FINAL PRESENTATION & REFLECTION

ASSIGNMENT 4

25883224 - JADE VAN DER LINDEN
25847333 - KERRY- ANN UYS
25933337 - NICOLA DALE
25999958 - JESSICA MOSTERT

1. Introduction & Problem Statement

a. Briefly summarize the problem identified and the design goals.

The family-owned restaurant currently operates using a manual, paper-based system that was sufficient for managing a 30-seat capacity but has become inefficient and unsustainable as the business expands to accommodate over 200 customers. The reliance on chalkboards for tracking tables and handwritten paper orders has led to frequent delays, miscommunication, and operational inefficiencies. Employees must manually update table details, increasing the risk of misplaced orders, incorrect billing, and overbooking. Additionally, the lack of a centralized system makes it difficult for staff to coordinate effectively, resulting in slower service, frustrated customers, and reduced table turnover. Managers and owners struggle to track business performance, monitor staff efficiency, and ensure smooth operations due to manual inventory tracking. Thus, leading to ingredient shortages and last minute restocking issues.

To resolve these challenges, the design goals of the new digital system is to modernize and streamline current restaurant operations by replacing the outdated manual processes with an intuitive, automated platform. The system will provide employees with real time updates, ensuring that orders, table reservations and statuses are instantly reflected across all devices. Employees will use work tablets with role based access to improve security and accountability, enabling each employee to perform their tasks efficiently. Orders will be sent directly to the kitchen, reducing miscommunication and improving the restaurant's service speed. Automating table statuses will help to prevent overbooking and delays, leading to faster customer turnover. Customers will also benefit because they will have the ability to create reservations and view the menu online. In addition to this, managers and owners will gain greater control over business operations through real-time insights into performance, employee schedules, and inventory levels. By integrating and automating these key functions, the system will significantly enhance operational efficiency, increase employee productivity, improve customer satisfaction, and drive business growth.

b. Who are the primary users?

1. Managers/Owners: Oversee restaurant operations, manage sales, inventory, staff schedules, and user access, with higher-level permissions.
2. Waitstaff: Take orders, manage table bills, assist customers, and process payments.

3. Bus Staff: Clean and reset tables, update table statuses, and log broken items.
4. Kitchen Staff: Prepare meals, track and update order statuses, and manage food inventory.
5. Hostess: Manage reservations, assign tables, and handle customer inquiries.
6. Customers: View the menu and make reservations through the online platform.

c. What challenges does the system solve?

The digital restaurant management system addresses the challenges of the restaurant's outdated paper-based system by improving efficiency, accuracy, and real-time coordination across all roles. In order management, it reduces errors caused by misinterpretation, misplaced order slips, or unreadable handwriting by ensuring that orders are immediately sent to the kitchen, resulting in fewer delays and a smoother experience for customers. Employee coordination and communication are enhanced through real-time updates on table statuses and order progress, enabling hosts to manage reservations effectively, prevent overbooking, and reduce wait times. Buss staff are able to quickly clear and reset tables with instant visibility of table statuses which help to improve table turnover. The system also improves inventory management by providing real-time tracking, preventing unexpected shortages and ensuring timely restocking. Billing operations are streamlined, allowing employees to make instant adjustments, resulting in a faster and more seamless payment process. From a business oversight perspective, a centralized dashboard allows owners and managers to oversee inventory, shifts, reservations, and staff performance while analysing trends and peak hours to optimize daily operations. Customers also benefit from the ability to create reservations and view menus online without having to directly contact the restaurant. By automating business processes, the system eliminates order errors and miscommunication, speeds up service and table turnover, enhances staff coordination, and provides real-time updates for smooth operations.

2. User Flow & Key Features

a. Show how users interact with the system:

Please refer to the User Flow Diagram included below.

b. Walk through the main workflows:

1. If a user forgets their password, they can click the “Forgot Password” option. This redirects them to the Forgot Password Page, where they can reset their password.
2. After resetting, they return to the login page and attempt to log in.
3. If they remember their password, they can enter their credentials directly on the login page.
4. Once they have entered their username and password, they click the Login button.
5. The system verifies whether the entered credentials match a stored user account.
6. If incorrect, the system displays an error message such as "Incorrect username or password" and redirects the user to the login page to try again.
7. If correct, the user is redirected to the landing page, which displays the restaurant's table layout.
8. From the landing page, they can select a table, which redirects them to the table details page.
9. On the table details page, wait staff can edit table details, update table statuses, print the customer’s bill, clear the bill to reset it for the next customers, or add items to the customer’s order.
10. When wait staff select the “Add to Order” button, they are redirected to the Add to Order page, where they can access menu options.
11. Wait staff can browse the menu, select items for the order, and view the ingredients of each menu item by expanding the dropdown arrow. This enables them to notify customers of any potential allergens.
12. They then have the option to preview the order, where the system displays a summary of selected items, allowing them to review the order before finalizing it.
13. If any errors or duplicate items are present on the bill, they can make corrections before confirming.
14. Once confirmed, the order is automatically sent to the kitchen for preparation.

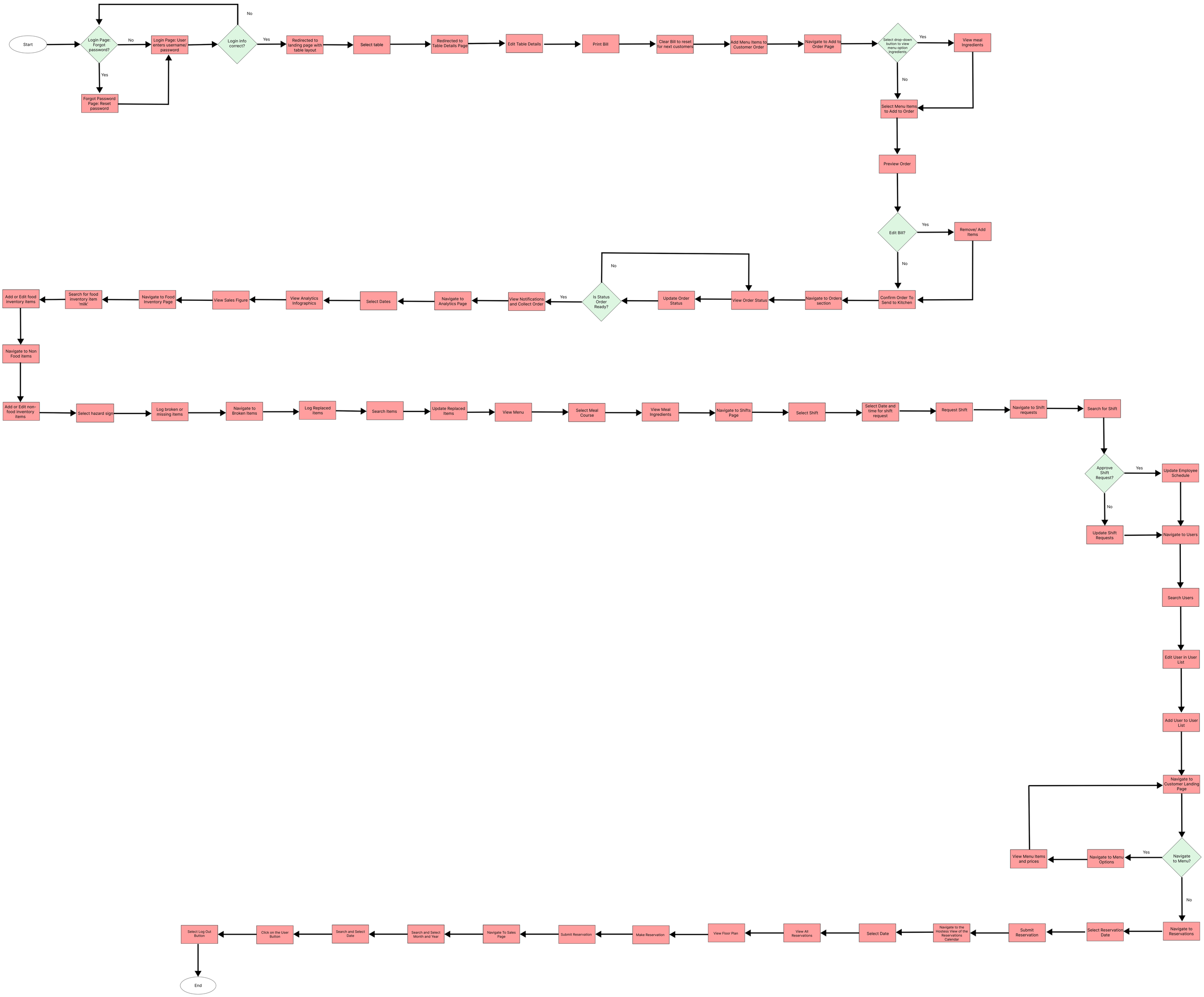
15. Kitchen staff can then navigate to the Orders Section, where they can view ongoing orders and their statuses, such as "In Progress," "Ready," or "Completed."
16. Kitchen staff are responsible for updating order statuses to notify wait staff when orders are ready for collection and delivery.
17. When an order is marked as "Ready", wait staff receive an automated notification, alerting them that the order is ready for pickup.
18. Only owners have access to the Analytics Page, where they can view analytics infographics and sales figures for the restaurant. If another user, such as a manager, wait staff, or kitchen staff, attempts to access this page, a notification appears stating that access has been denied. As a result, they will be unable to view analytics data.
19. Employees can navigate to the Food Inventory Page, where they can select food and non-food inventory items (such as utensils or cleaning supplies) to manage stock.
20. Employees can search for specific inventory items (e.g., typing "milk") to check stock levels, as well as add new items or edit existing stock details (e.g., adjusting quantities).
21. Additionally, employees can log broken or missing items by selecting the hazard icon. If an item is missing or damaged, they can record it for inventory tracking. Employees can also update inventory records when items are replaced.
22. Employees can navigate to the Menu Page, where they can view specific meal course options and their ingredients.
23. Employees can navigate to the Shifts Page, where they can select a shift date and time and request to work that shift. The request is then sent for manager approval.
24. Managers have access to all shift requests, allowing them to approve or deny requests as needed.
25. Employees can also search for specific shifts to check availability. Once a manager approves a request, the Employee Shift Schedule is updated accordingly.
26. Managers can navigate to the Users Page, where they can access employee details. This allows them to search for staff members, add new employees, and edit existing details, such as names or roles within the business. To prevent unauthorized access, only owners can access this section to ensure employees cannot modify their roles to gain access to restricted pages.
27. The customer landing page maintains a consistent system layout but does not provide access to personal information. Customers can either view the menu and prices to explore restaurant offerings or make a reservation online instead of calling the restaurant.

28. Customers fill out the reservation form and submit it once completed.
29. If a customer calls to make a reservation, hosts/hostesses navigate to the Reservations Page, where they select the reservation date on the calendar. From there, they can view all reservations for that date and manage waitlisted bookings by simply clicking on 'waitlisted' to remove them from the waitlist. When a spot becomes available, waitlisted customers can be accommodated. Hosts/hostesses are then redirected to a page displaying the restaurant layout and table availability. They can assign a table to the customer and submit the reservation, which is then saved in the system.
30. Owners can navigate to the Sales Page to track restaurant performance. They can search by month, year, or specific date, allowing them to view daily sales, pricing, and timestamps.
31. Lastly, when any user wants to log out, they simply click the User Button in the top right corner of the screen. A pop up logout button appears, allowing them to log out of the system.

c. Highlight any innovative UX/UI features:

1. The Waitlist Integration for Reservations is an innovative feature that enhances efficiency and improves the user's experience. Instead of manually having to track waitlisted customers and having to re-enter their details, the digital system allows hosts/hostesses to add waitlisted customers to a reservation with a single click when a table becomes available.
2. Customers with allergies, dietary requirements, or preferences (e.g., gluten-free, vegan, allergies) often ask for a detailed list of ingredients before ordering. The Dropdown Ingredient View is an innovative feature because it enhances efficiency, accessibility, and customer safety by allowing the waiter staff to quickly access ingredient details without having to leave the order screen.
3. The landing page and reservation system displays an interactive floor plan of the restaurant's layout, showing tables in their actual arrangement. Hosts are able to view real-time table statuses (e.g., occupied, clean, reserved, or empty) rather than relying on a list-based system. Instead of manually entering a table number, hosts can click directly on an available table to assign it to a reservation.
4. The Broken Items Inventory list enhances accountability and efficiency by providing a dedicated logging function for damaged items. Unlike traditional manual tracking, staff can log broken items in real time, while only managers have approval access. Instant notifications inform managers, and a historical record helps identify patterns of breakage. The system automatically adjusts stock levels, preventing miscounts

and ensuring accurate inventory management. This structured approach reduces waste, improves financial oversight, and streamlines restaurant operations.


Start
Login Page: Forgot password?
No
Yes
Login Page: User enters username/ password
Forgot Password Page: Reset password
Login info correct?
No
Yes
Redirected to landing page with table layout
Select table
Redirected to Table Details Page
Edit Table Details
Print Bill
Clear Bill to reset for next customers
Add Menu Items to Customer Order
Navigate to Add to Order Page
Select drop-down button to view menu option ingredients
Yes
View meal Ingredients
No
Select Menu Items to Add to Order
Preview Order
Edit Bill?
Yes
Remove/ Add Items
No
Confirm Order To Send to Kitchen
Navigate to Orders section
View Order Status
Update Order Status
Is Status Order Ready?
No
Yes
View Notifications and Collect Order
Navigate to Analytics Page
Select Dates
View Analytics Infographics
View Sales Figure
Navigate to Food Inventory Page
Search for food inventory item 'milk'
Add or Edit food inventory items
Navigate to Non Food items
Add or Edit non-food inventory items
Select hazard sign
Log broken or missing items
Navigate to Broken Items
Log Replaced Items
Search Items
Update Replaced Items
View Menu
Select Meal Course
View Meal Ingredients
Navigate to Shifts Page
Select Shift
Select Date and time for shift request
Request Shift
Navigate to Shift requests
Search for Shift
Aprove Shift Request?
Yes
Update Employee Schedule
No
Update Shift Requests
Navigate to Users
Search Users
Edit User in User List
Add User to User List
Navigate to Customer Landing Page
Navigate to Menu?
Yes
Navigate to Menu Options
View Menu Items and prices
No
Navigate to Reservations
Select Reservation Date
Submit Reservation
Navigate to the Hostess View of the Reservations Calendar
Select Date
View All Reservations
View Floor Plan
Make Reservation
Submit Reservation
Navigate To Sales Page
Search and Select Month and Year
Search and Select Date
Click on the User Button
Select Log Out Button
End

3. Design Rationale & UX considerations

a. Justify design choices based on user research, usability principles, and accessibility.

We drew upon various elements of user research, usability principles, and accessibility as the logical basis for all our designs. Examples of the design rationale and UX considerations taken into account for our designs are as follows:

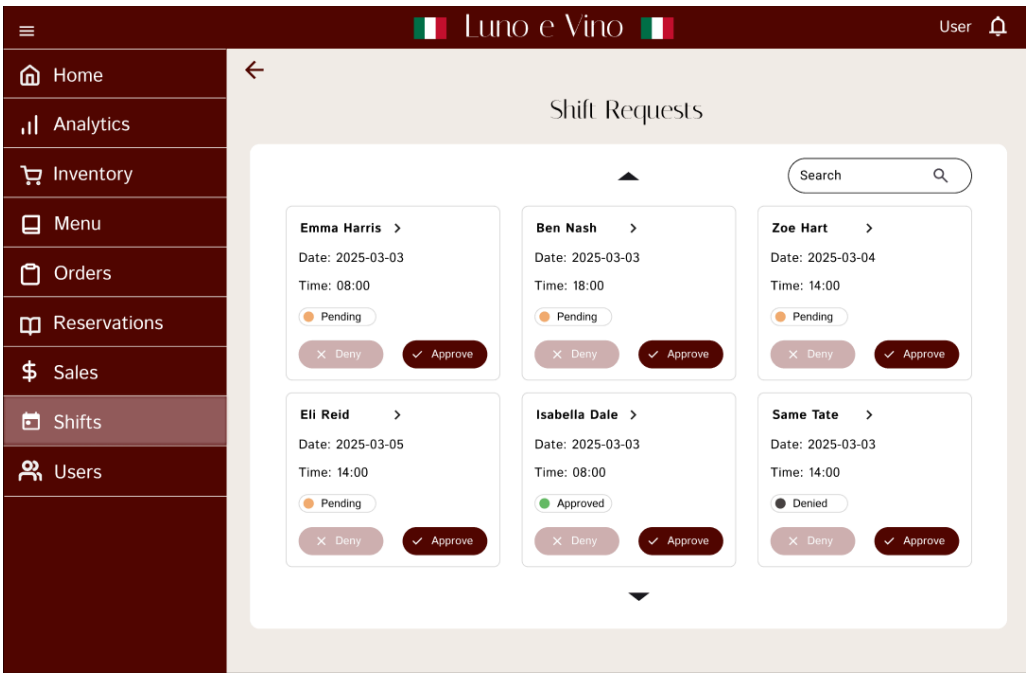
1. User research

   Our user research process involved analysing the user goals and pain points of the key users of the system. The key users of the system were identified as owners, management, kitchen staff, hosts and hostesses, wait staff, and bus staff.

   i. Owners and Management

      The user goals of the owners and management of Luno e Vino include overseeing restaurant processes and operations. This includes various administrative tasks such as filing sales, managing staff and their shifts, monitoring inventory, menu management, and viewing sales reports and analytics. The reliance on a paper-based system makes these tasks time consuming and error-prone, while overseeing operations is challenging due to the lack of real-time visibility into ongoing tasks.

      Taking these pain points into account, our team designed aspects of the system such as the 'Manager's view' of different sections of the system. These views enable the management or owners of the restaurant to complete their tasks in a way which is secure, efficient, and user friendly. While managers and owners are able to view and access all sections of the system, having sections of the system only visible to them supports their user goals aligned with administrative tasks and overseeing operations. Additionally, it maintains data security, authority, and operational control within the system by limiting access to potentially sensitive information through the use of user roles.



The above frame is an example from our 'Shift Scheduling' section, in which managers can approve or deny shift requests by staff. This frame is only visible to managers and owners in order to maintain system integrity.

ii. Kitchen staff

The user goals of the kitchen staff at Luno e Vino are to receive, prepare and file previous orders. Their pain points include miscommunications and misinterpretations due to various factors of the manual system such as illegible handwriting and the inability to manage order status effectively. The implementation of the centralised digital restaurant management system would increase the efficiency of the kitchen staff while decreasing the likeness of miscommunication occurring.

We took the above factors into account by designing the 'Orders' section of our digital restaurant management system to be simple and intuitive to use. Our logic behind this decision was that the efficiency offered by the streamlining of the order management section would be redundant if it was inefficient and time consuming for kitchen staff to update. With this in mind, we designed screens which relied on button and check-box input in order to simplify and reduce the likelihood of errors occuring, while decreasing the amount of time spent updating information during the use of the screens. This can be viewed in the frame from our 'Orders' section included below.

iii. Hosts and hostesses

The user goals of the hosts and hostesses using the paper-based, manual system are to manage and update table allocations and walk-ins on a chalkboard diagram. Their pain points are overbookings and the misallocation of tables based on availability and table size. Additionally, the use of chalkboards themselves present many issues, such as limited space, visibility and legibility issues, inaccuracy, no real-time updates, erasing errors, and limited communication. When a hostess needs to update a chalkboard, they have to leave the front-of-house, resulting in no one being available to greet guests. The implementation of the centralised digital restaurant management system would support the user goals of the hosts and hostesses in that certain traditional aspects such as greeting customers at the door would be maintained, while increasing the efficiency and reducing the likeliness of errors when managing customers, tables, and floor plans.

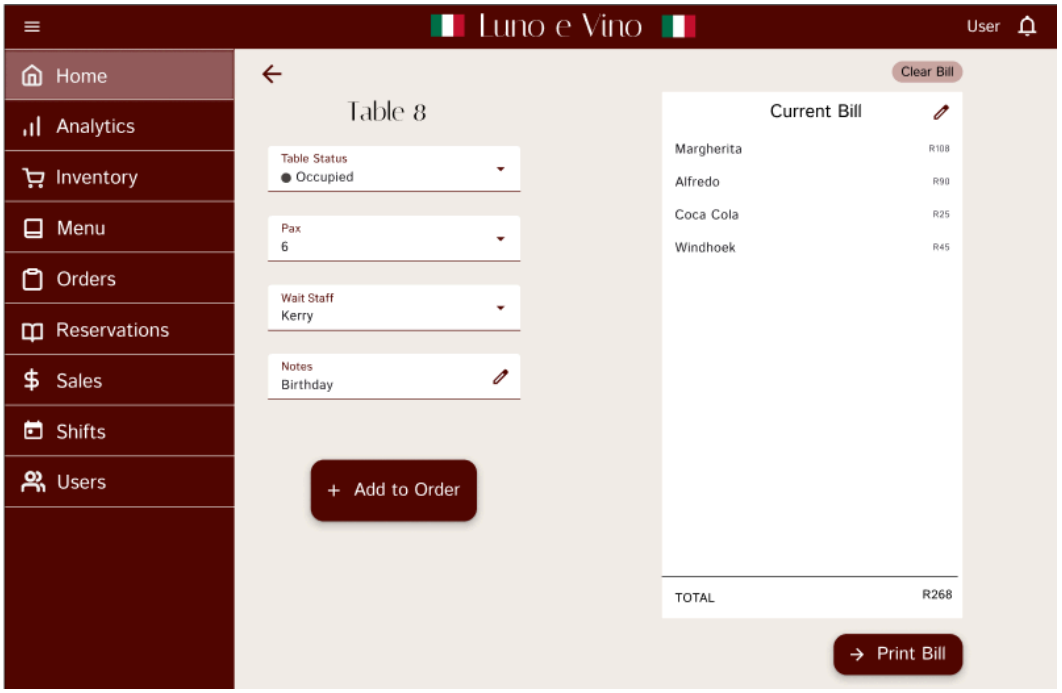
The identification of the pain points associated with the chalkboard system led us to design our 'Floor Plan' screens in a manner which would leverage the positive aspects of managing and updating allocations and statuses afforded by the use of the chalkboard system while resolving the array of possible visibility, communication, and update shortcomings. We achieved this in our designs by including an intuitive table layout plan which reflects the physical arrangement of tables in the restaurant. Additionally, table status and table details can

easily be viewed and updated by the hosts and hostesses at the click of a button, eliminating the need for them to abandon their front of house position in order to maintain the tracking and management of each table. Our 'Table Plan' landing page is included below for reference.

iv. Wait staff

The user goals of the wait staff at Luno e Vino are to deliver orders to the kitchen staff, serve orders when they are ready, and manually enter a table's bill. Their pain points are continuously manually checking order statuses, handwriting special requests which could lead to mistakes, and lower turnover and customer satisfaction due to time wastage. The implementation of the centralised digital restaurant management system would increase the efficiency of wait staff's order management, payment processing, communication, shift scheduling, and order delivery.

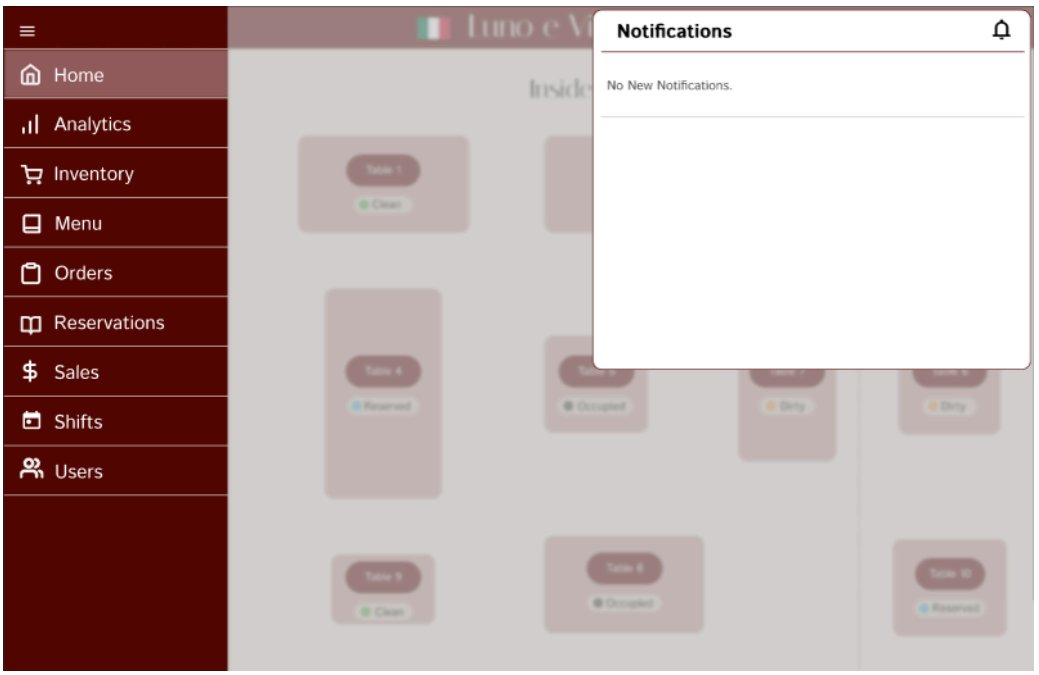
With these factors in mind, we designed the screens visible to wait staff in a manner which makes use of real-time notifications, flexibility, and simple, intuitive layouts. Information such as table status, table details, bill information, and adding to order are all centralised in order to simplify the order management and billing process to ensure increased efficiency and reduce mistakes.This can be viewed in the screen included below, from our 'Table Details' section. Additionally, this screen has been designed in conjunction with the 'Floor Plan' screen above to make these processes more intuitive for the wait staff.



v. Bus staff

The user goals of the bus staff at Luno e Vino are to efficiently clean and set up tables, communicate with fellow staff, track real time changes in table status, manage non-food inventory such as broken items, and shift scheduling. The use of the paper-based, manual system is unsuited to these goals as bus staff need to continuously check when tables are needed to be cleaned or set for new customers.

Taking these factors into account, we included elements such as real time notifications into our designs. As changes in table status and table details are updated by other members of staff in real time, bus staff are automatically notified and able to further update statuses and details in order to ensure quick and efficient table turnover rates. An example screen in which the notifications received by bus staff are visible is shown below.



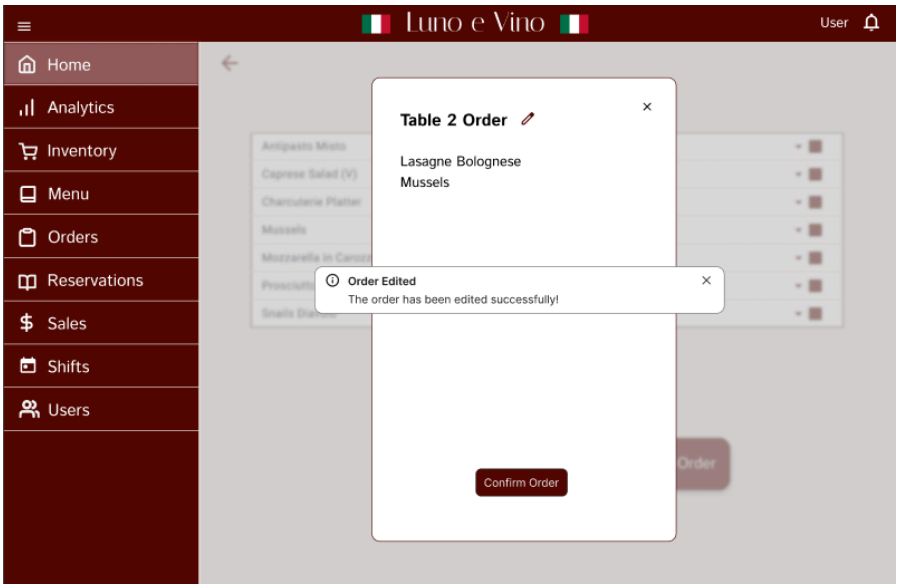
The reliance on a paper-based manual system makes the completion of these tasks and user goals time consuming and error-prone for all members of staff at Luno e Vino. The main objectives of the new digital system and considerations behind our designs are to modernise and streamline the restaurant's existing operations by replacing the outdated manual, paper-based system with an efficient, intuitive and automated platform while taking the user goals and pain points of staff members listed above into account. Additionally, the digital system will provide employees with real time updates, facilitating seamless communication and improving overall efficiency across all employees.

The new system has been designed in a way that is intuitive while addressing the pain points of the restaurant's existing system, offering multiple solutions to benefit and improve efficiency for all users. By addressing the key challenges which have been mentioned above, it ensures that the restaurant operates efficiently, enhances employee productivity, customer service and customer satisfaction. Any changes made on the system, such as order placements, table reservations, and inventory levels are instantly reflected in the main restaurant management database. Thus, ensuring that every employee has access to updated information at all times. This centralised communication helps to ensure that the restaurant has a more coordinated and efficient workflow.

2. Usability principles

i. Learnability

Our designs prioritise learnability in a manner of ways. The ease with which new users would be able to learn the UI's navigation was considered in terms of aspects such as intuitiveness, consistency, clear instructions, and feedback. This is demonstrated in the frame pictured below.

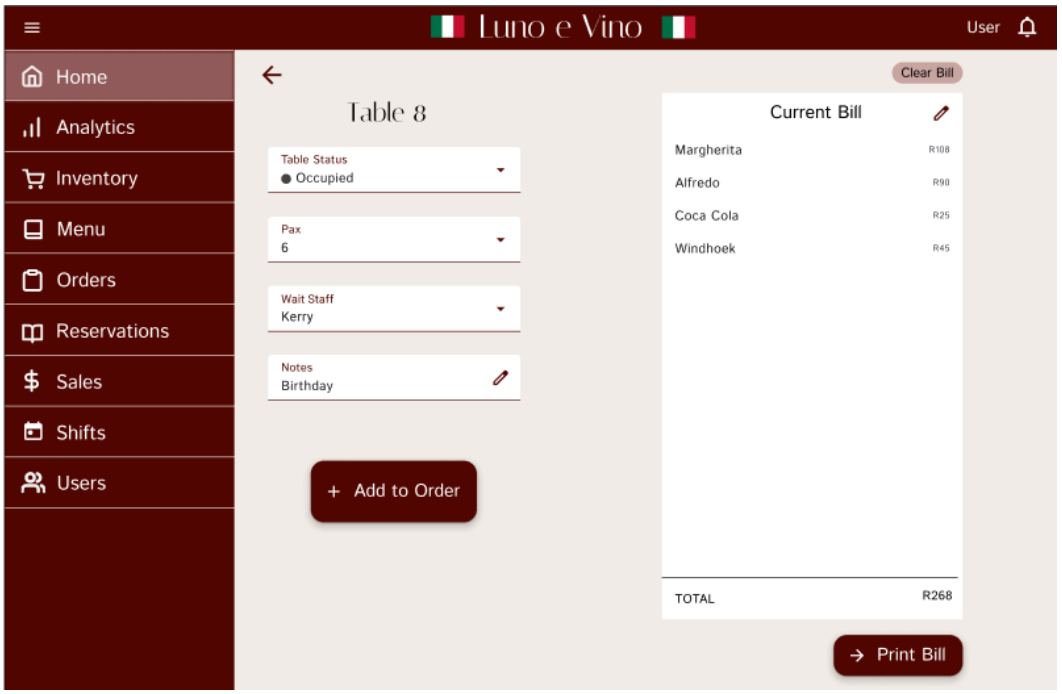


The above frame from our 'Add to Order' section demonstrates our incorporation of these aspects throughout our prototyping process. We utilised aspects of Skeuomorphism in order to make our UI's navigation intuitive, as we included icons that reference their real life counterparts in order to communicate to the user the navigational purpose of that element. Our approach to consistency in design effectively communicates the importance of different elements to users through the strategic use of color. As illustrated in the frame above, buttons, navigation components, and the header are all highlighted in our primary color, deep wine red, while informational content is set against a white background. This clear color coding helps users intuitively grasp the purpose of each interface element, enhancing their overall understanding of the system. Additionally, we prioritized clear instructions throughout our design to support and encourage users in their exploration of the interface. By providing straightforward guidance, we aim to empower new users to navigate and learn the system with ease, ultimately making it more user-friendly and accessible. Our focus on consistency and clarity ensures that users can engage confidently with the platform, facilitating a smoother learning

process. We utilised feedback in our designs in a similar way, as this enables users to understand the result of their actions and whether their action was successful or not, as well as whether the action was desirable according to the user's intentions.

ii. Robustness

Users are supported in a number of ways when errors occur. A clear example of this is pictured below from our 'Table Details' section.

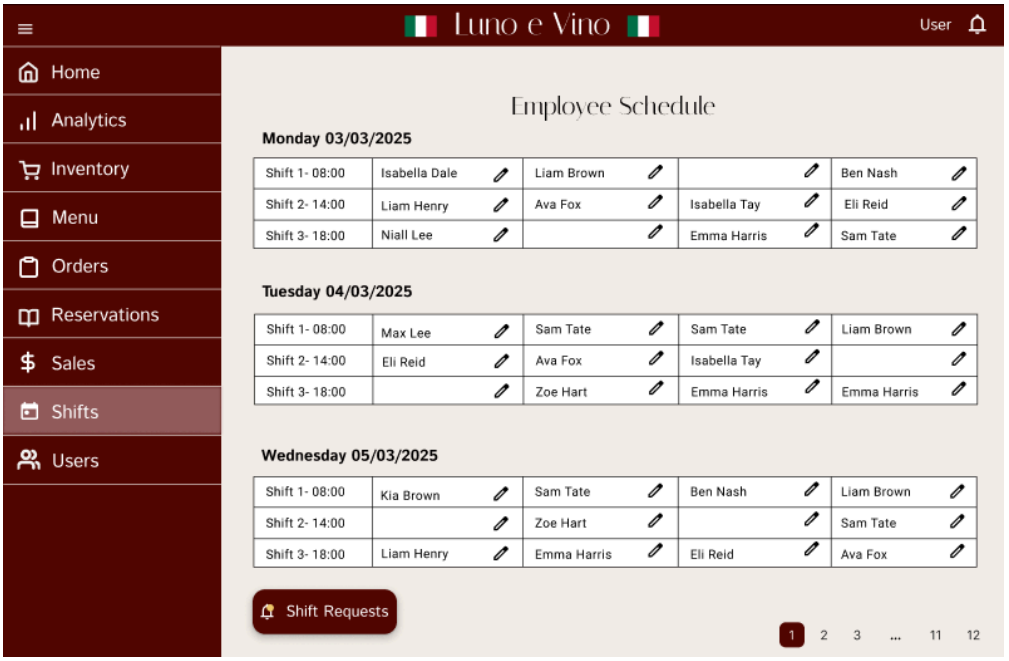


The inclusion of an edit button signified by the pencil icon alongside the 'Current Bill' heading supports users when errors occur. Due to the nature of taking orders, mistakes are likely to occur with either the wait staff or customers. Whether the error pertains to wait staff selecting an incorrect item to add to the bill or a customer changing their order, the incorporation of an edit button facilitates robustness by supporting waitstaff when an error occurs, enabling them to change any errors detected on the bill before it is printed.

iii. Flexibility

Our system was designed to incorporate multiple ways for users to use the UI for user interactions. One such example of this can be viewed in the multiple navigational paths that users can follow in order to reach their desired screen. By having the navigation panel visible in all staff user screens, staff are flexible in which navigational route they choose in order to complete

their desired action. An example of our navigational panel can be seen in the frame below from our 'Shift Scheduling' section.



3. Accessibility
   The accessibility considerations which were incorporated into our designs include the use of a colour palette which is high contrast and colour blind friendly, as well as the use of easy to read fonts. These aspects resulted in design which balances accessibility and aesthetics. Additionally, our system is designed to operate on standardised work tablets that are accessible to all members of staff. With this in mind, our screens have been designed to fit these specific dimensions. However, our screens which are available to be viewed by customers and members of the public are designed to be compatible with a range of screen sizes and browsers.

b. Explain how the prototype aligns with real-time communication and efficiency.

The prototype aligns with real-time communication and efficiency by integrating key features that optimise restaurant operations and make sure that smooth interactions between staff, managers, and customers occur.

Real Time Communication:

1. As actions are completed on the system, notifications are sent to alert others of these updates. The bell icon for managing notifications serves as a centralised hub for all updates, ensuring that staff don't have to navigate through multiple screens or rely on manual

communication methods. This centralised notification system makes certain that every team member stays aligned with tasks and updates, streamlining their workflow.

2. As kitchen staff update the status of orders, the system sends automatic notifications to the waitstaff. This ensures that wait staff are always informed of order progress in real-time, improving the coordination between the kitchen and floor staff. This prevents delays in service and allows the waitstaff to provide timely updates to customers.
3. The ability for bus staff and hostesses to change table statuses in real time ensures that the restaurant floor is always accurately represented. This allows wait staff and bus staff to know which tables are available or need attention without delays, enhancing overall communication efficiency.
4. Hostesses can make real-time updates to reservations, including removing customers from the waitlist when necessary, and adjust floor plans based on available tables. The system shows up-to-date table availability, ensuring that guests are seated efficiently.
5. The system allows kitchen and bus staff to update stock levels in real time, while managers have oversight and control. In a traditional setting, manual communication between staff and managers would be required to address stock levels and issues, but this system automatically notifies managers and other relevant staff members when changes are made.

Efficiency:

1. The prototype enhances efficiency by tailoring access to relevant features based on each user's role. For instance, wait staff, kitchen staff, hostesses and bus staff are provided with only the features that they need for their tasks and communication. Preventing them from being overwhelmed by irrelevant information. This role-based structure not only increases efficiency but also reduces the potential for human error, as each team member can focus on their specific duties.
2. Features like the menu page allows for staff to quickly reference menu items, or ingredient information without navigating multiple screens. This reduces time spent searching for information.
3. Inventory management is further optimized by real-time updates, which ensure that stock levels are continuously monitored and any issues (such as shortages or damaged items) are flagged immediately. This proactive approach prevents stockouts and waste, improving the efficiency of kitchen operations and reducing manual labor.

4. The automatic updates to the sales page, with detailed reports for owners, reduce the time spent manually tracking sales. This feature enables quick access to performance data, allowing owners and managers to make data-driven decisions without wasting time on manual input. Additionally, analytics give managers insights into trends, helping them optimize operational strategies and increase efficiency.
5. System based shift management allows employees to request shifts and managers to approve them, confirming that staff are allocated according to the restaurant's needs, preventing understaffing or overstaffing during busy periods which can be tracked through the Analytics page.

4. Reflection & Lesson Learned
    a. Reflection on what worked and what didn't

    During the development of our restaurant management system, we encountered a few challenges that required us to rethink and modify our initial ideas:

    i. Key Card Login System: Originally, we planned for users to log in using a key card and scanner. However, we found that integrating the scanner was impractical for our system. Additionally, issuing and replacing key cards would introduce unnecessary delays and administrative burdens. As a result, we switched to a manual login system.
    ii. Automated Tip Allocation: We initially planned to automate the distribution of tips among waitstaff, but later decided that tip allocation would not be an automated feature in our system. Instead, we chose to leave it as a manual process.
    iii. Overuse of Vibrant Colours: Our early designs featured pink tones in table and card views, but we realised that excessive bright colours made the interface feel overwhelming and cluttered. To improve readability and create a more professional look, we transitioned to a cleaner white-based design with subtle borders.

    Despite the adjustments we made, several aspects of our system worked well and contributed to its overall effectiveness:

    i. Order Tracking and Efficient Management: The system successfully enables real-time order tracking, improving communication between waitstaff and kitchen staff and reducing delays.
    ii. Table Availability & Status Management: We implemented a clear visual indicator for table status (clean, dirty, reserved, occupied), making it easier for staff to manage seating arrangements and table cleanups.
    iii. Inventory Management: The system effectively tracks both food inventory (ingredients) and non-food inventory (crockery, linens, etc.), helping managers monitor stock levels and prevent shortages.
    iv. Broken/Missing Item Logging: Staff can log broken or missing items, and the system allows managers to track whether replacements have been made, ensuring better oversight of restaurant resources.
    v. Reservation Tracking and Management: The reservation system helps prevent double bookings and allows for better planning of seating arrangements.

vi. Shift Management: Staff can request shifts and shift changes through the system, and managers can efficiently approve or deny requests, streamlining scheduling.
vii. User Interface Improvements: Simplifying the colour scheme and reducing clutter makes the system more visually appealing and easier to navigate.
viii. Role-Based Access: Assigning different levels of access (e.g. waitstaff, kitchen staff, bus staff, etc.) ensures that each user only has access to the features relevant to their responsibilities, improving security and usability.
ix. User Feedback and Control Features: The system provides real-time notifications, success/failure pop-ups, and essential controls like escape, close, and back buttons, improving user experience and navigation.

By continuously testing and refining our system, we were able to address challenges and create a more functional and user-friendly solution that meets the needs of restaurant staff and management.

b. What would be improved in a future iteration?

i. Enhancing User Access and Security:
The current login system, which replaced the initial access card concept due to technical and practical limitations, could be further improved by implementing biometric authentication (such as fingerprint or facial recognition) or two-factor authentication to enhance security and prevent unauthorised access.
ii. Optimising Cognitive Load and Page Design:
While the system already distributes content effectively, additional user testing could help refine how information is presented. This would ensure that users can navigate the system more intuitively, reducing cognitive strain and enhancing overall usability.
iii. Advancing Real-Time Notifications:
Future iterations could introduce customisable notification settings, allowing different user roles to receive relevant updates in their preferred format (e.g. kitchen staff getting pop-ups for order updates, while managers receive inventory alerts via email and pop-ups). Priority-based alerts could be implemented, such as colour-coded order statuses (green for normal, yellow for approaching delay, and red for urgent), and automated table turnover alerts to notify buss staff when a table remains uncleared for too long.

Integrating notifications with mobile devices could further improve efficiency, enabling staff to receive updates on their phones when they are away from the workstation.

iv. Enhancing Customer Menu Usability:
The customer menu interface could be improved with interactive filters to help customers easily find specific dishes, personalised recommendations based on previous orders or popular menu items, and real-time availability updates to prevent customers from selecting out-of-stock items.