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# User Study Report

331 Warriors



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## Executive Summary

Our project focuses on enhancing the POS system for Rev's American Grill, ensuring it is accessible and user friendly for individuals with various visual impairments. Through our user studies, we identified three big personas: those who require text-to-speech (TOS) functionality due to severe visual impairments, individuals with color blindness needing distinct color palettes, and users who benefit from larger text sizes for easier readability.

Our findings highlighted the need for improved navigation, better text visibility, and a more intuitive layout. To address these issues, we propose introducing a TOS feature, a font size toggle, and a color palette adjustment option. Additionally, we aim to simplify the POS system's navigation and refine the menu board's layout to enhance the user experience for the employees and customers who you self checkout.

These proposed design changes are geared towards making Rev's American Grill's POS system more inclusive and efficient, ensuring that all users, regardless of their visual capabilities, can interact with



the system effectively. This project presents an opportunity to set a new standard in accessible POS design, contributing to a better experience for all of Rev's American Grill's patrons.

## Personas

Persona 1 - this individual suffers from visual impairments to the point where they cannot read text on any platform. It is assumed that this individual has aids to help to navigate everyday life. For the purposes of our product, this individual would need a feature that allows them to audibly hear text from all pages on our site. For accessibility, this individual would need a simple method in activating text-to-speech for all pages.

Persona 2 - this individual suffers from color blindness to the point where they cannot distinguish certain colors from each other. It is assumed that they have no other visual impairment besides colorblindness. For the purposes of our product, this individual would benefit from different palettes that are friendly to color blindness. For accessibility, this individual would need a simple method in toggling color palettes for all pages.

Persona 3 - this individual suffers from a visual impairment, however, they are able to read text that is enlarged. It is assumed that this individual has visual aids to help them in everyday life, such as glasses or eye contacts. However, sometimes these aids prove to not be enough in certain cases. For the purposes of our product, this individual would benefit from larger font sizes used in our site. For accessibility, this individual would need a simple method in toggling font sizes to ensure that they can read text in all our pages.

## User Study Participants

Participant Name (May be Changed for Privacy)	Persona and Accessibility Needs	Responsible Team Member
Daniela	Daniela is an individual who suffers from colorblindness. This individual would like accommodations to ensure that she can distinguish colors while navigating our site.	Carlos Moreno
Carson	Carson has a visual impairment to the point where they have trouble reading text on our site completely. This individual would require a text-to-speech feature.	Maxwell Xie



Alex	Alex is an individual who has no impairments of any type to date. During the user study, we noticed that they had trouble navigating our site, and had to continuously ask how to navigate from one page to another. This user would benefit from a simpler navigation feature.	Mohammad Shohaib
Isabela	Isabela has relatively poor eyesight. He corrects it by wearing glasses, but for the purpose of this user study we requested for them to take them off. This individual would benefit from high contrast as well as large fonts.	Cole Mottin
Ethan	Ethan is an individual who does not suffer from any particular impairments. During the study, the user commented on how some colors do not contrast well on certain pages. This user would benefit in a better palette selection for all of our pages.	Christopher Liu
Kishan	Kishan is an individual who has no current impairments. This user accessed some of our pages, such as the menu board, and was confused about the layout of the menu as they thought that they could order items on this page. This individual would benefit from a better page layout.	Jose Rojo

## User Study Findings

After conducting our user studies, we synthesized our findings and highlighted the main recurring points that were brought up in our observations. The first one is regarding navigation, as it was brought up and seen multiple times from our user studies that people found it hard to navigate between the pages due to a lack of buttons allowing the user to move between pages. Another key finding that was brought up multiple times was the color palette we chose for the site, as it doesn't allow for the text on the site to be read very easily. This was something we failed to acknowledge but is something we'll take note of for future work. Finally, another final key point that was found across our user studies was that our overall site layout needs to be reworked, as it isn't intuitive for our users to use our site and understand where everything is.



## Proposed Design Moves

High-level Design Move	Detailed Description	Justification
Text-to-speech feature	This feature allows users to have text on our site to be audible to certain users. In essence, a button will be available on every page, and it will audibly present text on its respective page.	This feature is necessary for individuals with visual impairments. Based on our user study, individuals with these conditions had trouble reading certain aspects of our site, and this feature will ensure that they have a better experience in using our interface.
Font-size toggle feature	This feature allows users to have the font size of a page to be enlarged for individuals with visual impairments. This will entail a button that will be available on all pages, and it will enlarge text to the size that the user desires.	This feature is vital for individuals with vision impairments that are still able to read. From the study that we conducted, we noticed that certain individuals can still read text on the site, but struggle to fully see the text on the site. This feature will serve as an alternative to the text-to-speech feature.
Color toggle feature	This feature allows for users to have the colors on all pages to be toggled to more colorblind friendly colors. This will be in the form of a button similar to font-size toggle and text-to-speech features. It will allow for the user in question to toggle to colors that they can distinguish more clearly while navigating the site.	This feature is necessary for people with colorblindness. From our study, an individual pointed out that they had trouble distinguishing between the palette used in our sprint 1 implementation. Because of this, we are to research color palettes that are friendly to most blind people, and provide a toggle button that will ensure that these individuals have a great experience navigating our site.
Site navigation features	This feature would allow for all individuals to navigate our site efficiently. In essence, we would provide navigation of all pages back to a main page, which would connect all pages to each other. This implementation would be similar to our project two implementation.	This is necessary because almost all of the participants in our user study pointed out that our site navigation is confusing, and it is not a great design for first-time users. By doing this, we will ensure that all users have a great experience in navigating our site, and reduce the aptitude necessary to use certain features within the site.



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Menu board revision	This is not necessarily a feature, but more of a revision of the menu board GUI. Throughout the study, users commented that the menu board was a bit confusing, as they thought that it was supposed to resemble a checkout page.	This is necessary because we need all pages to be unique to an extent. Although this is only an MVP, it will be important in future sprints to ensure that the menu board has the least confusing functionality, as this will be used by users who will not be familiar with the system.
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## Appendix 1: User Study Observations and Interview Notes

Participant Name	Observations	Interview Notes
Daniela	Her body language and her facial expressions while she navigated through the site were rather tense.	She said that the site needed a back button for navigation and the color palette wasn't the best, especially for her as she is color blind.
Carson	Throughout the study, Carson was found to be very close to the screen and oftentimes had to enlarge the site itself and squint to read the text.	Carson mentioned that the text itself was somewhat hard to read at times against the background color, and the text was small on some pages making it hard to make out what was on there.
Alex	Had a strained look the entire time, and was somewhat annoyed, but that could be due to the study taking place during a lab session. Eyebrows were scrunched up for the majority of the study.	Alex mentioned that it may need to be more accessible and that the colors may need to be reworked. Also mentioned that the navigation through the site could be done better with a back button added.
Isabela	She had a relatively happy look throughout the study, and aside from squinting a few times kept a happy tone when asked questions and following instructions.	Isabela said that there weren't many issues with the site, and the experience was rather smooth. She did comment on how there was a lack of a back button, but other than that it was fine. It is important to note that she is near-sighted
Ethan	During the study, he portrayed no particular visual cues that indicated nothing of note was wrong. He was slouched over and very relaxed and was very nonchalant about the whole study.	Ethan didn't make any particular comments, with the main thing being that he thought the site was good so far and worked well. Other than that he didn't mention anything else of note.
Kishan	During the study, Kishan also didn't display many features that showed distress or annoyance. He was sitting up straight and at times leaned closer to see something on the screen.	The main point Kishan mentioned in his findings was that the site was a bit hard to follow and navigate as the layout was somewhat inconsistent and didn't follow the same naming convention.