

Usability Study

Abstract

This report documents the findings of a usability study on The Emergency Medical Devices Training Manual. This study examines how readable, clear, and informative the manual is. It is imperative that this manual is accurate and clear as misuse of these medical devices could prove fatal. Moving forward, the feedback from the usability study will suggest changes to better accommodate for a varying audience.

Introduction

Emergency situations require bystanders to act fast. This manual aims to give prior exposure to common medical devices used in emergency situations, including EpiPens, Narcan, glucose injections, and Automated External Defibrillators (AEDs). Knowing how to operate these devices before an emergency can save countless lives.

The Emergency Medical Devices Training Manual is intended to give the audience an understanding of medical devices before an emergency occurs. This manual is created for the average civilian. Prior exposure to these devices could help save numerous lives and can increase the chances of survival for the victims in these emergencies.

In this manual, we wanted a calming color palette, utilizing a light blue for the background and other desaturated colors. The manual relies on images to help audiences understand the instructions. To create a simple way to navigate through the manual, we designed a sidebar of the separate medical devices linked to their respective pages. On these pages, the audience can find a description of the emergency medical device, where to find it, how to use it, and what to do after using it.

Process Description

In creating this project, my team utilized each of our separate talents to create instructions that were clear, concise, and easy to follow. As a team, we designated roles of web designer and writers. Some of the members of my team have not had very much experience in web design or code, so we designated the members of our team who are experienced in computer science to design our website.

My team managed to work through busy schedules, illness, and sometimes general confusion surrounding new aspects of web design, such as a license and creating a ReadMe. Over the course of our work, I fell ill. So, as a team, we worked together to figure out a different way to meet up and ultimately met over an online forum. To ensure our work is accessible to each other, we shared our work across the Trello platform and Google Docs. In completing this report, I learned that technology can bridge many gaps, and create a seamless and rapid workflow.

One thing I learned is how to create a ReadMe. Before this project, I never really had to think about how other people would contribute to my work. In creating a ReadMe, I learned how to create the architecture for others to contribute to my project.

Usability Study Description

To ensure that directions were clear and accessible in the manual, my usability study mainly asked about visuals and clarity of instruction. Additionally, I wanted to ensure that the website is intuitive and easy to navigate. In my usability test, I asked open-ended questions such as: “Are there any unclear instructions?” Then, I asked questions like “Do you have any

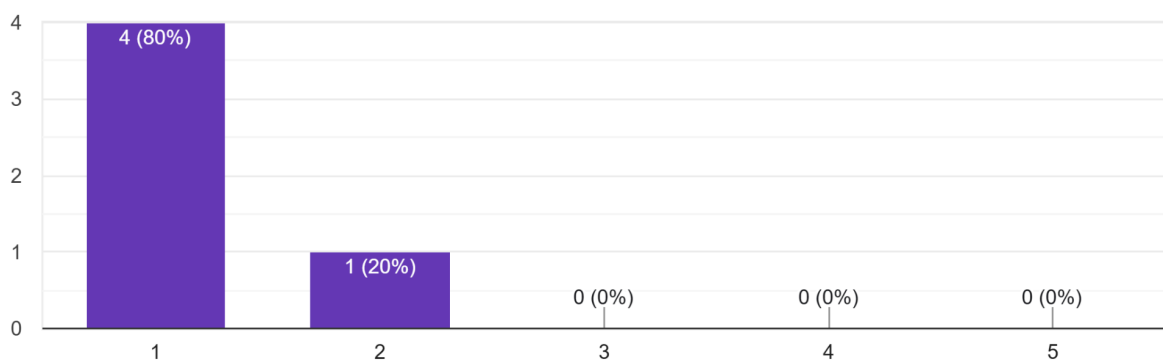
difficulty knowing how to navigate the website?” and “Do visuals help you gain an understanding of the devices?” with a response ranging on a scale of one to five, one being very helpful and five being not very helpful.

Results and Recommendations

Overall, the results of this survey recorded an overwhelmingly positive response. However, based on feedback, it is clear that the tool can improve. .

Is there enough contrast between the text and the background?

5 responses

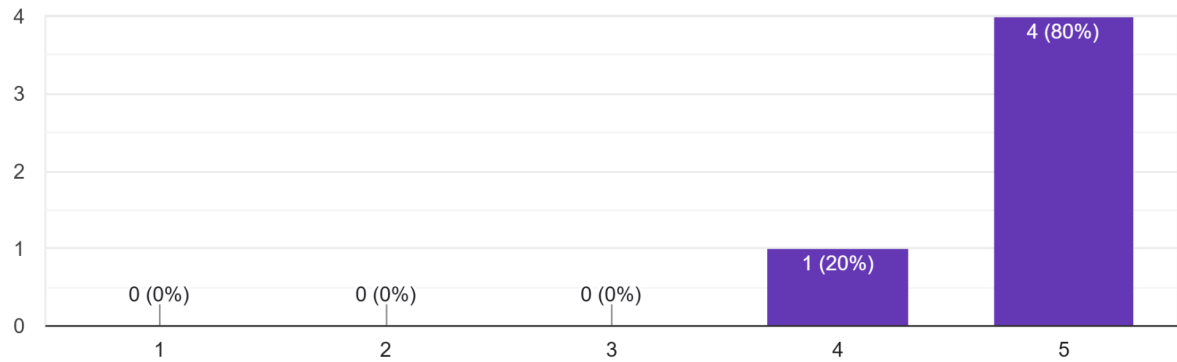


In this graphic, response scales from one to five, one means high contrast, five means not enough contrast.

While the data of responses to the question, “Is there enough contrast between the text and the background?” show that eighty percent of participants thought the contrast was very high and readable, one person thought that it could have more contrast. Increasing text to background contrast will improve accessibility for all users.

Is it clear where sections begin and end?

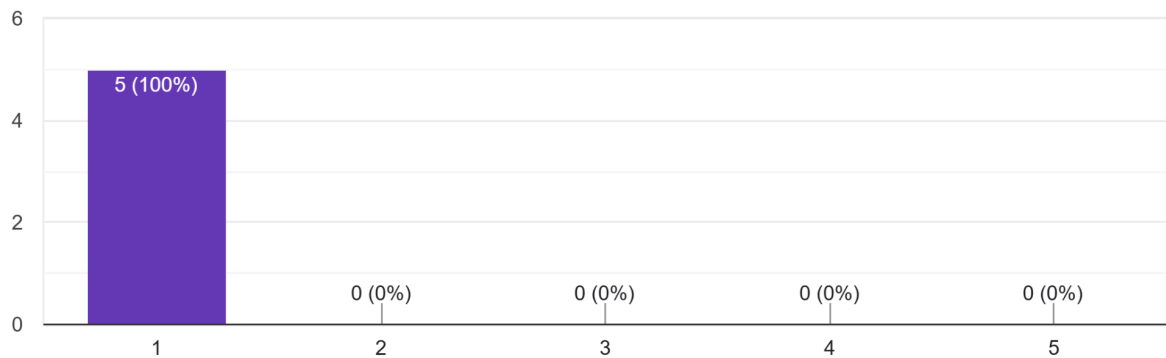
5 responses



In this graphic, response scales on one to five, one means unclear, five being very clear.

Do you have any difficulty knowing how to navigate to the website?

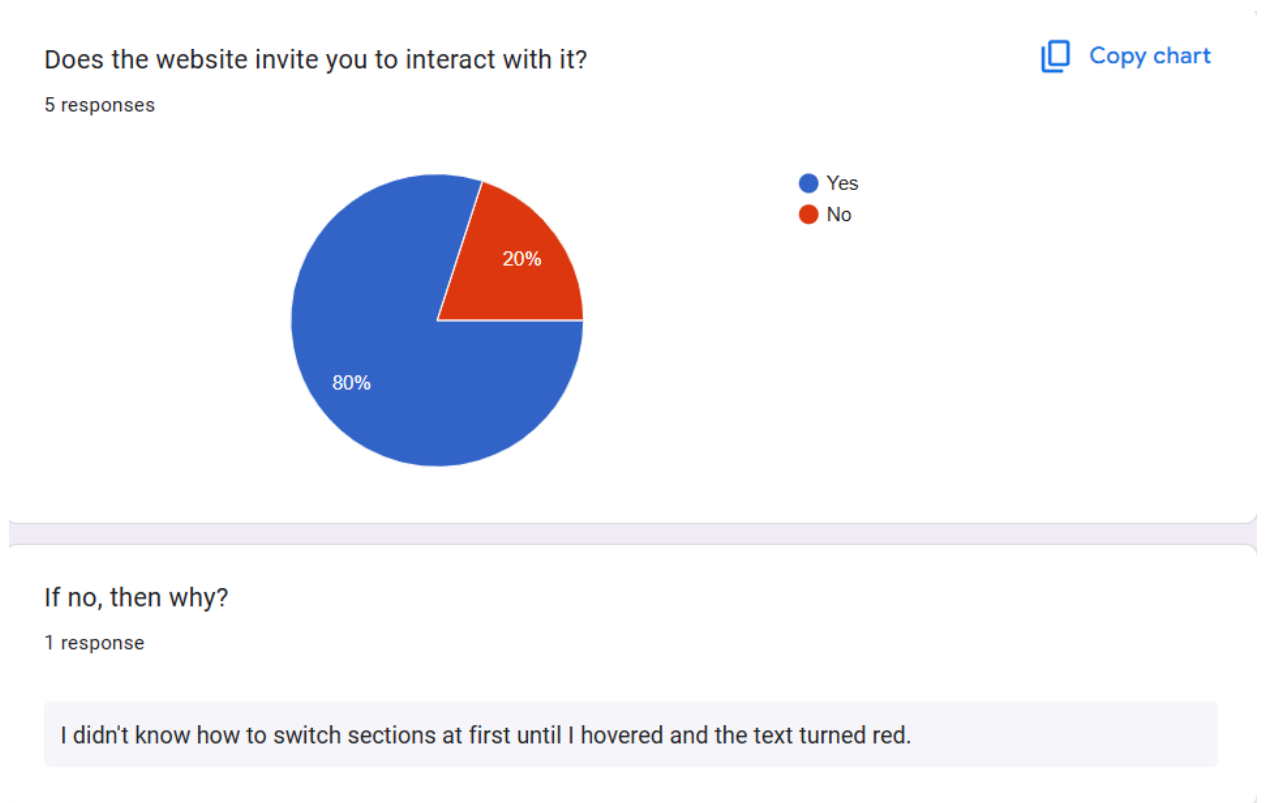
5 responses



In this graphic, one means very easy to navigate, and five means difficult to navigate.

While participants responded that they have no difficulty navigating the website, one participant responded that it was unclear where sections began and ended. To combat the lack of clarity of where sections begin and end, we can make the section titles less wordy, and space

them further apart. Utilizing lines to divide segments within the sidebar will improve design, giving each device its own respective box to select.



Finally, the participants responded overwhelmingly that the website invites users to interact with it. However, the one participant that responded “No,” and then elaborated, “I didn’t know how to switch sections at first until I hovered and the text turned red.” While we could attribute this to user error, it is evident that the format of the website needs to change slightly to ensure all users know how to interact with the website. To increase the amount of interactivity within the website, I think the sidebar that takes the reader to the other sections of the manual requires revision. Titles of each section require shortening because of redundancy. As of right now, these segments’ titles include, “EpiPen Injection Guide” “Narcan Usage Guide” “AED Usage Guide” and “Glucose Injection Guide.” The first revision I would implement is by taking

out the redundancy within the titles. For example, instead of “EpiPen Injection Guide” I would simply state “EpiPen Injection.” Based on the introductory page, the audience should understand this manual contains guides on how to use these medical devices, meaning that the word ‘Guide’ adds no new information for the audience. Shortening the titles would make them take up less overall space, and could possibly present with more clarity to the audience on what to click.

Overall, the positive feedback demonstrated that the manual was functional, however, further revision will refine the design to ensure clear, concise, and accessible instructions.

Appendix

[Emergency Medical Devices](#)

[GitHub - Charl-X/emergency-medical-devices: A usage manual for common emergency medical devices](#)