



University Libraries

Usability Study

Megan Leney

Table of Contents

Executive summary	3
Method	3
High-level goals.....	3
Data collection.....	3
Details of the study	4
Results.....	6
Findings.....	7
Finding #1 The Home page ads impede task completion somewhat.....	7
Recommendation #1 Increase the amount of space devoted to links	8
Finding #2 The site may be less useful for faculty since the redesign.....	8
Recommendation #2 Research whether more faculty-oriented links are needed	9
Finding #3 Some tasks were unnecessarily hard to complete	9
Recommendation #3 Add links and improve the labeling and directions for tasks	11
Finding #4 Participants did not find or use the QuickJumpTo drop-down menu	12
Recommendation #4 Make the QuickJumpTo drop-down menu darker.....	12
Finding #5 Participants found books but sometimes clicked the wrong tab	12
Recommendation #5 Study the labeling for the articles and books tabs	13
Finding #6 The satisfaction level is generally acceptable	13
Recommendation #6 Keep up the good work!	13

Executive summary

The IAKM60104 Usability I class (Fall Semester, 2012) is conducted a usability study on the Kent University Libraries Web site (<http://www.kent.edu/library/index.cfm>) as a class project. The study evaluated how participants performed tasks on the current site, and detected problems as well as areas of strength. This report includes information about the evaluation method, and findings and recommendations for improving the site. The findings and recommendations focus primarily on the navigation, labeling, and search capabilities.

In general, participants' satisfaction level was acceptable and successfully completed all but one of the tasks. However, there were some tasks that took longer than necessary to complete, and one task was impossible for eight of the nine participants who attempted it. The findings point to some areas in which the site labeling can be improved, and the amount of space devoted to task links can be increased.

Method

A usability evaluation was run in 10 individual sessions over two testing days. The usability evaluations took place from 6:00 p.m. to 9:00 p.m. on November 7, 2012, and November 14, 2012. Each individual session consisted of a set of tasks, and a post-study interview.

The individual evaluations included the following:

- A performance evaluation in which each participant is asked to perform a short series of real-life tasks (approximately 15 minutes)
- An a short post-study interview after each performance evaluation to gather additional insights from the participant (approximately 5 minutes)

High-level goals

The study sought to identify problem areas that have resulted in users complaining that the site was more difficult to use than it was prior to the recent redesign, and an increased call volume from users unable to find the resources they need.

Specifically, the study sought to answer the following questions:

- How do users initially get to the University Libraries sub-site?
- How well does the site organization support user goals?
- Do users see and use the QuickJump search box on the main Libraries page?
- How easy or hard is it to find the library hours?
- How well do the labels for tabs, drop-down lists, and pages represent the content?

Data collection

The student evaluators collected data through the use of a "thinking aloud" protocol.

The evaluators collected the following:

1. The average amount of time to complete each task.
2. The percentage of participants who finished each task successfully.
3. The number of cases in which the participants were not able to complete a task because they received an error from which they couldn't recover.
4. The number of times the participant used the help line to solve a problem.
5. The number of positive or critical statements about the site, or the experience using the site.

6. The number and types of errors, including:
 - Observations and comments.* The evaluation monitor notes when participants have difficulty, when unusual behavior occurs, or when a cause of error becomes obvious.
 - Non-critical error.* A participant makes a mistake but is able to recover during the task in the allotted time.
 - Critical error.* A participant makes a mistake and is unable to recover during the task in the allotted time.
7. The number of indications of frustration or joy from the participant.
8. The number of subjective opinions of the usability and aesthetics of the site that the participants expressed.
9. Eye tracker data. The amount of time participants spent looking at different areas of each page they viewed.

Details of the study

The following table includes details about the study, including information about the tasks, participants, and moderators.

Element	Description
Usability Goals	This evaluation was based on the following usability goals: • Participants will be able to go to the University Libraries main page from a Google search window • Participants will complete activities or locate specific information within 150% of the benchmark times • Participants will move through the site with no expressed or visible difficulty • Participants will find related information with no expressed or visible frustration • Participants will have no more than two failed attempts in finding specific information
Usability Tasks	The Usability I class designed the following tasks, with a benchmark of 5 minutes per task. Participants were expected to complete each task with no assistance. • Navigate to the library site • Schedule an appointment with a librarian • Find the library hours • Suggest an item for purchase • Find a book

Participant Characteristics	The study sought to select participants whose background and abilities are representative of the University Libraries site's intended user. Participants had the following characteristics: • Beginning library users. The study included one new freshman who had never used the library Web site. • Advanced library users. Participants included 8 undergraduate and graduate students with at least three years of experience using the University Libraries Web site. • Users involved in teaching. One participant was a faculty member with extensive teaching and research experience.
Participant Experience	Participants self-described their experience with the site as follows: • <i>I'm a student here, and use the site to look for books. When I can't find a book by going to the library in person, I use the site to search for books and periodicals.</i> • <i>I use the book catalog and whatnot. I've only done few tasks on this site.</i> • <i>I'm a professor and I use the site often to keep track of my library account (I have a lot of books checked out for research), look things up (books or articles), and use certain databases.</i> • <i>Just for books. Recently I did a project with the library so I go to Events and the subject librarian site because I'm studying public relations.</i> • <i>I used to be a student. Haven't looked at the site in 2 years. I used it to look up books to see if they were in, and go to student information and student activities. But I really haven't used the site very much.</i> • <i>Use it to find books that I expect to be on Ohiolink or in the library.</i> • <i>I'm a new freshman; I've never used the site.</i>
Test Environment	The usability evaluations took place at the Kent State usability lab. The lab setting includes a computer, audio-visual equipment, and an eye tracker system. A student evaluator sat next to each participant in the lab. Lab staff was on hand to set up and operate the equipment.
Evaluator Roles	Six student evaluators participated in the usability evaluations. Together, student evaluators conducted nine usability sessions from start to finish. (A tenth session was started, but aborted because the equipment malfunctioned). Students observed other student evaluators when they are not conducting sessions themselves.

Results

The table below includes the evaluation results. For each task, the results include the following:

- The percentage of participants who successfully completed the task.
- The approximate amount of time it took participants to complete the task.
- The participant's rating of the task (on a scale of 1 – 7, where 1 is difficult, and 7 is easy). Not all participants rated the tasks, so the results are tabulated based on the participants who did provide a rating.

The time results should be considered approximate due to the following:

- Student evaluators sometimes had difficulty using the eye-tracking equipment. Sometimes when a participant clicked a link, the window would open on the student evaluator's screen instead of the participant's screen. Sometimes this resulted in a delay in task completion.
- Student evaluators did not all use the same criteria for task success. Some evaluators asked the participants to go farther in the task process than others did.

All participants successfully navigated to the library site in less than one minute. (Participants did not rate the navigation task). All participants were able to schedule with a librarian, find the library hours, and find a book, but only one participant could suggest a book for purchase.

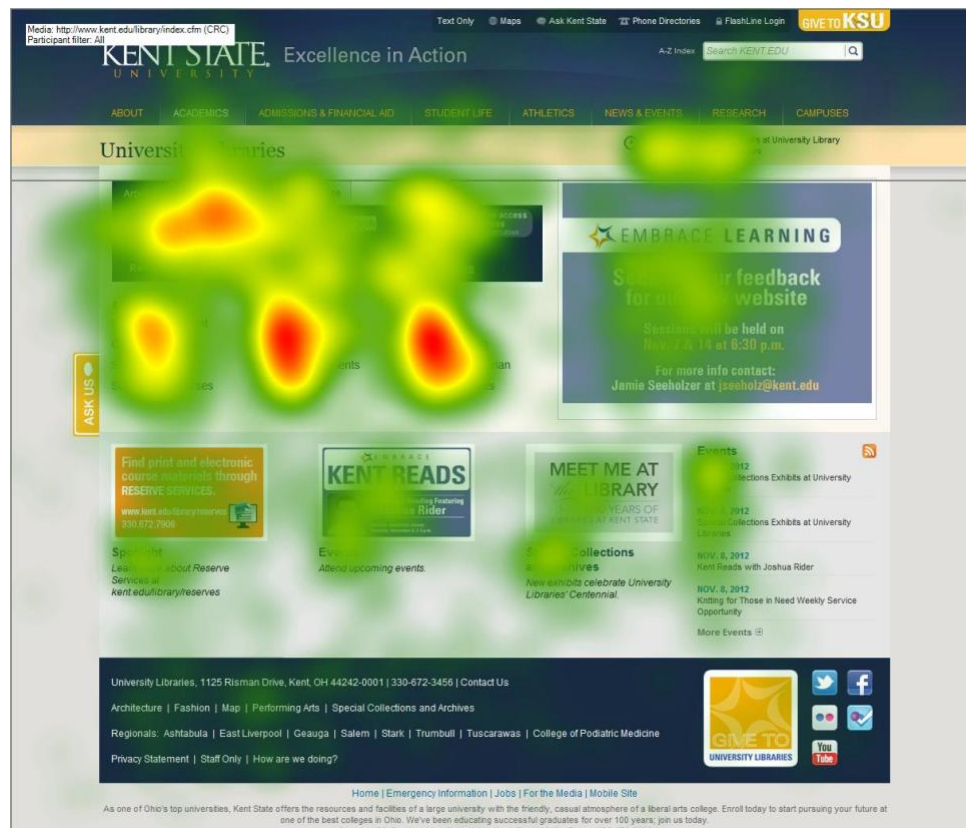
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Averages
Navigate to library site											
Success Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100% success
Time on task (seconds)	17	17	3	20	7	5	3	14	41	14	14.1 seconds
Meet with a librarian											
Success Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100% success
Time on task (seconds)	229	100	45	98	155	88	81	56	94	38	98.4 seconds
Rating	7	7	7		5	4			6		Ave. 6
Find library hours											
Success Y/N	Y	Y	Y	Y	Y	Y	Y		Y	Y	100% success
Time on task (seconds)	46	41	61	15	28	20	36		52	42	37.8 seconds
Rating	7	6	4		6	7			7	4	Ave. 5.9
Suggest a purchase											
Success Y/N	N	N	N	Y	N	N	N		N	N	11% success
Time on task	100	72	273	114	135	78	77		114	99	118 seconds
Rating	5		1	1	2	2			2	5	Ave. 2.6
Find a book											
Success Y/N	Y	Y	Y	Y	Y	Y	Y		Y	Y	100% success
Time on task	96	34	44	87	120	68	73		33	20	63.8 seconds
Rating	7	7	7		5	4			7	7	Ave. 6.3

Findings

The following sections include an interpretation of findings based on evaluation results, participant comments, and eye gaze data (heat maps and gaze plots) gathered during the evaluations.

Finding #1 The Home page ads impede task completion somewhat

The library site's home page includes a task area that is surrounded by advertisements. The participants tend to spend most of the time looking at the main task area. The following heat map illustrates where participants spend most of their time looking. The red areas represent where the participants looked for the longest time.



Participant goals do not justify the number of ads

Evaluators asked participants what they felt the goal of the library site was. Participants responded that the site's goals were as follows:

- *To make an effective search for what you need, and providing information on the library.*
- *To divide categories of information. Services here. If you need to know about us, it's here.*
- *Find books. Research.*
- *Simplicity, convenience.*
- *To connect me as fast as possible to resources and people available.*

Because participants' goals center around rapid task completion, the amount of space devoted to links that support task completion seems small in comparison to the space devoted to advertisements. One

participant pointed out that it seems like academic goals are downplayed because of the advertisements:

I'm confused about the primary goal. Can't tell what it is. The primary goal is for students to look up books, hours, departments, but the way the site's designed makes it seem like events are more important. It seems like they're downplaying academic research.

The ads were distracting to some participants

The same participant also discussed, in detail, why task completion from the Home page is harder given all the advertisements:

Overall, it's not very pleasing to the eye. My eye is not drawn to any one thing in particular. It's not organized in a way that settles the mind when you first look at it. You're constantly searching it. There's a lot of stimulus going on. It's unsettling. The flashing graphics are distracting. I have trouble looking at the links (because there are) too many graphics. What people go to the site for are these things here (pointing to the main functional links). They don't seem as important (to the designers) as the graphics. I don't think someone would come to this Web site to look at what is being shown here (pointing to an ad) or here (pointing to another ad), or events, or anything in the Spotlight. They just come to look up books, or to the FAQ, or information about the library. I think that should be something that's bigger. Because that's text, it downplays it.

Another participant described the Home page as “busy, a lot of stuff.” While this was only a brief comment about the participant’s general impression of the site, it aligns with the previous participant’s assertion that the graphics are distracting and unsettling.

Recommendation #1 Increase the amount of space devoted to links

Some of the participants found that the advertisements made it harder to zero in on the links. It’s recommended that the library increase the amount of space devoted to task links, and decrease the number of advertisements. Be sure to perform user testing on the redesigned Home page.

Finding #2 The site may be less useful for faculty since the redesign

The one faculty participant felt strongly that the site was not as useful as the previous site. The faculty participant summed this up by saying:

It's not as helpful as the old one. I prefer the old one. The layout is not as useful as the previous one. Out of 12 links, I use maybe two of them as an academic. The only useful link is the Library Account link. These links are not useful: course reserves, study spaces, and support for courses. Additionally, none of the About Us links are useful. The previous site had useful links (account, databases, reserves, library loans). The things I wanted to use were listed on the front page of the old site. This one is a downgrade of what was available.

While some participants saw the target audience for the site as being both students and faculty, most participants said “students” first, and sometimes noted faculty as an afterthought:

- *Primarily students, faculty as well*

- *Students mostly, also professors*
- *Faculty, alums, graduate students*
- *Students, both graduate and undergraduate*
- *Students and faculty*
- *College students fresh out of high school*

Recommendation #2 Research whether more faculty-oriented links are needed

It is highly recommended that the library staff conduct further studies to see if other faculty members have the same challenges with the site. If the library staff implements recommendation #1, there will be more space to add potential links geared towards the needs of faculty members and researchers.

Finding #3 Some tasks were unnecessarily hard to complete

Participants generally found the site “pretty good” and “functional” (see the section *The satisfaction level is generally acceptable* below). However, some tasks took longer than needed to complete, and one task was impossible for all but one participant. This section discusses some of the difficulties participants had with task completion.

Suggesting a purchase is nearly impossible to complete

Of the nine participants who attempted to suggest that the library purchase a book, only one participant completed the task. Participants rated this task 2.6 out of a possible 7 because they essentially tried, unsuccessfully, for an average of almost two minutes to complete the task before giving up.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Averages
Suggest a purchase											
Success Y/N	N	N	N	Y	N	N	N		N	N	11% success
Time on task	100	72	273	114	135	78	77		114	99	118 seconds
Rating	5		1	1	2	2			2	5	Ave. 2.6

To capture the participants’ thought processes, note that some patterns emerged:

- Six of the nine participants said they would contact a librarian directly to complete this task instead of or in addition to attempting to do this online.
- Six participants went to the Ask Us page to try and complete this task.
- Five participants checked “Books & More” before trying other things.
- Three participants attempted to search. One participant typed “order a book” and two typed “request a book.”

Finding the library hours was not obvious to all participants

Finding the library hours is a very basic and important task. Though 100% of participants completed this task successfully in an average of 37.8 seconds, most participants did not complete it immediately. Three participants (33%) did immediately find the clock icon in the upper-right corner. The other 66%

struggled a little bit to find the library hours. The ones who took longer to find the hours found them as follows:

- Two participants never saw the clock icon. Of those two, one participant clicked “Ask Us,” then “Research Tools,” and then saw a link for the library hours. The other participant did a search from the Home page on “library hours.”
- The remaining four participants either looked around on the Home page for a while before finding the clock icon, or navigated away from the Home page and saw the clock icon on another page.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Averages
Find library hours											
Success Y/N	Y	Y	Y	Y	Y	Y	Y		Y	Y	100% success
Time on task (seconds)	46	41	61	15	28	20	36		52	42	37.8 seconds
Rating	7	6	4		6	7			7	4	Ave. 5.9

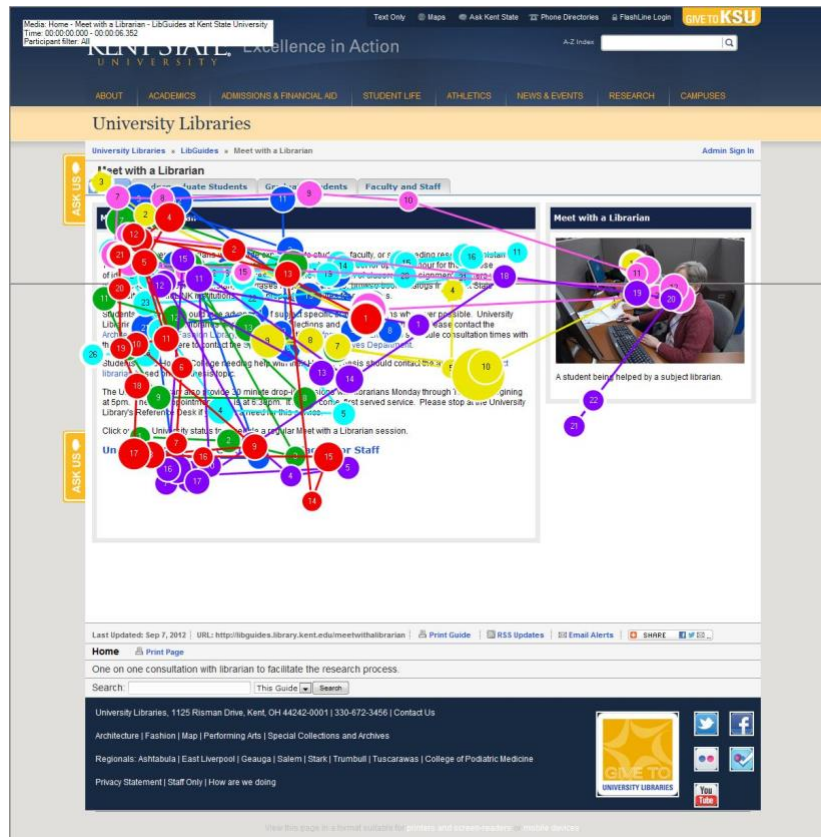
The Meet with a Librarian page is text-heavy and the links are hard to find

All of the participants immediately found the “Meet with a Librarian” link on the Home page. After clicking that link, some participants continued on to the scheduling pages (depending on the directives of the student evaluators). All participants completed the task successfully.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Averages
Meet with a librarian											
Success Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100% success
Time on task (seconds)	229	100	45	98	155	88	81	56	94	38	98.4 seconds
Rating	7	7	7		5	4			6		Ave. 6

Though all the participants were successful at this task, and rated it highly (6 on average), the completion time was slower (98.4 seconds on average) because it took some participants a while to get from the Meet with a Librarian page to the scheduling pages. The reason it took a long time was that participants tended to read all of the text on the page before performing the next step, clicking the “Undergraduate,” “Graduate,” or “Faculty or Staff” link.

The following gaze plot shows how much participants tended to scan the page before getting to the needed links:



Recommendation #3 Add links and improve the labeling and directions for tasks

Because some tasks in this study were unnecessarily difficult to complete, the following changes are recommended:

- Add a link for requesting or ordering a book for purchase to the main links area on the Home page. Most participants said they would perform this task by contacting the library. However, an improved site may get users to start using the full functionality of the site rather than calling or emailing the library.
- Make the clock in the upper-right corner more prominent. Consider adding an additional “Hours” link at the bottom of the page and on the Policies page.
- Make the text on the Meet with a Librarian page more concise, so that users can complete that task faster. Make the “Undergraduate,” “Graduate,” and “Faculty or Staff” links more prominent. In short, users need a more obvious call to action to get to the page where they can schedule an appointment.

If you implement Recommendation #3, it is recommended that you do further usability testing to test the results of the changes to the site. It is also recommended that you do usability testing on some of the other common tasks, such as checking on library fines, or finding materials held in Special Collections.

Finding #4 Participants did not find or use the QuickJumpTo drop-down menu

One post-study question asked participants if they noticed the QuickJumpTo drop-down menu. Three participants said they found it. Only one participant remembered using it. At least half of the participants didn't see the QuickJump menu at all until prompted to look for it. Participant comments:

- *I didn't see it at first.*
- *I did see it, I just didn't use it. It's a little hidden. It's barely visible. It wasn't something that stuck out to me. I probably wouldn't have ever used it.*
- *Oh, that's really helpful. I can't believe I didn't see that. I wonder if I subconsciously noticed it.*
- *Didn't see it because it's kind of faded. A sedated look. It might be better to put it on one of the sidebars or make it bigger.*
- *That should be more visible; higher on the page.*

Another post-study question asked what participants thought was the goal of the QuickJumpTo menu. Here are their responses:

- *It streamlines your search a bit.*
- *It jumpstarts you to where you need to go.*
- *It gets you places quicker, without looking through the whole Web site.*
- *It makes this Web site make sense. The goal is to quickly find what you're looking for.*
- *That would have been a lot easier. That's obviously a shortcut to all the questions you asked me.*
- *It's a good clean selection of what's out there; you got your most important stuff at the beginning (contact us, hours); it's a nice inverted pyramid of information.*

Recommendation #4 Make the QuickJumpTo drop-down menu darker

Participants did not readily see the QuickJumpTo menu, but saw the value of the menu once evaluators pointed it out. For that reason, it is recommended that the library staff make the QuickJumpTo menu darker or otherwise more prominent. User testing of the darker menu is advised.

Finding #5 Participants found books but sometimes clicked the wrong tab

All 100% of participants successfully completed book finding task in about a minute, and rated the task a near perfect score of 6.3 out of 7.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Averages
Find a book											
Success Y/N	Y	Y	Y	Y	Y	Y	Y		Y	Y	100% success
Time on task	96	34	44	87	120	68	73		33	20	63.8 seconds
Rating	7	7	7		5	4			7	7	Ave. 6.3

Two of the 9 participants who completed the task first searched for a book on the Articles tab. One of the evaluators directed the participant back to the Books & More tab, but another evaluator called the task complete even though the participant had found articles instead of books. One of the participants noted “The Books & More tab is confusing because you don’t immediately know to select books.”

Recommendation #5 Study the labeling for the articles and books tabs

It is recommended that the library perform further usability research on the labeling and presentation of the Books & More tab, and the Articles tab.

Finding #6 The satisfaction level is generally acceptable

All participants were more or less satisfied with the library site. When asked for general impressions, there were many different responses but most of them were pretty positive. Here is what participants had to say about the design, layout, and overall ease of use:

- *The site is standard, like a library. I’ve had no major issues with it.*
- *I’ve done few tasks, no real issues.*
- *Pretty good experience. Pretty successful.*
- *It’s clear that it’s a library site. The bar across catches your eye.*
- *Pretty easy to use. Pretty effective. Sometimes I navigate away, but it’s easy to get back to the Home page. Pretty accurate.*
- *It’s not aesthetically pleasing but it’s relatively functional. The placement of things is a little vague but the link labels are close enough to what I was looking for. It probably could be more streamlined but I didn’t have any real difficulty.*
- *I have studied library sites. Compared to other college Web sites, this one is better. It’s bright, more engaging. It’s pretty easy to find stuff. It’s organized. The labeling is good.*
- *The first word that comes to mind is “boring” but that’s not exactly what I mean. The banner is good.*
- *The link labels are pretty good.*
- *Bland. Needs to be more organized. Seems thrown into the template of Kent State, but the site is pretty well labeled.*
- *Easy to moderate to use. Layout has a good user interface. There isn’t too much stuff. Overall good. The labels are pretty good, well described.*
- *Pretty clean. Very simple. Nothing is hidden. The tabs are laid out pretty well. Pretty simple and straight to the point. The general links and labels are clean, to the point, minimal amount of words.*

Recommendation #6 Keep up the good work!

Participants largely saw the library site as “pretty easy to use” and generally quite functional. It’s great that the library staff is willing to evaluate and improve the site. Continuing that effort will only make the site better and better.