Web Usability Study, Pre-Test Phase, February/March 2016
REPORT

March 22, 2016

INTRODUCTION

This report describes a study conducted to explore the user experience of the Library's website (with a focus on the homepage) with a goal to make improvements to the design, navigation and simplification of language. The report also includes an evaluation of the methodology. This study will make suggestions for a web usability framework going forward. Three web usability/experience (UX) methods were utilized to investigate user behaviours, needs and expectations. The subjects were selected through convenience sampling and informed that participation was confidential. The subjects included five undergraduate students and one graduate student all chosen from the pool of RULA work/study students. The testing took place from February 4 to March 1, 2016.

RECOMMENDATIONS

➔ UX testing should be done on a regular basis and can be done with no more than five subjects at a time. Suggestion made to use A-B Testing and also testing methods that involve more spontaneous ways of getting user feedback (AKA guerilla testing) by finding users in their RULA space and asking a series of on-the-spot questions.
➔ In the short term conduct one more study of the Library’s homepage in the spring of 2016 with two faculty; two graduate students; two 1st year undergraduate students (or “new” users) and two Ask a Librarian members (not from Ryerson). Utilize the same methodology with some modifications (see below)
➔ Develop priorities for testing different sections/pages of the website
➔ Develop guiding principles for UX testing (define basic framework like “improve the user experience”, etc.) and best practices for library UX testing more generally. (DG to do this over the next several months)

EXECUTIVE SUMMARY, USABILITY AND METHODOLOGY

Usability

➔ Course Readings icon and content need major reconsideration. The concept of “course readings” is not meaningful with the improvements to eReserve and course shell integration. What do students need from the website in this regard at this time? Involve OC.
Participants in the task exercises were consistently successful in searching for books and ebooks; booking a study room; finding a peer-reviewed article; and renewing a book.

The blog and the carousel should be combined to make the dynamic news/promotional aspect of this section of the homepage more visually obvious.

Related to the previous point, the Library Hours should move to the centre of the website and replace “available now”.

The deconstruction exercise and the focus group revealed that the students in our study use a small number of icons or tabs on the homepage on a regular basis. These are: room booking, Search Everything and databases by subject (via Search Everything).

The testing revealed some minor fixes, to be done immediately: remove “what is this?” from Search Everything box; and the FAQ link from the laptop’s page was to a generic page of LibAnswers (i.e., not related to laptops).

What about the rest of the website? One student in this study pointed out something we are well aware of: the design inconsistencies throughout the website. Should an inventory of the RULA web pages be undertaken and priorities developed for further testing?

A number of noteworthy comments from the students are on page 5.

Methodology

The three UX methods employed are an effective combination for assisting us with both task specific and broader design and functionality considerations.

The think-aloud protocol could be better leveraged - for a variety of reasons we did not incorporate enough of this aspect of the testing.

The changes made to the website as a result of this study can be further tested in the next phase of UX testing.

The next study should have clear goals beyond “improve the user experience.” What does this specifically mean? Should we develop guiding principles?

Sort out our user base and recruitment method. Also, how many subjects are enough? According to “... Nielsen and Tahir … they conclude it is better to conduct frequent, smaller studies with a maximum of five users.” (Becker, D. d., & Yannotta, L. l. (2013). Modeling a Library Website Redesign Process: Developing a User-Centered Website Through Usability Testing. Information Technology & Libraries, 32(1), 6-22.)

UX testing should be done on an annual basis once we find the most efficient recruitment method; as well as allow for a flexible testing approach based on evolving needs. UX should be iterative, so the more frequent we test, the more confident we can be in providing the best web experience for our users over time.

Details about the testing changes for the next round of UX testing are noted in the Methodology Considerations section.
**METHODOLOGY**

In developing the methodology, we considered the five facets of formal usability testing summarized by Battleson, Booth and Weatherford:

1) The goal is to improve the usability of the interface,
2) Testers should represent real users,
3) Testers perform real tasks
4) User behavior and commentary are observed and recorded, and
5) Data are analyzed to recognize problems and suggest solutions.


We also considered past practice particularly with regards to the Task exercise that was used effectively in RULA’s last round of formal UX testing (2005).

This study utilized three UX methods undertaken separately. In all cases, Diane Granfield, the User Experience Librarian, facilitated, and Sally Wilson, Web Design Librarian, recorded. An online survey was issued to the participants to gauge their website and Internet use. See Appendix I for survey results. The survey asked the following: the number of times (approximately) they have used the website in the past year; what they used the website for; if their task was accomplished; how often they use the website in the academic year; and any comments. The survey and our observations through the UX process underscored we were working with a mid-high level of web/library proficiency among the sample.

**Method 1, Testing of tasks on the website:** Three subjects separately completed a series of scenarios, some of which were developed using the results from the Critical Task Survey and other considerations noted (see page 4, below).

The recorder noted the time the subject took to complete each task and the number of click-throughs as well as the verbalized thought process and any other behaviours that reflected the user’s experience. The facilitator worked from a script to introduce the study and outline basic instructions and was available throughout the exercise to answer questions and encourage the student. Any questions or conversational elements that took place were also recorded. 60-90 minutes was allotted for each subject, however, each test took no longer than 30-40 minutes.
Scenarios and Tasks:
1. You would like to study in the Library until 11 p.m., February 20, 2016. Is it open at that time?
2. Your laptop crashed last night and you need to use one for a class presentation. Find out if you can check out a laptop from the library and for how long?
3. You would like to read the book **Badass: Making Users Awesome** by Kathy Sierra. Does the Library have it? Where is it located? Is the book on loan? How would you request the book be held for you when it returns?
4. You’re studying at home and you would prefer to have ebooks for research you are doing for an essay on global warming. How would you do this using the Library’s website?
5. It’s 9 p.m. on a Tuesday night. You need help for an essay and the REsearch Help desk is closed. Find a way to get help from a staff member using the Library’s website.
6. You are a student in the Nutrition program and have been told you need to use a resource called **Food Science and Technology Abstracts** to find articles. How do you find it?
7. You would like to study with four other fellow students. Find out if a study room is available Monday February 8th at 2 p.m.
8. You are taking an English course, ENG550. The instructor has told you that some required readings are “On Reserve” in the Library. How would you go about finding the readings?
9. You have an assignment that requires you find peer-reviewed articles on the topic of violence and video games. Find two peer-reviewed articles using the Library’s website.
10. You have some books checked out of the Library that are due back soon and you would like to keep them longer. How would you do this using the Library’s website?

**Method 2, Ranking of website tabs:** A mockup of the RULA website with removable tabs was provided to three students at separate times. They were also asked preliminary questions probing their Internet use for both academic and leisure purposes. In terms of the deconstruction exercise, they were asked a series of questions regarding usefulness, rankings and design. The students removed the tabs they used and placed them to the side. Once finished, they organized them based on priority. While removing and/or moving tabs the students verbalized their thought process.

**Method 3, Compare and Contrast Focus group:** In an exercise to compare and contrast four academic library websites, printed screen-captures were provided of the main pages of RULA, Brigham Young University Harold B. Lee Library, Memorial University Libraries and University of Toronto Libraries. The websites were also displayed via a projector. We attempted to find a
common time for all six subjects - four confirmed and two ultimately took part. The “focus group” was asked the following: What do you like about each of these sites? Which one do you like best? Why? What don’t you like about each site? If you were to design your ideal library website what would it include? What would it look like? What do you think a library Web site needs to have on its top page? What kind of information? What kind of images?

Additional Methodological Approaches

Critical Task Considerations

1) Desk Survey
In order to get a better sense of critical tasks for the UX study, a survey was issued at the Research Help, Information and Circulation desks over the week of January 25 to ascertain, in users own words, the top three things they come to the Library’s website for. We received 28 responses and the results were:

Research/databases: 16
Book search: 16
Study Rooms: 13
ebooks: 4

The following were mentioned twice or less: My account (renew or overdrive (TPL?)); Ask a librarian; Borrow books; Archives; laptops; my.ryerson; tutoring; computers; services page; citation tools; research help; email.

2) FAQ inventory
We also considered the Library’s FAQ (LibAnswers) questions. The top three questions involved study space, laptops and placing a hold.

The top tasks were integrated into the Task UX Method 1.

3) Ask A Librarian Report
To provide further information on most popular questions, a request has been made to the Ask Us administrators to provide transcripts for a two week period in the Ryerson queue. This was not provided before the pre-test phase study began. Nevertheless, this will be useful for the next phase of testing.
RESULTS

USABILITY INSIGHTS AND OBSERVATIONS

While the intention was not to make major revisions due to the nature of the sample - both the size of the sample and their status (employees) - some things stood out through the course of our testing that are relatively quick fixes. These are:

- Take out the “What is this?” in Search Everything box.
- Move the Hours to the middle of the page above the three orange boxes.
- The blog and the carousel should be better combined to make the dynamic news/promotional aspect of this section of the website more obvious.
- The FAQ link from the laptop’s page was a dead link (fixed).

The Course Readings icon and content need major reconsideration. Talk to Ophelia - there is no information about print reserves and the page is generally confusing to students. Given the readings transition to CMS/D2L, what do we need to provide at this time?

These tasks were relatively easy for the students:
Searching for books and ebooks
Booking a study room
Finding a peer-reviewed article
Renewing a book

Ask Us page needs easier access to opening hours. When it is closed there is no straightforward way to ascertain hours and basic information.

The students in our study use a small number of icons and tabs on the homepage on a regular basis. These are: room booking, search everything and databases by subject.

Interesting and Noteworthy Comments from the Students:

- The purpose of the banner is not clear to the students. One student described it “as an ad” and therefore doesn’t look at it. One student suggested more of an Indigo interface - highlighting topical books (which is what the banner does!?).
- “Collections” tab is not understood
- Integrate the Library’s twitter feed somewhere?
- Course Readings is fading as a key piece in student’s needs with the improvements made to eReserves. D2L is central in this regard.
- Loan periods for periodicals
- Customization options on the website
- Copyright is not of interest
- Live Chat hours upfront so that one knows if it’s open
- Proxified URL generator (Sally has constructed this for testing).
- Student needed more sophisticated help in Book a Librarian for an engineering topic (2nd year student) - we should likely consider cluster support for specialized areas to ensure students get the best help they need for more difficult disciplines.

**METHODOLOGY CONSIDERATIONS**

- Students are a difficult population to schedule and UX testing is a lot of work. Going forward we should make sure that we have significantly more subjects than we need to allow for drop-outs and no-shows. Workload considerations also need to be acknowledged.
- In reading some of the UX literature it would appear that a correct sample size is difficult to gauge given the subjective nature of usability testing. In addition, not only do we have a large population, it is considerably diverse. According to Blakiston (p. 92):

  “… when somebody does ask you about statistical significance or generalizability, a good response is that while no, usability testing is not a controlled experiment and it is not feasible to do inferential statistics, you are confident that your results will help you make sound, user-centered decisions. The data you have collected demonstrate that users are having particular problems with your website, and the improvements you make will be appreciated by all subsequent users trying to complete those same tasks.”


- The task exercise requires some tweaking:
  - exclude Reserves question (eReserve in D2L has eclipsed much of the course reserves search from the website).
  - with database searching, use a database title that is not too close to a subject - Food Science and Technology Abstracts was problematic.
  - the laptop question was perceived as more complicated than we intended. We just wanted students to know that a laptop was available for use, instead, the students looked for policy and took longer than necessary to complete the task.
  - we will consider at least one new task question to replace the Reserve question.
  - heat mapping software was utilized and we will analyze its usefulness for the next round of testing.
  - take into account test setting and affect in results - we found the subjects scanning pages without really settling into reading and likely this was due to nervousness. The hours question was the first task question: was the difficulty encountered by two of the three students due to not being quite warmed up and relaxed yet? We should include some warm-up questions prior to the task, for example: What is the first thing you noticed (or looked at) when you launched the RULA homepage? What’s the second?
  - Related to the previous comment, take into consideration what is called the Hawthorne Effect - the “observer” effect. Students response to the tasks, in
particular, might not be wholly authentic in some cases. The response to the “Hours” task was particularly puzzling and should be taken with a grain of salt - it was also the first task in a list of ten and may reflect the students’ not being warmed up yet.

- the deconstruction exercise was very useful and the most enlightening exercises were the ones where subjects had to choose and talk about the parts of the website they use and do not use.
- With the focus group exercise it was helpful to have the students revisit the RULA site after they had a fair bit of exposure to other sites. We found their comments richer once they warmed up.
- Focus group exercise benefitted from live projection of each website in addition to providing the print versions.
- For subsequent UX testing we need to consider who our target audience is to leverage the study for design improvements: likely not power users, possibly 1st year undergraduates.
- In the short term, conduct the same testing with a number of campus groups - faculty, grad students, undergrads and ask a librarian staff (non-Ryerson)
- Best ways to report the information should be considered in terms of format.