



User Study Report

907-Group 30

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Executive Summary

In the modern era of customer service, especially in restaurant service, a customer should have a completely seamless experience from when they enter the business to when they are ready to leave. To satisfy this need, our team is constructing an all encompassing restaurant management and customer interaction system based on a web application that offers a streamlined interface with robust tools for employees, managers, and customers alike to efficiently reach their desired outcomes all while maintaining a high standard of accessibility that adheres to the current WCAG standards.

In order to better tailor our product to the needs of our users, it is necessary to gain an unbiased, user-side perspective on the design that has been implemented so far in order to adjust our design philosophy and plan changes. To gain this insight, each one of our team members conducted a user study interview where a user that matches the criteria that we are trying to cater to is given our most recent working prototype and asked to interact with it and give their thoughts.

Overall, we found that there are a few common areas of high interest that were focused on by all of our users. The main feedback that was received was concerning the intuitiveness of our interface in terms of how easy it was to access different features. Our users expressed a desire to have even more streamlined interactions where their finding of a given feature takes the absolute minimum effort. The other main topic was accessibility concerns based on how easy it was to be able to process the information shown by the website. They enjoyed our product's current level of color contrast but would like to see some tweaks in our formatting.



Based on this feedback, our team has put together a plan of design moves that will meet the concerns expressed in the testing sessions, which are all described in more detail below.

Personas

Manager Persona:

- Needs to view various data such as order history, employee performance, and business performance.
- Requires the ability to view trend reports to make business decisions.

Accessibility Needs:

- Managers with low vision need high contrast for better view.

Employee Persona:

- Needs to make orders, clear orders, edit orders, and view menu items.

Accessibility Needs:

- Employees with low vision need high contrast for a better view.
- Needs accurate translations to understand their task completely.

Customer Persona:

- Needs to manage orders, view allergy information, track order history and their points. They also should be able to log in to their own personal account.

Accessibility Needs:

- Customers with low vision need high contrast for a better view.
- GUI needs to be screen reader compatible.
- Need accurate translations to allow for a wider customer base.

Low Vision Persona (Vishnu):

Accessibility Needs:

- Customers with low vision need high contrast for better view
- Screen magnifier to view the content better.

Non-English Speaker Persona (Maria):

- Needs access to a translation-enabled website to be able to order.

Accessibility Needs:

- Requires Google Translate API to be able to understand critical information.

Blind Persona (Jacob):

Accessibility Needs:

- Needs effective screen reader compatibility to understand all critical information such as allergy information, order history, and order total.



User Study Participants

| Participant Name (May be Changed for Privacy) | Persona and Accessibility Needs | Responsible Team Member |
|--|--|-------------------------|
| Orion Karki | Vishnu; astigmatism, low vision | Gabriel Floreslovo |
| David Cheung | Maria; non-english speaker, low vision | Adam Teo |
| Aditya Nambi | Vishnu; low vision, Deuteranopia color blindness | Akshay Belhe |
| Sarthak Singh | Jacob; very low vision, anxiety | Christopher Avila |
| Caleb Lee | Vishnu; low vision | Aaron Mathews |
| Robbin Blair | Jacob; very low vision, anxiety | Margo Gongora |

User Study Findings

Accessibility Issues:

- Users with low vision encountered difficulties in reading small text and discerning ingredients due to poor formatting.
- Lack of translation functionality posed a barrier for non-English speakers, highlighting an oversight in catering to diverse user needs.
- The interface failed to accommodate color blindness, indicating a lack of consideration for users with color vision deficiencies.

Navigation and Organization:

- Users appreciated clear organization but desired more intuitive navigation methods such as tabs for easy category selection.
- Inconsistencies in sign-in processes and the absence of a visible home button affected user experience negatively, leading to confusion and frustration.
- Users found scrolling menus inconvenient and suggested implementing buttons for category selection to streamline navigation.

Feedback and Clarity:

- Users expressed confusion regarding the purpose of certain features like reward points, emphasizing the importance of providing clear context and guidance.
- Feedback mechanisms, such as low stock notifications, were appreciated but required refinement for better clarity and usability.



- Improvements were suggested to enhance visual feedback, like indicator changes on interactive elements, to aid users with low vision.

Design Aesthetics:

- While users generally appreciated the clean and organized layout, they desired more visually appealing elements such as vibrant colors and thematic consistency throughout the interface.
- Suggestions were made to enhance the aesthetics of the menu board to align better with the overall theme and improve user engagement.

Functional Enhancements:

- Users highlighted the need for additional functionalities such as the ability to sign up for rewards directly from the GUI and seamless integration of cart management features like auto-clearing after order submission.
- Managers expressed the necessity for comprehensive reporting tools and insights into customer rewards for better business management.

Technical Issues:

- Users encountered technical glitches like cart logic clearing issues, emphasizing the importance of robust testing and bug fixing to ensure a smooth user experience.
- Suggestions were made to improve the responsiveness of the application, particularly in addressing delays caused by scrollable menus and page refresh requirements.

Inclusivity and User Preferences:

- Users suggested implementing features like dark mode to cater to diverse user preferences and enhance accessibility for users with specific visual needs.
- Incorporating user feedback, such as the preference for a clean interface, into future iterations can contribute to a more user-centric design approach.

Proposed Design Moves

| High-level Design Move | Detailed Description | Justification |
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| Accessibility Improvements | Implement accessibility features such as text resizing options, improved contrast, and alternative text for images to address the needs of users with | Enhancing accessibility ensures inclusivity and compliance with accessibility standards, thereby improving the usability of the web app for a broader range of users. |



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| | low vision and color blindness. | These improvements align with the findings highlighting accessibility issues faced by multiple users in the study. |
| Navigation Enhancement | Introduce tabs or a navigation bar for easy category selection, replace scrolling menus with buttons for category navigation, and ensure consistent and intuitive sign-in processes across all user roles. | Addressing navigation issues identified in the user study will enhance usability, reduce user confusion, and streamline the user journey. Users expressed preferences for more intuitive navigation methods and consistency in sign-in processes, making this design move crucial for improving user experience. |
| Visual Feedback Refinement | Enhance visual feedback mechanisms such as changing button indicators and clearer notification messages to improve clarity and usability, particularly for users with low vision. | Improving visual feedback addresses findings related to confusion regarding certain features and technical issues encountered by users. Clearer visual cues and feedback enhance user understanding and reduce errors, contributing to a more seamless user experience. |
| Aesthetic Revamp | Implement thematic consistency throughout the interface, introduce vibrant colors, and refine the design of the menu board to enhance visual appeal and user engagement. | Enhancing the aesthetics of the web app aligns with user preferences and addresses findings related to the desire for a visually appealing interface. Aesthetic improvements contribute to a positive user perception, potentially increasing user satisfaction and engagement with the platform. |
| Functional Enhancements | Integrate functionalities such as sign-up for rewards directly from the GUI, auto-clearing of carts after order submission, and comprehensive reporting tools for managers to provide better insights into customer rewards and business performance. | Implementing additional functionalities based on user feedback and managerial requirements enhances the utility and value proposition of the web app. These enhancements address identified gaps in functionality and contribute to a more comprehensive and user-friendly solution. |



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| Technical Stability | Conduct thorough testing and bug fixing to address technical glitches like cart logic clearing issues and improve overall application responsiveness. | Ensuring technical stability is essential for providing a seamless user experience and preventing user frustration caused by technical issues. Addressing identified bugs and improving responsiveness align with the goal of delivering a reliable and high-performing web app. |
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Appendix 1: User Study Observations and Interview Notes

| Participant Name | Observations | Interview Notes |
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| Orion Karki | <ul style="list-style-type: none">- Page has clear organization - Images look good, likes the maroon theme- Images are very descriptive | <p>Customer Notes:</p> <ul style="list-style-type: none">- Would like tabs to select to see each category- Would like to make an order- Wants to be able to sign up for rewards on the GUI- No context for the available points (what to do with them)- There is no place to add to cart <p>Employee Notes:</p> <ul style="list-style-type: none">- Easy to find items and place order- Customer should not be able to get so far in employee login process (a customer could login with google Oauth) <p>Menu Board Notes:</p> <ul style="list-style-type: none">- Should be more on theme <p>Manager Notes:</p> <ul style="list-style-type: none">- Looks clean and organized- Simple to use/understand <p>Overall Notes:</p> <ul style="list-style-type: none">- Easy to use- Want tabs on customer views- Menu board should be more on theme- Add customer sign-up |
| David Cheung | <ul style="list-style-type: none">- Ingredient list is a bit messy: small font, weird formatting | <p>Customer Notes:</p> <ul style="list-style-type: none">- No translation functionality |



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| | <ul style="list-style-type: none">- Categorization is good- Menu board should have more color- Images are large and vibrant which makes it easy to pinpoint menu items | <ul style="list-style-type: none">- There shouldn't be scrolling, have buttons for each category to select- Add dollar sign to prices- Have to be very close to see names and prices- Simple menu board which is good <p>Employee Notes:</p> <ul style="list-style-type: none">- No translation functionality- Low stock notification useful but a bit confusing- Scrolling also not ideal- Categories are not formatted clear enough: larger font, spacing- Indicator on plus button (turn red) - Also a bit hard to see text with low vision <p>Manager Notes:</p> <ul style="list-style-type: none">- No translation functionality- Clean and simple, organized- Good on the eyes |
| Aditya Nambi | <ul style="list-style-type: none">- Sign in process is not intuitive, wants to sign-in from landing page GUI- Photos don't feel like an accurate representation of actual menu items | <p>Customer Notes:</p> <ul style="list-style-type: none">- Sign in here text is misleading <p>Employee Notes:</p> <ul style="list-style-type: none">- Scrollable menu is inconvenient, inefficient- Cart logic clearing issue (bug) only works on page refresh otherwise adds to previous order- Clear cart after order placed- Appreciate low use of colors and text stating button actions <p>Manager Notes:</p> <ul style="list-style-type: none">- Appreciates access hierarchy- Simple and easy to read with minimal color usage |
| Sarthak Singh | <ul style="list-style-type: none">- Appreciates big pictures and how clicking them shows info- Liked how the menu was large and easy to navigate- Enjoyed the vibrant colors as nothing blends in- Easy to understand the flow and makes it intuitive | <p>Customer Notes:</p> <ul style="list-style-type: none">- No place to add item to cart <p>Employee Notes:</p> <ul style="list-style-type: none">- Scrollable menu makes orders take longer- Menu should be a lot bigger for better view- Order receipt is too large |



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| | | Manager Notes: <ul style="list-style-type: none">- Appreciates being able to see all employee levels- Easy to navigate- Colors are easy on the eyes |
| Caleb Lee | <ul style="list-style-type: none">- Text too close to picture, small- Logo is not a home button or clickable- Ingredients not formatted well, hard to tell apart | Customer Notes: <ul style="list-style-type: none">- Sign in here not actually a button- Add ordering for customer Employee Notes: <ul style="list-style-type: none">- Autoclear after submit- Maybe bigger view after ordering- Reset the values on the left side Manager Notes: <ul style="list-style-type: none">- Want queries for various reports- Want customers and their rewards General Notes: <ul style="list-style-type: none">- Dark mode could be nice for some users who prefer that- Users like clean interface, it looks professional |
| Robbin Blair | <ul style="list-style-type: none">- Images could be made more accurate- Ordering system feels intuitive- Ingredient list isn't easy on the eyes | Customer Notes: <ul style="list-style-type: none">- Could add item to cart by clicking on the name or the image Employee Notes: <ul style="list-style-type: none">- Item quantities should reset- Low stock notification quantities aren't realistic- Wants customization for items Menu Notes: <ul style="list-style-type: none">- Thinks certain categories could have more items- Needs appropriate theme, too bland Manager Notes: <ul style="list-style-type: none">- Very few things for managers to do- Should be able to manage the inventory |