Thesis Project Portfolio

Enhancing User Experiences: A Technical Exploration of Website Redesign

(Technical Report)

Enhancing Digital Inclusivity Through Website Accessibility

(STS Research Paper)

An Undergraduate Thesis

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Table of Contents

Sociotechnical Synthesis

Enhancing User Experiences: A Technical Exploration of Website Redesign

Enhancing Digital Inclusivity Through Website Accessibility

Prospectus

Sociotechnical Synthesis

My STS research and technical research are loosely related, in that they both revolve around the process of website creation. My STS research focused on the intricacies of website accessibility, examining the current state of website accessibility, ongoing efforts to enhance it, and strategies for creating inclusive websites. My technical capstone involved participating in a website redesign process for an aerospace government subcontractor. Together, these experiences offered a comprehensive understanding of website development, from conceptualization to execution, highlighting the importance of prioritizing accessibility in digital initiatives.

Project Summaries

In my STS paper, I examined the current landscape of website accessibility, addressing the challenges faced by individuals with disabilities in accessing online content. I explored various initiatives aimed at improving accessibility, including the development of international standards by organizations like the World Wide Web Consortium. Additionally, I discussed the importance of creating accessible websites, emphasizing their role in promoting inclusivity and equal access to digital information and services. By analyzing the intersection of technology, policy, and societal impact, I shed light on the ethical imperative of prioritizing accessibility in web design practices. Through this research, I underscored the need for concerted efforts from all stakeholders to advance website accessibility and ensure a more equitable digital future for all users.

In my technical report, I outlined the process of redesigning a website for a Houston-based government subcontractor specializing in aerospace research and design. The existing

website faced issues with outdated design and poor user experience, prompting a strategic initiative for revitalization. Utilizing a range of technologies including HTML, CSS, JavaScript, Python, Django, and Wagtail, I conducted research, created wireframes, and implemented the redesign to improve user experience and increase website traffic. Drawing inspiration from industry leaders like KBR, Peraton, Boeing, and NASA, the redesigned website aimed to emulate their dynamic and engaging experiences while addressing accessibility concerns. Anticipated results included both quantitative improvements in website traffic and qualitative enhancements in user experience, validated through a post-implementation user survey.

Conclusion

My involvement in my technical project underscored the critical significance of ensuring website accessibility. Witnessing the direct impact of inaccessible design elements on user experience emphasized the ethical imperative of creating inclusive digital spaces. Recognizing the influence of website accessibility on individuals with disabilities, I wanted to delve deeper into this topic, driven by a desire to contribute positively to the digital landscape. Beyond technical considerations, the ethical implications of inaccessible websites extend to issues of social justice and equality, as they can perpetuate discrimination and hinder access to essential information and services. By researching website accessibility, I aimed not only to deepen my understanding of inclusive design practices but also to advocate for a more equitable online environment where all users, regardless of ability, can fully participate and engage.

Finally, I would like to acknowledge my STS professor, Professor Richard Jacques, my technical advisors, Professor Briana Morrison and Professor Rosanne Vrugtman, and my cat Butters for keeping me company during the long nights I spent researching and writing.