Abstract

The Introduction to Technical Writing class at the University of Pittsburgh tasked students with building a guide about a topic of their choosing. Our team project was built around topics of emergency devices. After the completion of the site, the students created and executed a usability report to better understand the design responses of users. This report documents the process for website and usability test creation, as well as research findings and plans for future updates based on feedback.

Introduction

To better inform the public on usage of emergency medical devices, a website was created to be an accessible guide, and then a usability test was conducted to further improve on the site. Within the website, four main devices and their uses were discussed, EpiPens, Glucose Injections, Narcan, and AEDs. Each section contained the symptoms of the medical emergency, steps to use the device, locations where individuals can find extra devices, and common errors to avoid. The goal of the website seeks to provide an accessible and clear message as to reach as many people as possible, so each page's information was limited to the most pertinent information about the emergency and the devices. The respective medical device pages link their sources, as does an overall sources page to provide easy access to more detailed information. Our team based the website design on previous projects completed by previous students in the Introduction to Technical Writing class.

Process Description

This project was a group effort using the scrum method. The scrum methodology breaks a project into several tasks with a short time period to complete them. These short timelines for

goals in the project can help motivate members, with clear and close deadlines. Throughout our process, only one actual scrum meeting occurred, completed on Zoom. Most of the members had never used this framework before, so changing the method of work proved to be difficult. The three of the members finished the research for their pages before the meeting. In the scrum meeting, while the fourth member worked on putting together the website, the other three edited writing and finished the fourth page. Working together on this project in the scrum meeting was more useful than originally thought. Sitting together and working at the same time, led to more focus. For another project,our team would ideally utilize more scrum meetings, but for this project, conflicting schedules and illnesses prevented in-person scrum meetings. At the time of the midterm survey, most of the members had begun their research, but the group had not met. However, the group members were proactive and held on track through our text group chat. The group put first things first and sought to understand and then be understood, through understanding when schedules conflicted or someone couldn't meet because of illness.

Group work can prove difficult for website development. As two members of the group do not have a strong computer science background and the other two are computer science majors, the technical coding work was split by major. The group decided to have one person put together the website and the other three to write, ideally creating a website as visually cohesive as possible. Our group trusted the member in their responsibilities, knowing that the member would have all the power to decide the outcome of the website and the completion of the site as a whole resting on them. However, working within such a well functioning group had previously built that trust through open and constant communication throughout the duration of the project. Having one main editor allowed for a more standardized writing style. The group started with the

end in mind, creating clear guidelines for each page, thinking about the big picture overall. These helped make research easier, speeding the search for specific information

For tools, our group used Google Documents, creating new tabs for each of the website pages. This made it easier for the member who needed to transfer that writing into the site. Plus Google Docs' ability for multiple people to work on the same document, allowed for group work during the scrum meeting. The group created a Trello board, but as most members were not accustomed to the site, it just seemed like an extra step, especially as the Google Document contained all of the information from the Trello board.

Usability Test Description

The group implemented a usability test to gain feedback for the website. The group created the form on Google Forms with inspiration from Don Norman's Principles of Design. Questions were mainly asked with a scale for the answers. There were also two free response areas for more specific feedback. The questions included topics of ease of navigation, formatting consistency, contrast, space, and repetition. The answers were on a scale with labels on either side to add clarity. The scale was chosen to reduce the burden of finding words to properly describe the design, as often free response questions are not descriptive enough to provide enough information. Having the scale also standardized the answers to the same description levels for answers. Most of the questions referred to the visual aspects of the website, as visual design is more subjective and less focused on in other classes.

Results and Discussion

The usability test had four responses. All of the respondents were members of the same Introduction to Technical Writing class and each had spent the past two weeks working on their own version of an informative guide website, giving them personal insight into the process. Interestingly, for three of the four scale questions, three of the individuals chose the same answer, with the fourth person choosing a different answer. The first question asked of the navigability of the website (Figure 1). Three individuals chose that it was very easy to navigate, while the fourth said that it was somewhat difficult to navigate. The general consensus is that the website is consistent between each page (Figure 2). For contrast of the website, the respondents were quite split (Figure 3). Overall, the average of the answers was leaning to be more difficult to read than not. Question 5 of the survey asked about the space of the website, with three choosing that there was a decent amount of space, with the final respondent answering that it was slightly crowded (Figure 4).

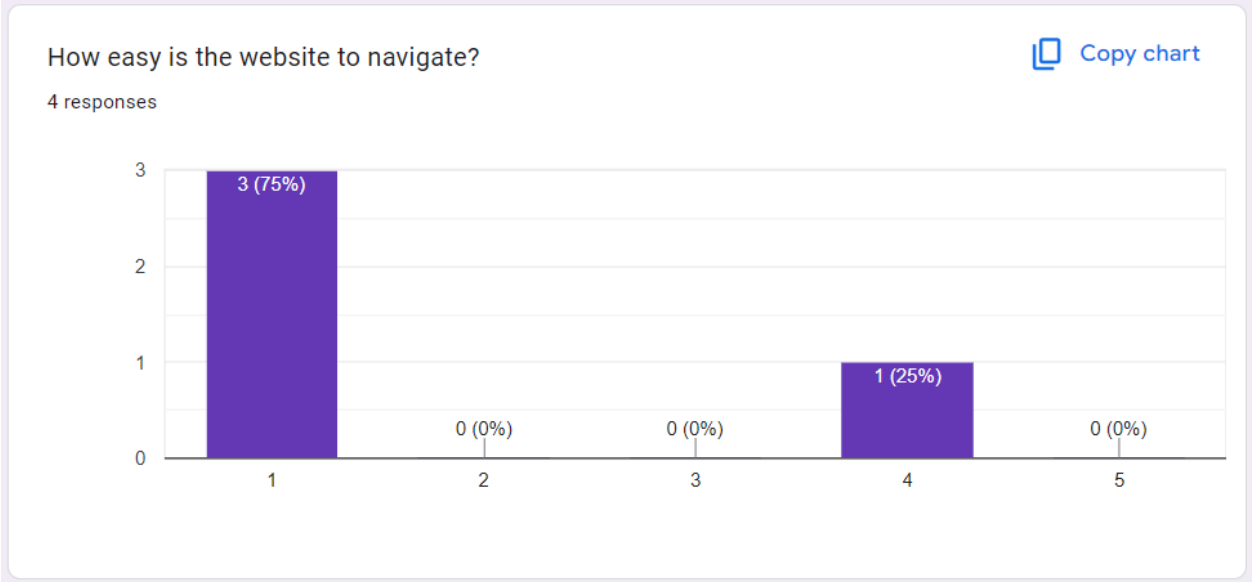

Figure 1: Question 1 of the survey. The scale is (1) Very Easy to (5) Very Difficult.

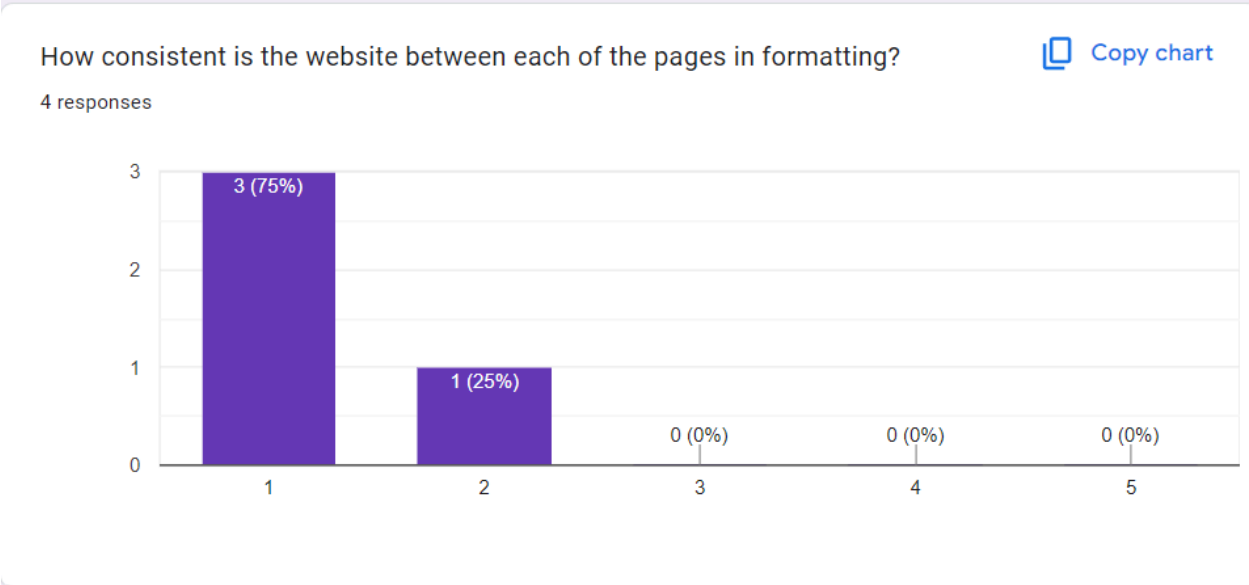

Figure 2: Question 2 of the survey. The scale is (1) All look the same to (5) Each seems very different

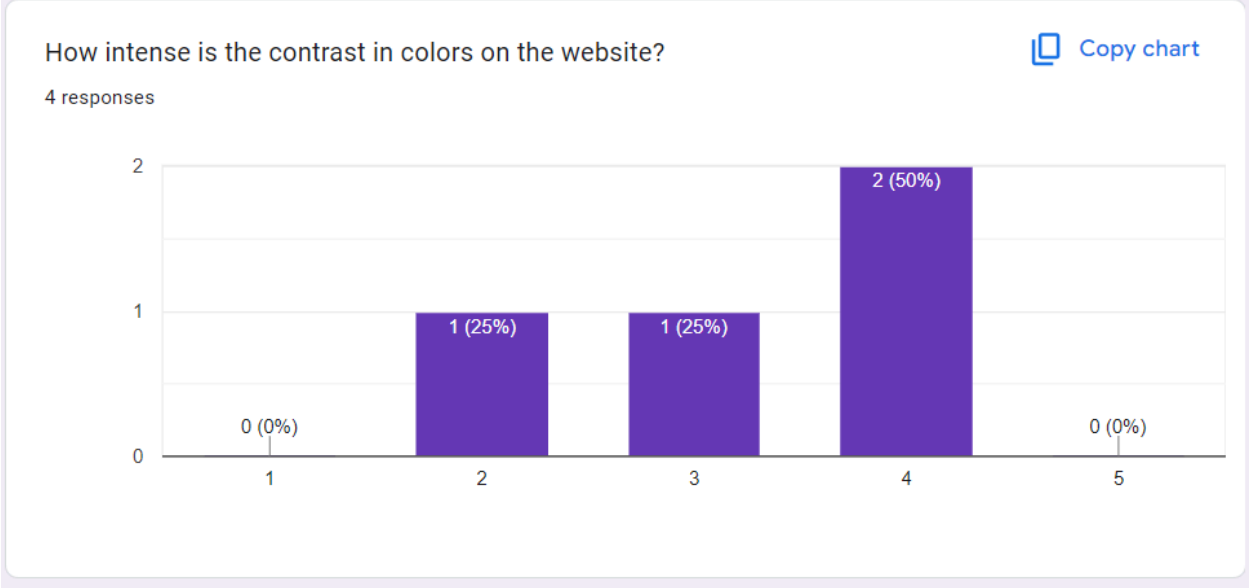

Figure 3: Question 3 of the survey. The scale is (1) High contrast (easy to read) to (5) Low contrast (difficult to read)

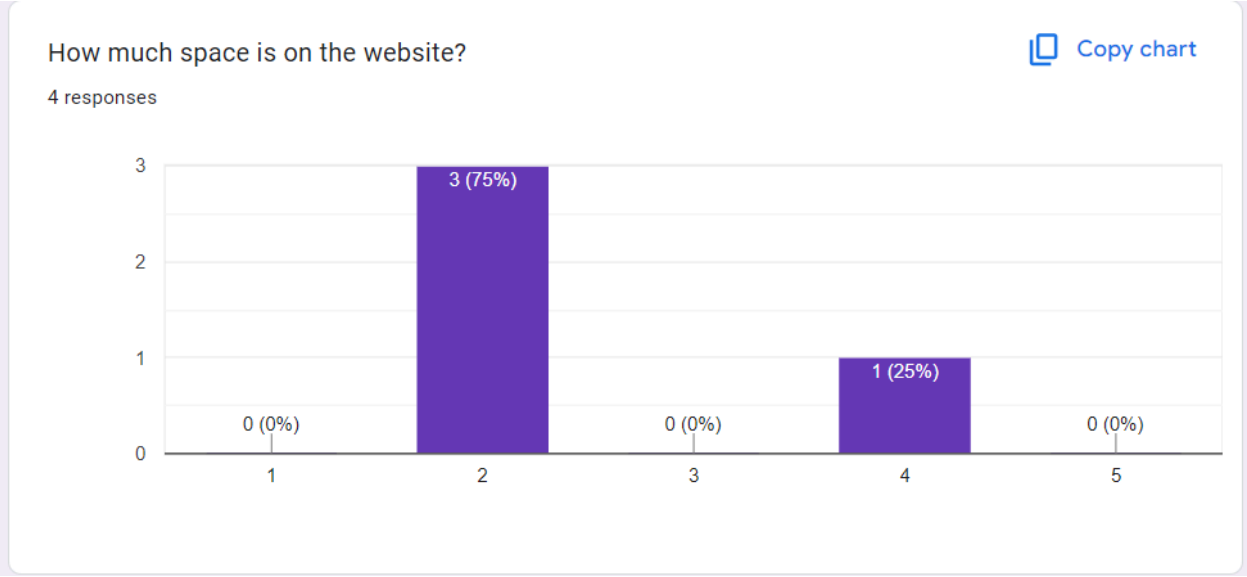

Figure 4: Question 5 of the survey. The scale is (1) Lots of blank space to (5) Not enough space

The short answer questions 4 and 6 asked about repetition on web pages and an open ended question on general improvements for the website, respectively. The respondents did not find any repetition on the website, but gave some interesting and useful insights for general improvements. Two respondents mentioned the spacing on the left hand side, one gave positive but not specific overall feedback, and the last recommended changing the titles in the navigation from the names of the devices to the emergency that they would be used for.

The main commentary for implementation relates to the navigation of the site. The HTML design used contains a navigation bar, but each individual page is not well separated. This leads to the side having a stack of words along the left side of the page without clear indexes. Adding more space will make the space much clearer. In addition, the recommendation to add the emergency that each device could result in a more informative tool, and will help make the overall project even more accessible.

Appendix

A- Website

https://charl-x.github.io/emergency-medical-devices/index.html

B- Repository

https://github.com/Charl-X/emergency-medical-devices

C- Usability Guide

https://docs.google.com/forms/d/e/1FAIpQLSc7ZRgw0ngvVlKAAm05xDMtglYKXjRynMeAA9KjUYyf25THOw/viewform