Usability Test Report

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Introduction

The final test we performed with the Sno-Isle Library website was a usability test, a testing method wherein test users are assigned specific tasks to complete on the website. Usability testing is another method for evaluating the usability of user interfaces.

What is Usability Testing?

In our usability test, volunteer participants were recruited and assigned a set of tasks to complete on the website. All participants were given the same tasks, described to them as parts of user scenarios with a script by the test moderators (in this case, us). The tasks, described below, were core tasks that the site is designed for, fairly straightforward and clearly described before carrying them out. The goal was not to have deep, arcane or unusually challenging user tasks.

The participants carried out the tasks under the observation, with minimal correction, clarification and leading from the moderators. As they worked we took notes on any difficulties they encountered, and many other thoughts or events we felt might be relevant and/or informative.

For example, the time it takes users to complete the individual tasks might be relevant and noted if there is a significant disparity between different tasks or users. The moderators also paid heed to and took notes on the user's mood and demeanor, noting frustration, elation or despair at their success or failure on the site.

Jakob Nielsen describes usability testing as having five important components:

Learnability- How easy is it for users to accomplish basic tasks the first time they encounter the design?

Efficiency- Once users have learned the design, how quickly can they perform tasks?

Memorability- When users return to the design after a period of not using it, how easily can they reestablish proficiency?

Errors- How many errors do users make, how severe are these errors, and how easily can they recover from the errors?

Satisfaction- How pleasant is it to use the design?[1]

The Value of Usability Testing

According to Jakob Nielsen, a small number of usability testing participants can reveal a large percentage of potential problems. We will be administering the usability test to twelve classmates, which according to Nielsen's graph below should reveal over 95% of the issues that we're after.

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[1] https://www.nngroup.com/articles/usability-101-introduction-to-usability/
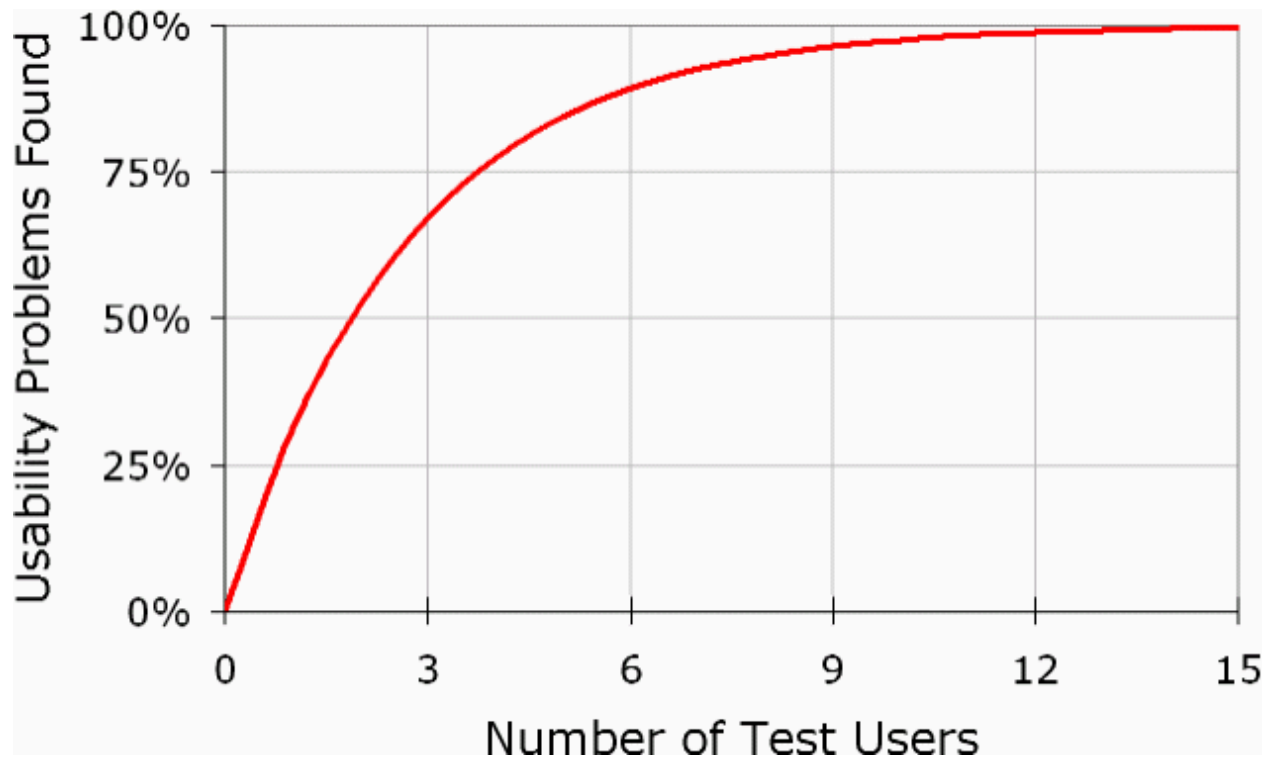
Research Questions

The main goal of this usability test is to improve our understanding of the current site structure, how a casual user interacts with that structure, and what changes can be made to improve the usability of the site. There were several research questions we wanted to explore while conducting this usability test.

1. What kinds of user paths do the users choose to accomplish their tasks?
2. Is the layout of the website navigation effective for users?
3. Is the visual layout of the website effective for users?
4. Does the site have the required features? Are they being displayed properly?
5. What changes can be made to improve the usability of the site?

Scenarios and Tasks

We used seven scenarios for our usability testing. These were in many cases similar to the scenarios created and used for our heuristic analysis, i.e. simple background stories to consider when completing tasks on the site. The scenarios and tasks we used are:

Scenario #1: *Participant is a new transplant to the Snohomish-Island County area, specifically they have recently moved to the city of Snohomish. They need to become a member of the local library system.*

Task A) From the homepage (without using the site search feature), find a way to get a library card for the Sno-Isle Library system.

Task B) Log in to the Sno-Isle library site with your new account.

Scenario #2: *Participant is an avid reader who wants to explore what their local library system has to offer. They want to use the search function on the website because it will show them all the books and resources in the region, not just at the library closest to them.*

Task A) From the home page, find a scholarly article on psychology.

Scenario #3: *Participant is a casual library user who simply prefers to check out books rather than own them. They are looking for a new book to read without any preconceptions of what that might be.*

Task A) From the home page, find the library's lists of recommended books.

Scenario #4: *Participant has a question that they cannot find the answer to anywhere on the site. They now want to ask for help from an expert.*

Task A) Find a way to chat online with a librarian from the home page.

Scenario #5: *Participant wants to find the library closest to where they live.*

Task A) Find the nearest library if you live in the city of Snohomish.

Scenario #6: *Participant wants to learn about web design on their own with a book from the library.*

Task A) Find the book "Web Design For Dummies" by Lisa Lopuck, and put it on hold to pick up at your nearest library.

Task B) Cancel your hold on the book.

Scenario #7: *Participant is the parent of a middle school aged child, and is looking for tutoring for their child to aid with homework.*

Task A) Find a homework help or similar workshop suitable for a middle school student.

These scenarios were used to write a script that was read to participants before they carried out the tasks under each scenario respectively.

Participant Info

An optimal usability test will test the client's target demographic. For our purposes we had access to a group of a dozen students from the ITC298 class at Seattle Central College, and these were our participants.

However, the scenarios and test tasks were designed with the target audience of the library in mind. As a library system has a very broad user base, we had to consider many different kinds of users when designing the scenarios.

Methods

A tester's script was prepared ahead of time, and each participant session was conducted according to a plan and using this script. The basic workflow of this was as follows:

- Greet the participant, introduce the tester and describe the usability test.
- Participant fills out a release/consent form.
- The participant is given an entry survey, providing basic information such as gender, age, occupation etc. This survey also included some more specific questions about library usage.
- Tester narrates a series of six specific tasks for the participant to complete on the Sno-Isle website. Participant completes or attempts to complete these while thinking aloud for the tester and video. Tester observes and takes notes on the subject's attempt methods, mood, success or failure and anything else that might be relevant.
- When the participant is through with the tasks, tester gives them an exit survey and interview, again with a planned set of questions. This set is longer than the entry survey. It measures the subject's satisfaction with aspects of the website and user experience, as well as their overall feelings about the site. They are prompted to offer their own recommendations at this point.
- Tester thanks the participant for their time and contribution.

Logistics

The usability test was conducted in five hours over the course of two separate days. We had a total of eight participants in the test, with each member of our team administering the test to two people over the two days. The team members were responsible for taking their own notes on the tests as well as administering the tests.

The tests were done in our classroom at Seattle Central College, on identical computers for all participants and with the testers seated beside the participants. Testers read from a printed script and gave printed copies of the intake and exit surveys to them to be filled out on paper. The task completion portions of all the tests were recorded via YouTube/Google Hangouts screen sharing.

Results

Participant Reactions: In our post-test questionnaire we posed several questions to the participants to gain further insight into their thoughts about the website. Below are some quotes we recorded:

What are your overall opinion of the Web site?
"On the surface level I don't really have too many problems with the site. It seems like there are some redundant nav items, and strange ones[labels]. *New Items* does not seem to like it should be it's own nav"

"Color choices/fonts could be freshened up. Should be run through a card sorting process for better architecture. Chat was fast and helpful."

Would you return to this Web site on your own in the future? Why/why not?
"Maybe-got some good suggestions from the chat."

"No, I don't live in Sno-Isle. I *rarely* go to the SPL[Seattle Public Library]."

Are there materials you would like to see added to the Web site? Which ones?
"Audio books"

"I feel like there is already too much."

Would you recommend the Sno-Isle website to a colleague, friend or anybody else who you think may be interested in the site?
"Not yet"

"If they lived in the area and needed to borrow a book?"

I found the following aspects of Sno-Isle Library website particularly in need of improvement:
"Information architecture, visual design, classes or workshops [need to be] clarified."

"Had a lot of trouble finding the homework workshops, finding research articles, a little strange there are two searches in the top left."

I found the following aspects of Sno-Isle Library website particularly satisfying
"Chat, placing item on hold and cancelling seemed pretty smooth"

"Holding books, the catalog search worked as expected, the home button"

Site structure and page locations
"Could be improved with card sorting and heuristic exercise."

Site navigation and ease of movement throughout the site
"Main nav could use drop-downs and combine things like books, ebooks, magazines etc"

"I think there are too many main navigation items. Seems like book and ebook could be in the same categories. I thought articles should be in the eBooks & more."
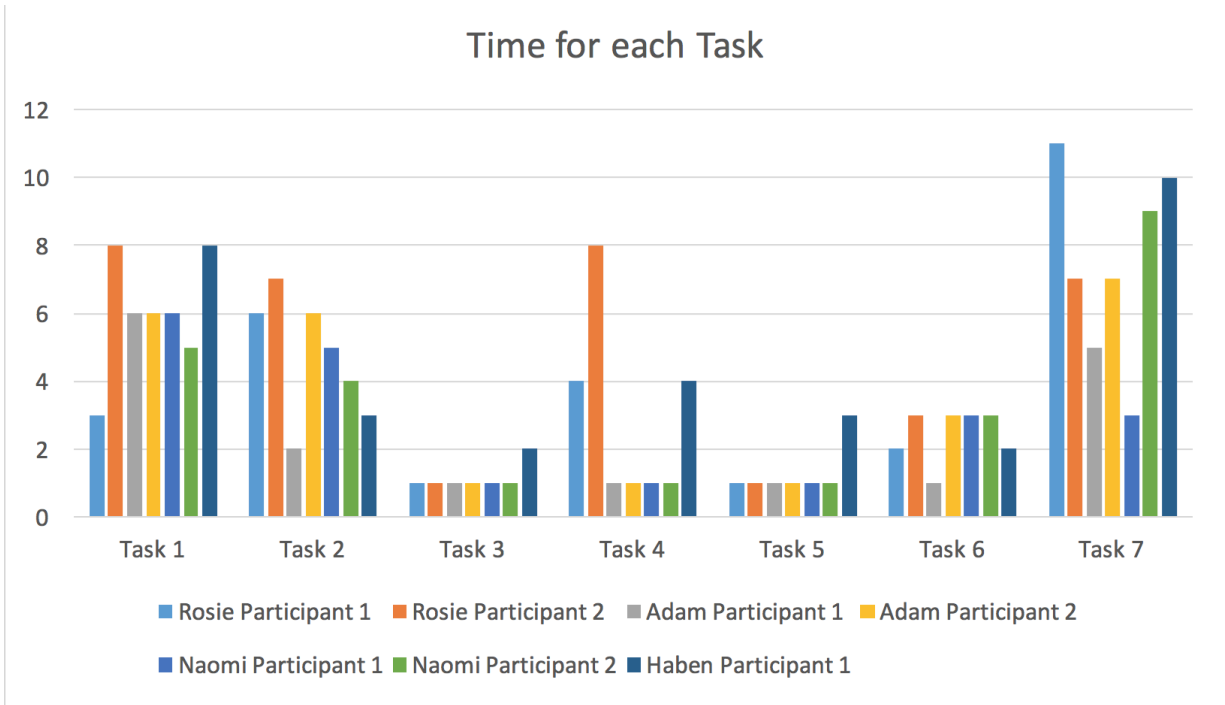
Site visual appearance and visual appeal
"Colors are bland-spotlight images need help"

"I don't really have a problem with the appearance. I think it's cluttered but it is also informative."

Charts

The chart below is the time (in minutes) it took each participant to do a task, completed or not. It is the rounded average of all our participants.

This chart shows the level of agreement with the statements the participants felt.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Is satisfied with the ease of completing tasks.			1	6	
Is satisfied with the amount of time took to complete each task.			1	6	
Found that information was easy to find.		1		4	2
Website hierarchy is intuitive.			2	4	1
Would have organized the site information navigation differently.	2	5			
Thought the site was consistent in terms of navigation.		1	2	4	
Felt confident determining the pathways to find specific information.			2	2	3
Thought that most students would quickly learn to find specific information in this site.				6	1
The interface of the site is pleasant.		2	2	2	1
Terminology was clear and precise.		2	2	2	1

Here is the average from all participants and how they felt about the Sno-Isle website according to this scale below.

	-2	-1	0	1	2	
Difficult	2	3	1	1		Easy
Frustrating	2	3	2			Satisfying
Terrible		5	1	1		Wonderful
Hard to Navigate	1	4	2			Easy to Navigate
Confusing	3	1	2	1		Clear
Dull		1	5	1		Pleasing

1: New Library Card

Time on Task: 6 min

Task Completion Success Rate: 100%

Notes: Participants seemed to want a faster way to get a library card, a more prominent button to see and click on to get through the disclaimer information on the registration page. However, as this information serves an important and relevant function on the page, and users will not need to deal with the page more than once, we do not view this as a serious problem.

2: Scholarly Article

Time on Task: 4.5 min

Task Completion Success Rate: 87.5%

Notes: One subject gave up on this task entirely. Participants frequently tried to find articles through the main catalog search, as suspected. Some expressed frustration at abandoning the Sno-Isle navigation to find these articles in the database section.

3: Book Suggestion

Time on Task: 1 min

Task Completion Success Rate: 100%

Notes: All participants completed this task quickly and easily from the home page.

4: Online Chat

Time on Task: 3 min

Task Completion Success Rate: 100%

Notes: The information that was received in the chat sessions was helpful and applicable. However, there was an issue with getting back to the Sno-Isle main page

from the chat session. Participants were confused at the disappearance of the standard navigation, and the lack of a path back to the home page without using the browser's back button.

5: Find Your Library
Time on Task: 2 min
Task Completion Success Rate: 100%
Notes: This task was easily and quickly completed in the same way by nearly all the participants, by viewing the map and finding the Snohomish Library on it. One participant who did not immediately locate this map had trouble finding the library through other means.

6: Book Search and Reservation
Time on Task: 2.5 min
Task Completion Success Rate: 100%
Notes: This important task proved easily for most participants; however some expressed confusion at the advanced search options in the catalog search.

7: Calendar
Time on Task: 8 min
Task Completion Success Rate: 75%
Notes: This scenario proved to be the most challenging of the seven for most participants. One subject went so far as to Google search in order to try and find the event calendar for Sno-Isle. The main issue seemed to be that there is no calendar or event link on the nav bar or elsewhere on the home page. Users went through the kids and teens links repeatedly, as these were the most relevant links to the task visible to them.

Conclusions

Based on our observations of the usability test sessions, as well as the data and questionnaire answers that were gathered from our test participants we can make the following suggestions for improvements to the Sno-Isle Library website:

Prominent Registration Button - our subjects generally skimmed over the information and disclaimers on the registration page, in search of a large and visible button to register with as a new online user. Multiple participants gave feedback that they found this page frustrating and wished the register button was more visible/larger.

Default Password Visibility - let users know that the last four digits of their phone number will be their password, *before* they enter their information. This may affect what information or which number they wish to enter.

Speedy Password and Account Retrieval - thirty minutes is an unacceptable amount of time for simple password and username retrieval. Sending users their password rather than forcing them to choose a new password is also a security risk, though it may be an acceptable one for a library website.

Consistent Navigation - standardize the navigation and nav bar in as many areas of the site as possible, and always include a logo home button in the upper left for users to start over from the home page when they need to.

Navigation Gateway to Events - the event calendar is not clearly marked or navigable from the home page, which is a major problem. The result of this was that most of our study participants tried to go through the Kids or Teens gateways to find the homework help workshop for task 7. Simply including the calendar in the nav bar would go a long way toward rectifying this.

Display Search Instructions on Event Page - a brief, simple set of hints and/or instructions for using the event search function would go a long way toward being able to find a specific event for users.

Appendix

Usability Testing Moderator Kit

Test Script
Participant Consent Form
Pre-Test Questionnaire
Moderator Task List
Test Cards
Moderator Notes Form
Post Test Questionnaire