Stanford’s E-Journal Finder “Browse by Title”).

#### **“Highly Recommended Journals” causes uncertainty**

In Browse by Subject, it is unclear who is recommending.

- Violates: “Match between system and the real world” (H2)
- Severity: 2
- Fix: Provide description of recommender(s).

#### **Browse by Title controls hard to use**

Narrow letter links are hard to select; there is no keystroke for selecting.

- Violates: “Flexibility and efficiency of use” (H7)
- Severity: 2
- Fix: Replace with pulldown.

### **Finding 4. Identity of journal finder within MLibrary site**

#### **Mirlyn search results access hides journal finder’s identity**

Many users arrive at the journal finder through the Mirlyn Online Journals search “See all” and “more” links; the labeling and interaction do not make clear the journal finder is a distinct site.

- Violates: “Visibility of system status” (H1)
- Severity: 2
- Fix: Add clarifying text to Online Journals links from Mirlyn page [ “(See all at Online Journal List)” and “more at Online Journal List” ].

### Design features hide journal finder's identity

The site is overwhelmed by other MLibrary site elements such as the top navigation search and browse (tan and blue areas), which can confuse users about whether the journal finder is a site or just a page.

- Violates: "Visibility of system status" (H1)
- Severity: 2
- Fix: Revise journal finder pages to retain some visual similarities with MLibrary pages, but give the journal finder a more distinct identity.

### Labeling on MLibrary & journal finder pages inconsistent

The MLibrary home page, search tools, help, and journal finder pages use different terms for the journal finder, which blurs its identity and introduces cognitive load about whether terms refer to the same site.

- Violates: "Consistency and standards" (H4)
- Severity: 2
- Fix: Make all references to the Online Journal Finder site consistent

### MLibrary Home doesn't link prominently to journal finder

The link in the lower-left corner is small and not obvious.

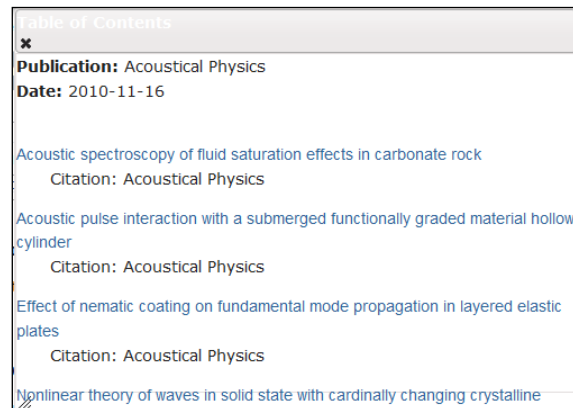
- Violates: "Aesthetic and minimalist design" (H8)
- Severity: 2
- Fix: Move the link to the top of the page, beside the "Mirlyn" link

## Finding 5. Table of Contents usability

### Table of Contents box controls incomplete

The "X" Close-box control is too small. Missing scroll bars prohibit users from accessing hidden titles (see Figure 6).

- Violates: "Flexibility and efficiency of use" (H7)
- Severity: 4
- Fix: Add scroll bars. Enlarge the "X" Close control or replace with a "Close" button; add shortcut key for closing.
- Alternate fix: Eliminate modal; present Table of Contents info via a tab.



**Figure 6. The Table of Contents modal box has a hard-to-read label and missing scroll bars. The "X" control to close the box is too small.**

### Table of Contents forces users to make assumptions

The citations all are the same as the journal title, which is redundant. The date is not clear – publication date, date record entered, or other?

- Violates: "Match between system and the real world" (H2)

- Severity: 2
- Fix: Clarify labeling; have one instance of “citation.”

### **Modal box is aesthetically unpolished**

Table of Contents label text is difficult to read; box-edge spacing is tight.

- Violates: “Consistency and standards” (H4)
- Severity: 1, cosmetic
- Fix: Adjust spacing and label text.

## **Finding 6. Favorites functionality**

### **Adding to Favorites takes user away from search results list**

User should not be taken to a different page when adding a Favorite.

- Violates: “User control and freedom” (H3)
- Severity: 3, important to fix
- Fix: Do not redirect user to Favorites page

### **No link from journal finder to “My e-Journals” favorites**

No obvious link lets users go to favorites at the “My e-Journals” page, and there is no direct link back to the journal finder.

- Violates: “User control and freedom” (H3)
- Severity: 2
- Fix: Add persistent link to “Search Tools - My e-Journals.”

## **Finding 7. Help page issues**

### **Help page does not match interface**

It describes features not in the journal finder.

- Violates: “Help and documentation” (H10)
- Severity: 4
- Fix: Revise with relevant information.

### **Help should focus on harder issues**

It gives little information about serious problems that would confuse users.

- Violates: “Help and documentation” (H10)
- Severity: 3
- Fix: Rewrite to address significant topics.

### **No return provided to journal finder main page**

To return from Help, users must press the browser “Back” button.

- Violates: “User control and freedom” (H3)
- Severity: 2
- Fix: Create direct link back to Journal Finder.

### **Finding 8. Main page look and feel**

#### **Main page has too much text**

The descriptions are too wordy.

- Violates: “Aesthetic and minimalist design” (H8)
- Severity: 2
- Fix: Remove “Search Options” wording

#### **Help page options and Ask a Librarian links duplicate**

The journal finder main page has two links to “Ask a Librarian” and two links to Help.

- Violates: “Aesthetic and minimalist design” (H8)
- Severity: 2
- Fix: Provide one link for each.

## **Discussion**

In this evaluation, we aimed to find problems that would most impact our persona users. This required the team to try to think like site users as we evaluated. However, it was unavoidable that we also bring our own opinions about interface design/interaction into the process, including what constitutes site “problems” for ourselves. That means there is some subjectivity built into the heuristic evaluation process; we are not our users, and each evaluator will define the success or failure of a feature slightly differently. To decrease this form of bias, we used an industry standard set of heuristics and discussed as a team how to apply them consistently. Our debrief session also helped establish consistent application of severity ratings.

It also is important to note that our team has only four members. It is probable that despite diligent efforts and appropriate time spent with the evaluation, we overlooked problems. This is qualitative research with small samples, so omissions in results are possible.

A heuristic evaluation, because it does not involve users, lacks the ability to garner actionable intelligence about their perceptions of the improvements we recommend. While we are confident our recommendations in this report hold merit, it will be important in the phase 4 survey and phase 5 usability study to get users’ opinions about some of this report’s recommendations and the various issues identified for future study from the first two reports.

## Conclusion

The research process of heuristic evaluation allows a few careful evaluators to produce many useful recommendations for improvements of an interface quickly. A virtue of this method is that the recommendations must be explained in relation to accepted interface design principles; there is at least one “why” for every finding. Our team used the widely accepted Nielsen ten, and over about 11 total hours came up with 48 results, which were boiled down to 30 specific issues and given severity ratings. Eight problems were rated as imperative to fix. Additionally, the 30 of the issues were grouped under topical findings based on features of greatest usability value to users.

Our client would increase site usability significantly by addressing Findings 1, 2 and 3:

- **Search.** This feature is important to most users. Providing results with relevance, or at least adding a “Highly Recommended” listing, would put the best results in front of users more quickly. Adding spelling error prevention or an autocomplete would reduce misfires. The other issues mentioned would further enhance the search experience.
- **Results listings.** These pages are too long. Revising the length of the pages and compacting the individual listings would enhance usability.
- **Browse functionality.** Navigational problems make browsing difficult. Our client’s early question about why users have requested that more results be put on results pages probably is related to the inefficiency of the browse navigation. Addressing the browse issues would make the browse by title and browse by subject more usable.

Users also would benefit if the two other severity-4 items were addressed:

- **Table of Contents.** With incomplete controls, the TOC is nearly unusable. While it might not be a high-use feature, the TOC would be at least usable if improved.
- **Help.** It does not assist users because some features it describes are not accurate to the site, and the help is relatively shallow. A rewrite would aid site appearance and provide useful assistance.

Further research in phases 4 and 5 will offer more insight into users’ perceptions and will help the team learn whether our heuristic evaluation recommendations are in line with user needs and goals in the way we believe them to be.

## References

- Angeli, E., Wagner, J., Lawrick, E., Moore, K., Anderson, M., Soderland, L., & Brizee, A. (2010, May 5). General format. Retrieved from <http://owl.english.purdue.edu/owl/resource/560/01/>
- Behm, J., Hegge, S., Thompson-Kolar, M., & Xu, T. (2011). Comparative evaluation: Online Journal Finder Report (Assignment 5). Retrieved from <http://ctools.umich.edu/assignments>
- Behm, J., Hegge, S., Thompson-Kolar, M., & Xu, T. (2011). Personas & Scenarios: Online Journal Finder Report (Assignment 4). Retrieved from <http://ctools.umich.edu/assignments>
- Common industry format for usability test reports. (1999). *Industry Usability Reporting Project – www.nist.gov/iusr*. Retrieved from <http://zing.ncsl.nist.gov/iusr/documents/cifv1.1b.htm>
- Finholt, T. A. (2011). Heuristic Evaluation. [Lecture slides]. Retrieved from <http://ctools.umich.edu/resources>
- Newman, M. W. (2011). User experience research report template. Retrieved from <http://ctools.umich.edu/resources>
- Nielsen, J. (1994). Chapter 2: Heuristic Evaluation. In J. Nielsen & R. L. Mack (Eds.), *Usability Inspection Methods* (pp. 25-62). New York, NY: John Wiley & Sons.
- Nielsen, J. (2005). *Ten usability heuristics*. Retrieved from [http://www.useit.com/papers/heuristic/heuristic\\_list.html](http://www.useit.com/papers/heuristic/heuristic_list.html)
- VandenBos, G. R. (Ed.). (2010). *Publication manual of the American Psychological Association (6th ed.)*. Washington, DC: American Psychological Association.



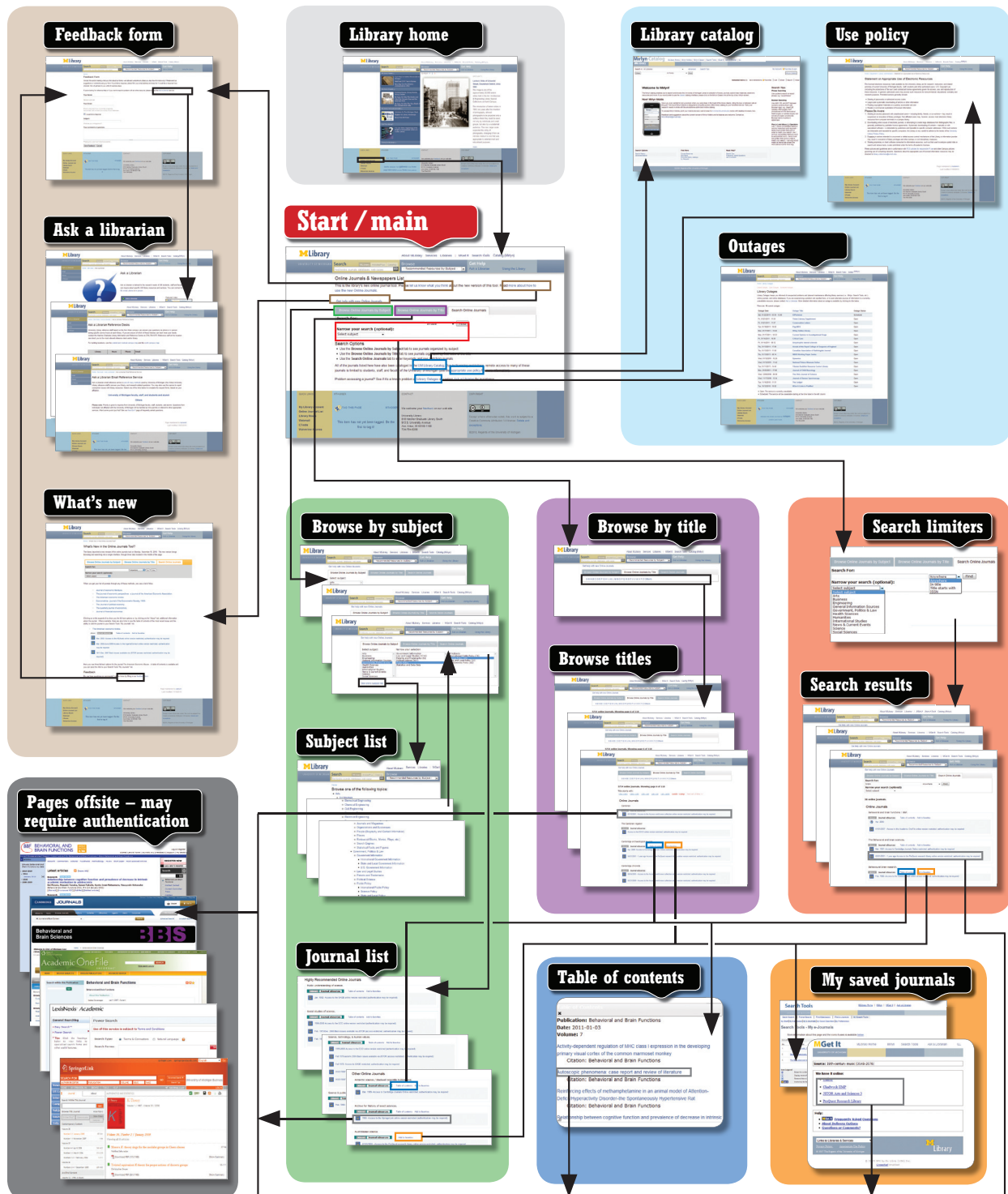
### Appendix A: Interaction Map



# Interaction Map

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## Appendix B: Ten Usability Heuristics

By Jakob Nielsen

### H1 Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

### H2 Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

### H3 User control and freedom

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

### H4 Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

### H5 Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

### H6 Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

### H7 Flexibility and efficiency of use

Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

### H8 Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

### H9 Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

### H10 Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

## Appendix C: Aggregated List of Issues

Aggregate severity	Number of evaluators noting	Item
<b>3</b>		<b>Search feature issues</b>
4	1	Search returns in alphabetical order/ no relevance or Highly Recommended
3	3	Search is rigid, offers no helps
2	2	What is "Anywhere"
2	2	Two search boxes near each other on same page confusing
2	1	Cannot use Enter Key after "Narrowing Search" pulldown
2	1	Cursor doesn't go into search box when page first accessed
2	1	No list of past searches
1.5	1	No ability to Narrow Search beyond category --> subcategory
<b>4</b>		<b>Results listing pages</b>
4	4	Excessive scrolling - unnecessary spacing
4	2	Navigation options too limiting for # of results
4	2	Hard to skim - title, box, background
3	1	Tab design not follow site conventions - & no finger to choose
2	4	Key to symbols at bottom not helpful
2	2	Number of items - no ability to adjust (20? 100? 200?)
1.5	1	Why some results have TOC &/or Faves but not all
1.5	1	Symbol AND wording "Authentication may be required" is redundant w/icon
1.5	1	Sudden jump offsite via links is jarring; need more context
<b>2</b>		<b>Browse by Title</b>
4	3	Very difficult to navigate; inefficient
2	1	Letters too close together
2	1	No keystroke shortcut / replace w/pulldown
<b>3</b>		<b>Browse by Subject</b>
4	4	Navigation is inefficient
2	1	Who is providing the recommendations?
2	1	Inconsistent whether 2 levels of hierarchy, or 3
2	1	"Highly Recommended Journals" btw nav controls & alphabetized results
1.5	1	Some selections offered indicate have no results (0)
1	1	Why are the alphabetized results called "Other Online Journals"?
<b>4</b>		<b>Identity of OJF within Mlibrary site</b>
2	3	Main Lib site refers to OJF differently
2	2	Not clear OJF is separate tool
2	2	Difficult to find link to Journal Finder on MLibrary pg
2	1	Remove Top navigation search & browse (brown & blue)
<b>4</b>		<b>Table of Contents usability</b>
4	2	No scroll bars hides content
2	1	Have to guess what contents are based on Pub and date - give more info
2	1	Citation is always same as Publication
1	3	Modal box unfinished / aesthetics

<b>3</b>		<b>Favorites functionality</b>
3	2	Adding a Favorite sends user to separate tab w/E-Journals page
2	2	No from OJF indication the favorites exist
2	1	Inconsistent naming (e-Journal)
2	1	No link fro OJF to "My E-Journal" favorites
1.5	1	Me e-Journals - no easy way back b/c it's on a separate tab
1.5	1	Response time 8-9 sec off campus / 3 sec on campus
<b>2</b>		<b>Help Page issues</b>
4	3	Rewrite / make relevant to current interface
3	2	Needs to give more information
2	2	No link back to Journal Finder / crumb goes to UMLibrary Home
2	2	Overall experience bad
2	1	Needs to provide links to further help from library staff
2	1	"Get Help" link wording (expecting live help)
<b>1.5</b>		<b>Main Page look and feel</b>
2	2	Verbiage is long, not helpful
1	2	Help links and Ask Librarian links are redundant near each other

		<b>Aggregated positive comments</b>
	1	Users can achieve goals/Browse & Search
	2	No training required for novices
	2	Add to favorites a useful featre
	3	Feedback messages when load time is long
	1	Persistent navigation and links, search box
	2	Good response times

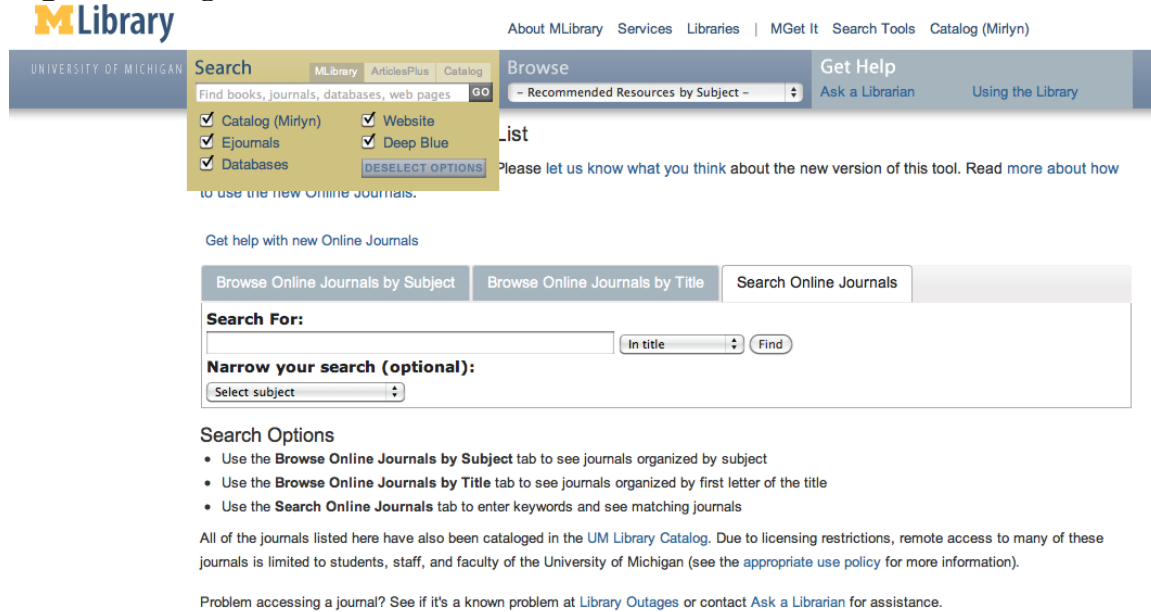
## Appendix D: Individual Lists of Issues

### Individual Heuristic Evaluation James Behm Severity 0-4

#### 1. Problem: Too many options, overload for user

On the main search page there are too many options, and too much text.

Page: Main Page



**Violated:** Aesthetic and minimalist design.

**Severity:** 2

**Fix:** Move all the explanations and help in to one area, or have question marks over each tab. Most people know what the tabs mean without reading explanation.

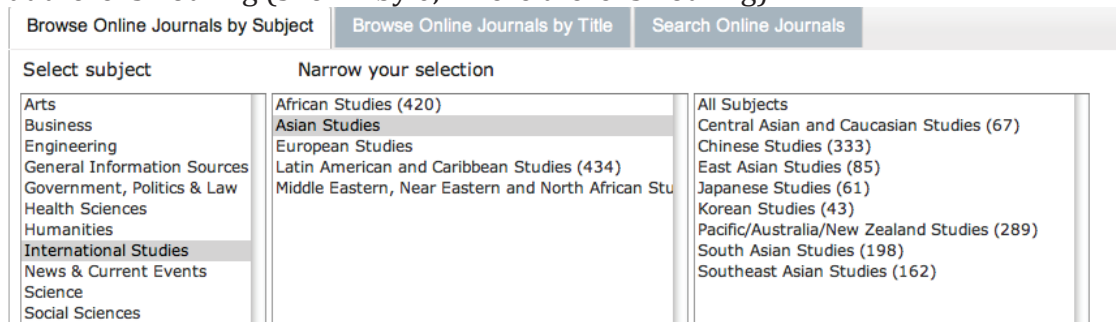
#### 2. Problem: Varying levels of depth in browse

When browsing for a journal within International Studies, by clicking on Asian studies, you are brought to a subset of categories, when clicking on African Studies; you are brought to the list of journals. Its not clear Asian studies have subsets.

**Violated:** Navigation & Consistency

**Severity:** 2

**Fix:** Give some indication that Asian studies have subsets of information, and not that there is nothing (shown by 0, where there is nothing).



3. **Positive:** Feedback of system status.

When waiting for results, "Loading...Please Wait!" is flashed on the screen before results are returned.

4. **Positive:** Add to favorites

Allowing users to add to favorites allows for recognition, rather than recall.

5. **Problem: Highly recommended journals only show on first alphabetical page**

When browsing journals by subject, a list of "highly recommended journals" appears. However, the navigation is shown in an alphabetical list. Furthermore, the list of "highly recommended journals" disappears when on any page other than the first.

**Violated:** Consistency and Standards

**Severity: 2**

**Fix:** Show the highly recommended journals above the results, or mark the highly recommended journal within the results, or allow the user to click or filter to the highly recommended journals.

6. **Problem: Add to favorites not available for all journals in result set**

When looking at any list of journals, some journals can be "added to favorites" while, other cannot.

**Violated:** Consistency and Standards, Memory

**Severity: 1**

**Fix:** Allow all journals to be added to favorites, or if not possible, let users know that the journal cannot be added to favorites

7. **Problem: Many pages of results from search or browse, not easy to navigate**

When a result set is returned, a user is shown results in alphabetical order. However, when the set is large, it's difficult to navigate to the end pages.

**Violated:** Flexibility and efficiency of use.

**Severity: 3**

**Fix:** Have options to go to the last page, or even midway through the results.

8. **Problem: Cannot get back to start page from the "Get help with new Online Journals" feature**

If a user wants help, they may click on the "get help with new Online Journals" link. If the users choose to do so, there is not an easy way to get back to the home/start page for the online journal search. This is compounded by the fact that the help page shows an image of the search widget, but its just an image and does not work.

**Violated:** User control and freedom

**Severity: 3**

**Fix:** Add a link back to the start page.

**9. Problem: Too many help options**

On the homepage, there are two places to “ask a librarian” in addition to two places to find help specific to the online journal search.

**Violated: Aesthetic and minimalist design**

**Severity: 3**

**Fix:** Put all help options in one and only one area. If two are needed (one for library, and one for online journal finder), only have one link to each.

**10. Positive: Easy to start over if you have an incorrect search**

The search widget is always at the top of the page. If you want to start over, all you have to do is go to the top of the page.

**11. Problem: System does not prevent you from search for unavailable or non-existent material**

Unlike google, the system does not have a “did you mean” feature. Therefore its crucial that users type in an available/existent journal title when searching. The system does nothing to prevent a user from typing “econmics” instead of “economics”.

**Violated: Error Prevention**

**Severity: 2.5**

**Fix: Implement an autocomplete feature in the search bar.**

**12. Problem: Location of access level symbols**

Symbols showing what type of access is needed for a given journal are at the bottom of the results page.

**Violated: Efficiency**

**Severity: 2**

**Fix: Show at the top and bottom**



**Individual Heuristic Evaluation Sarah Hegge Severity ranking 0-4****1. Problem: Link to online journal finder is hard to find**

The link to the online journal finder is "below the fold" and not with the links the other similar library resources like Mirlyn and the Search tools portion of the site

**Page:** <http://www.lib.umich.edu/>

**Violated:** h8 Aesthetic and minimalist design

**Severity:** 3

**Fix:** Move the link to the top of the page next to the Mirlyn link

**2. Problem: Multiple search boxes are confusing**

The search and browse boxes at the top of the page are confusing. I would be likely to input my query into the top box.

**Page:** All

**Violated:** h8 Aesthetic and minimalist design and h9 Help users recognize, diagnose, and recover from errors

**Severity:** 5

**Fix:** Remove the extra search and browse boxes

**3. Problem: Symbols used to show access restrictions are confusing**

The explanation for the symbols next to each journal is hidden down at the bottom of the page. Interpreting them requires the user to scroll up and down and remember what the symbols mean. Additionally if there are access restrictions it is listed in plain text next to the result.

**Page:** Search results page

**Violated:** h4 Consistency and standards h6 and Recognition rather than recall

**Severity:** 3

**Fix:** Since the symbols are useful for improving the ability to just skim through the listings I wouldn't recommend getting rid of them entirely even if they are a bit redundant with the plain text on the other side of the listing. Instead it would be useful to have the key to the symbols at the top of the page and, if possible, have an explanation (such as "password" or "Open to all users") show up on mouse-over.

**4. Problem: Search results are displayed in alphabetical order**

In just about every other search engine results are displayed according to relevancy and not in alphabetical order. This means that the best result could be buried somewhere at the bottom of the results

**Page:** Search results page

**Violated:** h2 Match between system and the real world

**Severity:** 5

**Fix:** Develop an way to order the search results by relevancy

**5. Problem: Awkward browsing when looking for journals by subject or title**

When browsing by subject it is not unlikely that any given subject could have 10 or more pages of journals. Browsing by title is worse with the letter R having over 50 pages of titles. While I like that the results have letter ranges rather than numbers I think that only



being able to access 5 sets at a time without reloading the page is terribly clunky and frustrating.

**Page: Browse by subject results page**

**Violated: h7 Flexibility and efficiency of use**

**Severity: 3**

**Fix:** I can see two possible fixes for this. One is to switch back to showing numbers instead of letter ranges so that more links to later results (15-20+) can be shown. The other option is to provide more links in the current letter range system, though this might clutter up the page on items with a lot of results. Additionally it would be useful to allow users to choose how many results they would like displayed on one page.

#### **6. Problem: The results pages are difficult to skim**

The blue line surrounding the result and the blue box containing information about the results can be confusing. Furthermore the blue box is in too light of a color. I can barely see it with my laptop screen tilted in specific ways. Also, because the title is the same weight and only slightly larger than the rest of the text it is really easy to miss it.

**Page: Results pages (Browse and Search)**

**Violated: h8 Aesthetic and minimalist design**

**Severity: 4**

**Fix:** Make the background box a slightly darker color and have it extend to cover the entire result. Bold the title of the journal and perhaps make it slightly larger.

#### **7. Problem: Results pages require a lot of scrolling**

To get to the bottom of one page of results took me 14 scrolls. By any standard this is too many.

**Page: Search results page**

**Violated: h8 Aesthetic and minimalist design**

**Severity: 2**

**Fix:** There is a great deal of white space on the search page. (See the diagram on the next page.) Reducing the gap (to standard single spacing) between the journal title and the results (green boxes) would take out some of this. Bolding the title as suggested above would keep it separated visually. Single spacing the eSources (red boxes) would eliminate more space but would require the access symbols be reduced in size or eliminated. Additionally reducing the space between the results from about two spaces to one would save even more. All of these recommendations combined would cut the number of scrolls by at least 1/3. Alternatively displaying journals as an expandable list as on the help page (<http://www.lib.umich.edu/online-journals/whats-new>) would also be really useful. It would also be a good idea to allow users to select the number of results they would like to see on one page. This would allow them to choose how much they would like to scroll.

0-9 ABCDEFGHIJKLMNOPQRSTUVWXYZ Others

2482 online journals. Showing page 7 of 51

Title starts with:

<< Previous set of titles [real--reco](#) [reco--red](#) [red--refo](#) [refo--real](#) [real--reco](#) [reco--red](#) [red--refo](#) [refo--real](#) Next set of titles >>

Online Journals

Real property, trust, and estate law journal

About Journal eSources Add to favorites

2008 - Access to the ProQuest research library online version restricted; authentication may be required:

01/01/2008 - 14 days ago Access to the Academic OneFile online version restricted; authentication may be required:

01/01/2008 - 14 days ago Access to the General OneFile online version restricted; authentication may be required:

03/01/2008 - Access to the Wilson omnifile full text, select edition online version restricted; authentication may be required:

Real simple

About Journal eSources Add to favorites

02/01/2001 - Access to the General OneFile online version restricted; authentication may be required:

Real-time imaging.

About Journal eSources Add to favorites

1995 - Access restricted (authentication may be required):

### 8. Problem: It is hard to find a link back to the main OJF page from a results page

The only way to get back to the main Online Journal Finder page is to click on the link at the bottom of the page under quick links.

**Page:** All results pages

**Violated:** h4 Consistency and standards

**Severity:** 1

**Fix:** As suggested earlier moving the OJF link to the top near Mirlyn would help with this. Additionally replacing the standard library search bar with some sort of OJF bar or logo would be helpful.

### 9. Problem: Links from search results go to off site pages without warning

This can be startling and a bit annoying. I expected to go to a more detailed catalog record first.

**Page:** All results pages

**Violated:** h1 Visibility of system status

**Severity:** 1

**Fix:** As much as this was not what I expected I would not recommend putting another page between the search results and the actual journal. Instead a sentence or two on the main page would be enough. Also, having the list of expandable titles would make this seem less jarring to me as the expanding action would take the place of a catalog record page.

### 10. Problem: Opening help page does not match current tool

The way lists of journals are displayed is not the same as how the journal finder actually shows the results.

**Page:**<http://www.lib.umich.edu/online-journals/whats-new>

**Violated: h4 Consistency and standards**

**Severity: 4**

**Fix:** Update the help page to contain information relating to the new version of the tool.

**11. Problem: Help page doesn't cover many important topics, only provides a brief overview and a feedback link**

Given that this overview is not even accurate to the current version of the journal finder this is a very big problem.

**Page:**<http://www.lib.umich.edu/online-journals/whats-new>

**Violated: h4 Consistency and standards**

**Severity: 4**

**Fix:** When updating the page add a bit more information about how to access the actual journals and who to contact if there is a problem. Solving these problems may be out of the scope of the OJF but directing people to the right source to solve the problem is not. Additionally having an explanation of the access symbols would be nice.

**Individual Heuristic Evaluation** Mark Thompson-Kolar Severity 0-4**Problem: What is "Anywhere" in search.**

Heuristic violated: h1 Visibility of system status

Impact on: All/new/experienced? ???

Fix: Address search algorithm

Severity: 3 infrequent

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: Using "Narrow your search (optional)" control eliminates ability for <enter> key to activate search, so user must mouse over to "Find" button at far right.**

Heuristic violated: h7 Flexibility and efficiency of use

Impact on: All/new/experienced? Experienced

Suggested fix: Move "Find" button down and to the left so mousing distances is less and have the "Find" button become highlighted when use has selected Narrow your search category.

Severity: 2 frequent

Page: <http://www.lib.umich.edu/online-journals/search>

---

**Problem: Users arriving on journals Search page must manually select "Search for" text input field.**

It currently remains active in the UM Library main Search field. We should assume many or most users coming to the OJF would want their next act to be anticipated as an input of some kind in the tool itself.

Heuristic violated: h7 Flexibility and efficiency of use

Impact on: All/new/experienced? Experienced

Suggested fix: Have cursor in field when page appears

Severity: 2 - frequent

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: No list of past searches, requiring user to remember what terms s/he entered so as not to duplicate**

Heuristic violated: h6 Recognition rather than recall Recognition rather than recall

Impact on: All/new/experienced? all

Suggested fix: Provide list of past searches as links

Severity: 2

Page: <http://www.lib.umich.edu/online-journals>

**Problem: Page has more descriptive text than necessary to convey information to users.**

Makes page more complicated and increases cognitive load unnecessarily

Heuristic violated: h8

Impact on: All/new/experienced? Experienced

Suggested fix: Remove "Search Options" text, put it on Help page or "accordion" AJAX area, or greatly reduce amount of text

Severity: 2 persistence

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: Not a problem; good that Quick Links and other persistent links and controls remain from main UM Library site. Consistency and standards.**

Heuristic violated: None. Good on h4

Impact on: All/new/experienced? All

Suggested fix: No change

Severity: 0

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: Not clear that OJF is a separate tool except through descriptive text on main page.**

Heuristic violated: h1 Visibility of system status

Impact on: All/new/experienced? new

Suggested fix: Clarify status of tool by adding clarifying text to Online Journals links from UM Catalog search page [ "(See all at Online Journal List)" and "more at Online Journal List" ]

Severity: 2

Page: <http://www.lib.umich.edu/mlibrary/search/mirlyn>, others...

---

**Problem: Search Tools access uses different name for link to Online Journal Finder than the tool itself is named, causing confusion about what's being accessed. "Find e-journals" vs. "Online Journal List"**

Heuristic violated: h4

Impact on: All/new/experienced? New

Suggested fix: Make all references and links to Online Journals tool consistent, and all labels on the tool consistent.

Severity: 3 frequent, raises cognitive load and uncertainty

Page: <http://searchtools.lib.umich.edu>

**Problem: Key explaining search results icons is at bottom of page.**

No indication to users that it will be there, so many users will face uncertainty about what the icons mean until they reach the bottom of the page, if they even get there.

Heuristic violated: h6 Recognition rather than recall

Impact on: All/new/experienced? new

Suggested fix: Put key at top of results list as well as at bottom

Severity: 2

Page: <http://www.lib.umich.edu/online-journals/search/>

---

**Problem: Long results pages require excessive scrolling.**

Other interfaces can provide the same amount or information in as aesthetically pleasing a way in less space.

Heuristic violated: h7 Flexibility and efficiency of use

Impact on: All/new/experienced? all

Suggested fix: Shorten pages by using pagination controls for every 10 or 20 items (either are widely used). Decrease amount of space occupied by each listing by re-designing the results. Also, add "Return to Top" control at bottom.

Severity: 4 frequency, persistence

Page: <http://www.lib.umich.edu/online-journals/search/>

---

**Problem: When user selects "Add to favorites", the response time to reach the page is around 8-9 seconds with only rapid changes in the tab to indicate activity.**

This response time is on the outside of acceptable (10 seconds) (Nielsen, J.)

Heuristic violated: h1 Visibility of system status, h7 Flexibility and efficiency of use

Impact on: All/new/experienced? All

Suggested fix: Speed response time (Also, see next item)

Severity: 2

Page: <http://searchtools.lib.umich.edu/>

---

**Problem: Adding an item to Favorites should not take the user to the list of selected favorites.**

S/he is in the process of finding favorites, and redirecting him/her to the favorites page addresses a different purpose than the one most users would be engaged in while Adding them. Also, the My e-Journals page does not offer a clear, direct way link back to the Search results.

Heuristic violated: h3 User control and freedom, h9

Impact on: All/new/experienced? New

Suggested fix: Don't redirect user to Favorites page

Severity: 2

Page: <http://searchtools.lib.umich.edu/>

**Problem: The My ejournals list of favorites conceptually is tied to the journal finder.**

Users could reasonably be expected to want to see their list of Favorites easily from the OJF pages.

Heuristic violated: h6 Recognition rather than recall, h3 User control and freedom

Impact on: All/new/experienced? all

Suggested fix: Add link to Search Tools - My e-Journals page from top of OJF

Severity: 2

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: Results Tabs does not follow site convention.**

Light blue background is too faint to see easily so it isn't immediately clear that these are tabs or which is selected. Cursor does not become a pointer when unselected tab is moused-over.

Heuristic violated: h4 Consistency and standards

Impact on: All/new/experienced? all

Suggested fix: Use more obvious Tabs by following UM Library site Tab conventions

Severity: 3

Page: <http://www.lib.umich.edu/online-journals/search>

---

**Problem: Pop up is aesthetically rough and looks unfinished, and the Table of Contents label text is difficult to read reversed out of light blue.**

Heuristic violated: h4 Consistency and standards

Impact on: All/new/experienced? all

Suggested fix: Finish the pop-up box aesthetics

Severity: 1

Page: <http://www.lib.umich.edu/online-journals/search/> Table of Contents

---

**Problem: Information provided in Table of Contents requires user to make assumptions about it. The citations are all the title of the journal, which is redundant and wastes space.**

Heuristic violated: h2 Match between system and the real world

Impact on: All/new/experienced? all

Suggested fix: Clarify the content in this box to make clear that it's the most recent edition of the journal. Put the "citation" up with the Publication and Date.

Severity: 2

Page: <http://www.lib.umich.edu/online-journals/search/> Table of Contents

**Problem: Box controls are unfinished and/or difficult to use.**

The "X" Close-box control is oddly located and so small as to require fine mouse control. There are no scroll bars, which prohibits users from seeing or accessing the undisplayed article titles.

Heuristic violated: h7 Flexibility and efficiency of use

Impact on: All/new/experienced?

Suggested fix: Enlarge the "X" Close control and consider a button that says "Close"; add a shortcut key to reduce need for mousing. Add scroll bars.

Consider removing this as a separate box and adding it as AJAX to the results list so Table of Contents behavior is analogous to "About" and "Journal eSources".

Severity: 3

Page: <http://www.lib.umich.edu/online-journals/search/> Table of Contents

---

**Problem: Link wording "Get help with new Online Journals" is imprecise and can imply live assistance when the Help page provides only written help.**

Heuristic violated: h2 Match between system and the real world, h4 Consistency and standards

Impact on: All/new/experienced? new

Suggested fix: Adjust descriptive text to say "Read help page" or "Learn more about how Online Journals works"

Severity: 2

Page: <http://www.lib.umich.edu/online-journals>

---

**Problem: The descriptions and images provided do not match the application.**

It also takes space to explain the most obvious parts of the application rather than the less obvious functions for which users might truly need more detailed explanations. The label on the page calls the application "Online Journals Tool" instead of the more consistent "Online Journals List".

Heuristic violated: h10 Help and documentation

Impact on: All/new/experienced? new

Suggested fix: Rewrite the Help page for consistency with application, and provide more detail.

Severity: 4

Page: <http://www.lib.umich.edu/online-journals/whats-new>

---



**Problem: Letter links are narrow and difficult to select. There is no keystroke method for quickly selecting a letter.**

Heuristic violated: h7 Flexibility and efficiency of use

Impact on: All/new/experienced? Experienced

Suggested fix: Pull-down menu

Severity: 2

Page: <http://www.lib.umich.edu/online-journals/> Browse by Title

---

**Problem: "Title starts with:" links are very inefficient to use if the title of the journal is at the tail end of the alphabet.**

Heuristic violated: h3 User control and freedom, h7 Flexibility and efficiency of use

Impact on: All/new/experienced? All

Suggested fix: Pulldowns or facet left-navigation. Radical approach would be to eliminate this feature entirely and let users rely on the far more efficient Search box.

Severity: 4

Page: <http://www.lib.umich.edu/online-journals/> Browse by Title

---

**Problem: The navigation provided and lack of ability to reduce number of titles is inefficient and cumbersome to work with.**

Heuristic violated: h3 User control and freedom, h7 Flexibility and efficiency of use

Impact on: All/new/experienced? All

Suggested fix: Offer at least one further level of granularity in subcategories to limit number of results; consider facets such as year of publication, only databases, only journal sites, only open to all users. More radical approach would be to eliminate this feature and include subcategory level of granularity in Search Online Journals.

Severity: 4 frequent and persistent

Page: <http://www.lib.umich.edu/online-journals/> Browse by Subject

## Independent Heuristic Evaluation Tiantian Xu

### 1. Problem: MLibrary's tool bar is disturbing.

The MLibrary's "search/browse/get help" tool bar is disturbing and can make users confused. I had trouble distinguishing the top search box and the real journal search box as a new user.

**Page:** All pages

**Violated:** Aesthetic and minimalist design (h8)

**Severity:** 2

**Fix:** Move the MLibrary tool bar from OJF

### 2. Problem: Main Function doesn't stand out.

The main area of OJF (search/browse area) does not stand out. It should be stressed and emphasized to be recognized immediately.

**Page:** All pages

**Violated:** Aesthetic and minimalist design (h8)

**Severity:** 2

**Fix:** The font size could become larger. The "Find" button could become bigger and use red/yellow color to make it more striking.

The screenshot shows the MLibrary website interface. At the top, there is a navigation bar with links for 'About MLibrary', 'Services', 'Libraries', 'MGet It', 'Search Tools', and 'Catalog (Mirlyn)'. Below this is a search bar with a 'GO' button and a dropdown menu for 'Recommended Resources by Subject'. The main content area is titled 'Online Journals & Newspapers List' and includes a message about the new online journal tool. A red box highlights the search area, which contains three tabs: 'Browse Online Journals by Subject', 'Browse Online Journals by Title', and 'Search Online Journals'. Below the tabs is a search form with a 'Search For:' field, a dropdown menu for 'In title', and a 'Find' button. There is also a 'Narrow your search (optional):' section with a 'Select subject' dropdown. The page includes navigation links, a footer with contact information, and a Creative Commons license.

### 3. Problem: No Exit/Return

There is no menu or navigation bar showing how to return to OJF's homepage. Users have to press the "go back" button on the browse. What's worse, the little navigation bar shows the current location of user, but if you click the "Home", you will go to the Library's homepage instead of the OJF's homepage.



**Page:** All pages

**Violated:** User control and freedom (h3)

**Severity:** 5

**Fix:** create navigation indicating the current location as well as the exit.

#### 4. **Problem: Repeated Content**

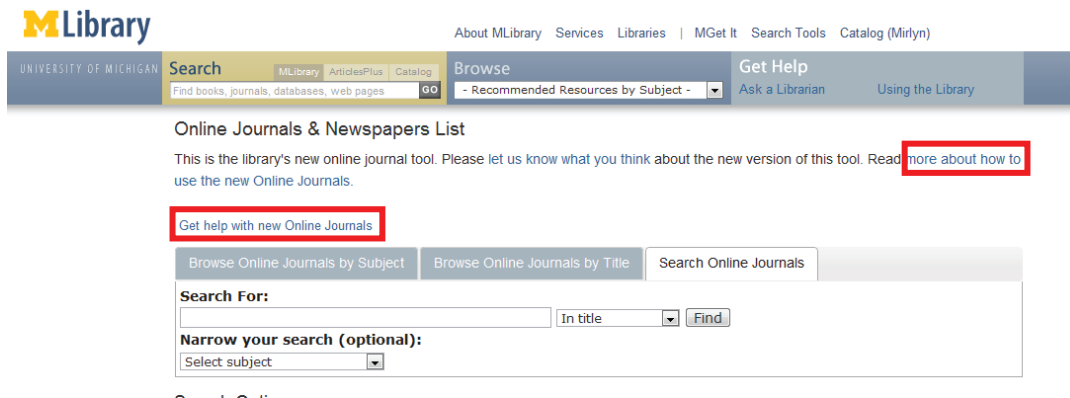
The two links below go to the same page.

**Page:** main page, “feedback form, what’s new” session

**Violated:** Aesthetic and minimalist design (h8)

**Severity:** 2

**Fix:** Delete “Get help with new Online Journals” link because it overlaps with another one.



#### 5. **Problem: The search criteria “anywhere” is confusing.**

Does it include the alternative journal title? Does it include the whole article title in journal? Or does it include the whole article in journal?

**Page:** “Search” Session—search page

**Violated:** Match between system and the real world (h2)

**Severity:** 2

#### 6. **Problem: No error prevention.**

There is no error prevention for typing in search box. If user spells the word wrong, e.g. “architecture”--“architerture”, there would be “no results found”.

**Page:** “Search” Session—search page

**Violated:** Error prevention (h5)

**Severity:** 3

**Fix:** Implement error prevention

#### 7. **Problem: No page selection tool**

The result page shows the number of results in total, but it doesn’t show how many results listed in each page.

The results were listed by alphabet. If there are many results (e.g. 499 online journals) and users want to see the journal starting at “P”, they have to hit the “next set of titles” to see the link, otherwise they cannot choose it directly.

**Page:** “Search” Session

**Violated:** User control and freedom (h3)

**Severity:** 5

**Fix:** Add a page selection tool; Let user choose how many results can be displayed on each page.

#### 449 online journals. Showing page 1 of 10

Title starts with:

[acta--brea](#) [brea--clin](#) [clin--elmi](#) [elmi--heal](#) [heal--jour](#) [jour--nati](#) [Next set of titles >>](#)

#### 8. Problem: Results page layout

On the results page, the title of journal is not outstanding.

**Page:** “Search” Session—result page

**Violated:** Aesthetic and minimalist design (h8)

**Severity:** 2

**Fix:** The space of each result should be reduced. Use bigger font size for title.

#### 9. Problem: No suggestive solution

On the results page, no suggestive solutions are provided when there are no results found.

**Page:** “Search” Session—result page

**Violated:** Help users recognize, diagnose, and recover from errors (h9)

**Severity:** 2

**Fix:** Provide suggestive solutions such as “search in MLibrary”.

#### 10. Problem: Icon Location

The meanings of each icon are listed in the bottom of the results page. They are only viewed when users scroll down to the bottom. This layout is not appropriate because users will see the icons appeared on each result without knowing their meanings before they reach the bottom of the page.

**Page:** “Search” Session—result page

**Violated:** Help and documentation (h10)

**Severity:** 2

**Fix:** Place the icon lists in front of the result listings so users can know what they mean before encounter these icons.



#### 11. Problem: Redundant results

Some subjects don’t have any existing journal but they are still displayed on the selection.

**Page:** “Browse by Subject” Session

**Violated:** Aesthetic and minimalist design (h8)

**Severity:** 2

**Fix:** Move them from the list.

Select subject	Narrow your selection
Arts	Academic and Specialized News (0)
Business	Business News (0)
Engineering	Conservative and Liberal Perspectives
General Information Sources	Historical News Sources (0)
Government, Politics & Law	International News (0)
Health Sciences	Michigan News (0)
Humanities	News Magazines (0)
International Studies	U.S. News (0)
<b>News &amp; Current Events</b>	
Science	
Social Sciences	

## 12. Problem: Inconsistent recommendation

There are “Highly Recommended Online Journals” for some subjects, but not all the subjects have this feature.

**Page:** “Browse by Subject” Session

e.g. <http://www.lib.umich.edu/online-journals/browse/International%20Studies;Asian%20Studies;All%20Subjects>

**Violated:** Consistency and standards (h4)

**Severity:** 2

**Fix:** Show “Highly Recommended Online Journals” for all subjects.

Browse Online Journals by Subject	Browse Online Journals by Title	Search Online Journals
Select subject	Narrow your selection	
Arts	African Studies (416)	All Subjects
Business	Asian Studies	Central Asian and Caucasian Studies (67)
Engineering	European Studies	Chinese Studies (333)
General Information Sources	Latin American and Caribbean Studies (432)	East Asian Studies (85)
Government, Politics & Law	Middle Eastern, Near Eastern and North African	Japanese Studies (61)
Health Sciences		Korean Studies (43)
Humanities		Pacific/Australia/New Zealand Studies (287)
International Studies		South Asian Studies (198)
News & Current Events		Southeast Asian Studies (161)
Science		
Social Sciences		

See entire subject list

1172 online journals. Showing page 1 of 24

Title starts with:

[abia--annu](#) [annu--aust](#) [aust--beij](#) [beij--cent](#) [cent--chin](#) [chin--coun](#) Next set of titles >>

**Highly Recommended Online Journals**

The Journal of Asian studies.

[About](#) [Journal eSources](#) [Table of contents](#) [Add to favorites](#)

## 13. Problem: Table of content cannot be fully accessed

It seems this function hasn't been completed yet because the contents are limited within the pop-up window and you cannot scroll down to see the whole content.

**Page:** “Table of Contents” Session

**Violated:** User control and freedom (h3)

**Severity:** 2

**14. Problem: No feedback when connecting to new page.**

There is no feedback during the time when one page jumps to another page. Sometimes the connection is slow and users will wait several seconds to see the new page.

**Page:** “My saved journals” Session

**Violated:** Visibility of system status (h1)

**Severity:** 1

**Fix:** Add a feedback screen.