

Accessibility / Usability / Redesign Report

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Introduction

The Michigan State Digital Scholarship Lab is a state-of-the-art technology lab, opened in February 2018. The space in the MSU Library features technologies such as VR headsets, a computer lab with advanced Mac and PC workstations, as well as a 360-degree immersive visualization room that accommodates up to 15 students. The space is available to the public and welcomes users of any discipline or level of experience. In order to aid in presenting information regarding the space and allow for sign-ups for specific areas of said space, the lab has its own website.

Executive Summary

This report is a summary of the findings and recommendations established after completing a redesign of the MSU Digital Scholarship Lab. This multiple-step process took data from previous research done for this space in order to create sketches, wireframes, and eventually our final production design of the site.

We approached the final design by first designing individually. By taking this approach through each step of the process, we were able to gather the best features from each sketch/wireframe to produce a very polished final product. The primary deliverables aside from this report are the final website design/prototype, our recommendations, and the design style guide.

After our usability research and group discussion our recommendations were established as follows:

- Make hours more visible
- Reintroduce some of the branding from the DSL including brushstrokes and some softer colors
- Make useful information more densely organized on the main page
- Make the website a continued experience of the DSL

Based on our findings we developed this list of recommendations for improving the Digital Scholarship Lab's website, and present a discussion on the potential limitations of our analysis.

Methods

The step-by-step process of this portion of our research was as follows:

Individual Sketches



Individual Wireframes



High-Fidelity Design



Usability Testing



Final Production Design



Accessibility Style Guide

To begin, each group member individually completed their own sketches of a redesigned DSL website. The idea behind this was to get our initial thoughts out onto paper as quickly as possible. In doing this we were able to quickly iterate and develop.

The next step of the process was to take our initial sketches and produce wireframes. These allowed us to come together and compare/contrast the features and organization of our individual pages. This worked out well as we were able to determine the best features of each and produce a list of things we wanted in the overall design as well as the design of the individual pages.

The wireframes were then redone in Figma to begin a high fidelity mockup of our ideas. This took a long time to make a functioning and beautiful mockup.

We then took this mockup to our users to find out what they thought of our design in both form and function. The feedback from the users is what informed the development of the final production model.

The accessibility style guide was finalized after the rest of the work was done because understanding where our design fell short on accessibility during the usability testing was important to make sure the style guide was inclusive of all of the areas important to MSU and the WCAG guidelines.

Key Findings

There was a lot of information gained from both usability testing and the creation of an accessibility style guide.

The first of our key findings from the usability testing is that we need to make hours more visible to users of the site. We did not originally think that making a separate page for hours was a good idea due to the lack of other information that would go on that page. However, the addition of an hours page on the original website gives users a large, visible button to push if they wanted to know when the Digital Scholarship Lab was open, something that we took away without thinking about it. Although we still do not like the idea of a dedicated hours page, we will be making the hours more visible on the final mockup.

The second of our key findings is that we need to reintroduce some of the branding from the DSL including brushstrokes and some softer colors. While our redesign got a nearly perfect score for aesthetics in the usability tests, it was made clear to us by a DSL employee that we haven't stayed entirely true to the form of the space that the website is a part of. This is something that we also wanted to implement in our final mockup.

A third finding is that we need to make useful information more densely organized on the main page. Some users did not like the vague and introductory information on the main page and would like to avoid navigating to another separate page to get this information.

A fourth finding from the usability testing is that overall, what we need to do is make the website a continued experience of the DSL. We want to make the website work as a thoughtful extension of the UX of the DSL. This is something that we are capable of doing from our XA background but it means that we need to do a lot of work understanding the space as a whole. Generally, XA problems have been something that we have worked on from the ground up on. While this may be pitched as a redesign, it is also a rethinking of what role the website plays in the DSL experience.

Discussion

We gained a lot of knowledge through this experience, though there are a few things we would do differently in the future. The majority of our testers were students in their twenties, it would have more beneficial if we had more variety in age to better represent the range of users in the DS Lab. We found the testers in their twenties had an easier time with our prototype than the older testers, but we need a larger sample size to confirm this. The one faculty member that participated in our usability test didn't understand that our prototype was not fully functional. In the future, we plan on better explaining the limits of the functionality of the prototype to make sure the tester fully understands the capabilities before the test.

During the testing process, we used screen recordings and video of the users during the test. We used the recordings to observe non-verbal reactions as well as to keep track of the time each task took to complete.

Ideally, with the data we've gathered, we would go back into the design phase and then retest again. But because we have limited time we were only able to make a few changes and suggestions.

Conclusion

Testing our prototype for usability was necessary for understanding how real users would interact with our product. This brought a couple of important changes in the way that we are thinking about the design as a whole. These changes would not have been thought of if not for putting our product into user's hands. This is the key focus of the user experience field and something that is clear every time we design products. The [accessibility style guide](#) is something that we have been working on and thinking about throughout the entire design process because we know that accessibility must be something built from the ground up. The [MSU standards](#) will be the standards to follow for the DSL. Using the W3C WCAG 2.1 AA Guidelines will

be the best bet for making a website up to the standards of the University and the internationally recognized standards as well.

With all of these suggestions that we have for the website redesign, we have now made sure that our changes will be beneficial to users. The most important consideration going forward to our presentation is how to present this information to the stakeholders to get their buy-in for our ideas.

Appendix A:

Videos of the Usability Tests Can Be Found Here:

Raw Video Files Can Be Provided Upon Request.

1. <https://drive.google.com/a/msu.edu/file/d/10AYXusiuBhVqAmETyk9UiLFG7NxyInkl/view?usp=sharing>
2. https://drive.google.com/a/msu.edu/file/d/10xfu82Wt2eu1cbcGHWIOGwCvZPn17_Kv/view?usp=sharing
3. https://drive.google.com/a/msu.edu/file/d/17pb6QJO-wi_gU900xHHRsGspKZ68XdG0/view?usp=sharing
4. https://drive.google.com/a/msu.edu/file/d/19jzm4yajbF_9uaCdHwLn3GwX-qbZBIDP/view?usp=sharing
5. https://drive.google.com/a/msu.edu/file/d/1h4V_d5cRj4IMbaGDhbKFv-qtNbqH2aYk/view?usp=sharing

Appendix B:

Notes from the usability Tests Can Be Found Here:

1. <https://docs.google.com/document/d/10rbmZlaBs8LmyuhhqInLQXZAR2rnTFUhJ9EvR00jkOk/edit?usp=sharing>
2. <https://docs.google.com/document/d/1FxoqIT2Ttuzplw4eth-3lqCEDKuZfXU22KEbCwEaE4Y/edit?usp=sharing>
3. https://docs.google.com/document/d/1IzNxXnpN_RPim8UmNcf0q59ZPMgX7JbfbkV2WgTPHwV0/edit?usp=sharing

4. <https://docs.google.com/document/d/1MpmF971hF31eIwgx7xAdW8dyS XGzIMeNLUhWQlrWsOc/edit?usp=sharing>
5. <https://docs.google.com/document/d/1IU-RQELDMSI22S1KJSMVSTdEQ4pzKdvwJkPn8GFmXj4/edit?usp=sharing>
6. https://docs.google.com/document/d/1vfJOEbC8T_15ZA29ur_pSbepJA0XwVKNFyfd3kT81Co/edit?usp=sharing

Appendix C:

Tester Profiles			
Tester	Occupation	Major (if student)	Age
Tester 1	student	supply chain	20
Tester 2	student	Electrical Engineering	22
Tester 3	Faculty	N/A	64
Tester 4	student	Media and information	21
Tester 5	student	Experience Architecture	20

Task Rating			
Tester	Task 1	Task 2	Task 3
Tester 1	5	5	5
Tester 2	5	5	4
Tester 3	5	1	1
Tester 4	5	N/A	N/A
Tester 5	1	5	3
Average	3.5	4	

Follow up Questions					
Testers	Organizationally how would you rate the site?	Aesthetically how would you rate the site	Is there anything you disliked about the site?	How would you potentially improve the organization of the site?	How would you potentially improve the aesthetic of the site?
Tester 1	5	5	Not really, really simple to use	Spread out really far, condense, no major complaints	Blank areas, that could be potentially used

Tester 2	5	4	Not really, the symbols in the bottom, would be easier if a message came up	see previous	4, pretty good blue is too much
Tester 3	2	4	Does not work, can't navigate well,	Organization isn't so bad, it just shows you did it, and it's not helpful	Nothing specifically, it doesn't go anywhere
Tester 4	5	4	Nothing currently	The organization is mostly clear	Brushstrokes and other motifs
Tester 5	4 because it looks clean and is easy to navigate, the info needed was not easy to get	5, looks really good	Nothing specific	Even if it seems redundant, having information about hours, understanding that the times of the library aren't necessarily the time of the dsl being open	Pretty good to be honest, the contrast is good, the colors are good.
Average	3.5	3.7			