

A
PROJECT REPORT
ON
“Canteen Management System”
FOR



Dhirubhai Ambani
Institute of Information and Communication Technology

BY
TEAM QUICK AAHAR

Under the Guidance of
Deepak Vishwakarma

IN PARTIAL FULFILLMENT OF VALUE ADDED COURSE IN
Masters of Data Science

FOR
THE ACADEMIC YEAR 2023-2024

[CLICK HERE TO VIEW OUR WORK IN FIGMA](#)



QUICK AAHAR

Connecting Canteen to Community!

TEAM MEMBERS

| FOR MOBILE APPLICATION | |
|-------------------------------|-----------|
| NAME | ID |
| JATAN SAHU | 202218061 |
| JITUL BAKSHI | 202218059 |
| RAHUL UPADHYAY | 202218003 |
| SHIVANI PANDE | 202218044 |
| SHREYA MODI | 202218018 |
| FOR WEB APPLICATION | |
| SWAPNIL SHETH | 202218045 |
| SWAYISTA T. AHMED | 202218035 |
| VIPUL SINGH | 202218052 |
| RAGHVENDRA SINGH | 202218013 |

| INDEX | |
|--------------|-------------------------------------|
| 1. | Purpose |
| 2. | USERS |
| 3. | Functional Requirements |
| 4. | Competitive Analysis |
| 5. | Challenges |
| 6. | Pain points and frustrations |
| 7. | Goals |
| 8. | Empathy Map |
| 9. | User Interview |
| 10. | User Flow |
| 11. | Wireframing |
| 12. | Prototype |
| 13. | Conclusion |

Purpose

Our project aims to develop an automated food ordering system for college canteens. The system aims to improve efficiency, save time, and address various challenges associated with the current canteen system.

Revolutionize college canteens with an automated food ordering system to overcome inefficiencies, enhance food hygiene, ensure accurate ingredient preparation, and streamline financial management.

The key objectives of the project include:

- Enhancing Efficiency
- Improving Food Hygiene
- Accurate Food Data and Ingredient Preparation
- Financial Management
- Enhancing User Experience

USERS

- ADMIN SIDE
 - CANTEEN OWNERS

Basic information



Ganesh Bhai

Age : 40
Occupation : Canteen Owner
Gender : Male

Ganesh Bhai is the owner of the college canteen/cafeteria. He has been in the food industry for over 10 years and has extensive experience in managing food services in educational institutions.

Link 1 Link 2 Link 3

- USER SIDE
 - STUDENTS
 - FACULTIES
 - STAFF



Sarah Thompson

Age : 20
Occupation : Student
Gender : Female

Sarah is a tech-savvy student who is always on the lookout for convenient solutions to simplify her daily routine. She is familiar with various mobile applications and is an active user of food ordering apps.

○ I

Functional Requirements

The features, functionalities, and interactions that the product should include.

Features

- Order online from anywhere
- Menu and specific time for every food
- Quick payment facilities
- Complaints and feedback rating
- If the given time limit to prepare order is not accepted in a specific time range in a canteen then change to the next canteen
- Recommendation of food within a price range
- Subscription Model and daily payment
- Online chat form for students to talk
- Total order count for each canteen
- Ads section

Prioritise Requirements

- Order online from anywhere in the campus
- Menu and specific time for certain snacks
- Quick payment facilities
- Complaints and feedback rating

Competitive Analysis

Researching the user experience of competing products or services

| | PETPOOJA | ZOMATO | DINEOUT |
|---------------------|---|---|---|
| User Interface (UI) | Restaurant management, offering features like order management, menu customization, billing, and analytics | A search bar, restaurant listings with ratings and details, filters, reviews, ordering options, and a user profile section. | A user-friendly platform for restaurant discovery, table reservations, offers, and convenient payment options |
| User Flow | Involves restaurant staff managing orders, customizing menus, generating bills, and analyzing data for effective restaurant management. | Consists of users searching for restaurants, exploring listings, reading reviews, placing orders, and managing their profiles for a seamless food discovery and delivery experience | Includes users discovering restaurants, making table reservations, availing offers, and completing transactions for a smooth dining experience |
| Functionality | Encompasses order management, menu customization, billing, inventory management, reporting, and analytics for efficient restaurant operations | Includes restaurant search, reviews, food delivery and pickup ordering, table reservations, and online payment options for a comprehensive food discovery and ordering platform. | Includes restaurant discovery, table reservations, offers and deals, online payment options, and personalized dining recommendations for an enhanced dining experience. |

| | | | |
|-----------------------------|---|--|---|
| Usability | Petpooja is characterized by its intuitive interface, easy navigation, and comprehensive features that streamline restaurant management processes | Zomato is characterized by its user-friendly interface, extensive restaurant listings, efficient search functionality, and convenient food ordering and delivery options for a seamless dining experience. | Dineout revolves around its intuitive interface, easy table reservations, personalized offers, and seamless digital payment options for a convenient and enjoyable dining experience. |
| Security Measures | Include secure data storage, access controls, encryption, and regular security audits to safeguard sensitive restaurant and customer information | Data Encryption, Payment Security, Secure Storage of Data, Two-Factor Authentication, Bug Bounty Program, Regular Security Audits, Data Protection and Privacy Policies, Employee Training and Access Controls | Data Encryption, Secure Data Transmission, Payment Security, Data Storage and Protection, Two-Factor Authentication, Regular Security Audits, Employee Access Controls, Privacy Policies and User Consent, Incident Response and Data Breach Management |
| Performance and Reliability | Ensure efficient order management, accurate billing, and reliable data analysis for dependable restaurant operations | ensure fast and reliable restaurant search, seamless food ordering, and timely delivery or pickup for a dependable dining experience | Ensure smooth and stable operation, secure transactions, and efficient table reservations for a dependable dining experience |

CHALLENGES

ADMIN SIDE

Challenges

1. Operational Efficiency:
Ensuring operational efficiency, Ganesh Bhai must effectively manage workflow, staff schedules, and food preparation to meet peak hour demand.

2022 18044

2. Adaptation to Trends:
Constantly updates the menu and offerings to cater to the changing preferences and demands of college students.

2022 18044

3. Inventory Management:
To maintain a well-stocked inventory while minimizing waste and ensuring the freshness of food items

2022 18044

4. Communication and Coordination:
Focuses on maintaining effective teamwork and alignment among kitchen staff, service personnel, and other stakeholders for a smooth operation.

2022 18044

USER SIDE

Challenges

1. Budget Constraints:
Sarah, a financially constrained student, seeks budget-friendly food ordering apps that deliver both variety and quality, without compromising on taste.

Shreya Modi

3. Dietary Restrictions:
Sarah, a vegetarian, seeks food apps with clear ingredient info and customizable filters for easy menu selection based on her dietary preferences.

Shreya Modi

2. Reliable Delivery: Sarah values reliable and punctual food delivery. Late or missed deliveries can disrupt her schedule, especially during busy study periods or when she has limited time between classes.

Shreya Modi

4. User-Friendly Interface: Sarah prioritizes user-friendly food apps with intuitive interfaces, seamless browsing, customizable orders, delivery tracking, and convenient payments, optimizing for a smooth and time-saving experience.

Shreya Modi

PAIN POINTS AND FRUSTRATION ADMIN SIDE

Dealing with rising food costs, canteen owners struggle to maintain profitability while offering affordable meals to customers.

2022 18044

Food wastage becomes a concern, requiring careful planning and inventory management to minimize losses.

2022 18044

Managing a team of staff members, including recruitment and scheduling, poses challenges for canteen owners.

2022 18044

Meeting diverse customer preferences and effectively handling feedback adds pressure to canteen owners' responsibilities.

2022 18044

USER SIDE

1. Students endure long waiting times, leading to frustration and impatience due to the scarcity of available food options.

Shreya Modi

3. Confusion arises over the available options and unfair pricing, causing difficulty in making informed choices and potentially overpaying for items.

Shreya Modi

2. Monotonous menus lack variety, leading to repetitive dining experiences, and scarce seating poses challenges during peak hours.

Shreya Modi

4. Confusion arises over the available options and unfair pricing, causing difficulty in making informed choices and potentially overpaying for items.

Shreya Modi

GOALS

ADMIN SIDE

1. Efficiency and Profitability:

Ganesh Bhai wants to minimize waiting times, reduce waste, and increase customer satisfaction to attract more students to the canteen.

2022 18044

3. Cost Management:

Ganesh Bhai is focused on cost management and maintaining competitive pricing while ensuring a reasonable profit margin.

2022 18044

2. Quality and Variety:

Ganesh Bhai strives to provide high-quality food options to cater to the diverse tastes and preferences of the college students.

4. Customer Satisfaction:

Ganesh Bhai wants to values customer feedback and aims to continuously improve the food quality, service, and overall experience in the canteen/ cafeteria.

USER SIDE

1. Convenience:

Busy student Sarah seeks food apps for convenient browsing, ordering, and doorstep delivery, eliminating cooking and dining out hassles.

2022 18044

3. Cost-Effectiveness:

Effectiveness: Sarah seeks food apps with cost-effective options, offering discounts, promotions, and loyalty programs to save on her expenses

2022 18044

5. Cost-Effectiveness:

Value-conscious student Sarah seeks food apps with discounts, promotions, and loyalty programs to maximize savings on her food expenses.

2022 18044

2. Time Management:

Sarah seeks time optimization through food delivery apps that offer multi-restaurant ordering, delivery tracking, and estimated arrival times, bypassing queues and long waits.

4. Variety of Options:

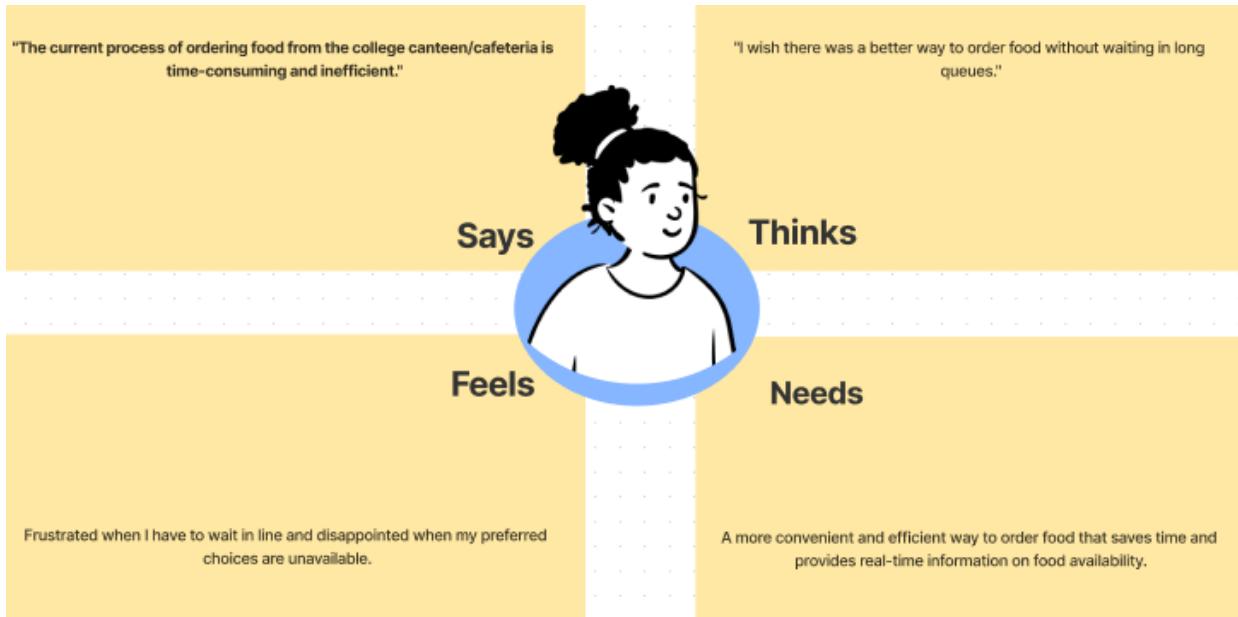
Food enthusiast Sarah seeks delivery apps with diverse restaurants and menus, enabling her to indulge in various cuisines, satisfy cravings, and explore new culinary experiences.

Empathy Map

ADMIN SIDE



USER SIDE



USER INTERVIEW

ADMIN SIDE

Interview with Canteen owner

Ganesh Bhai

June 13, 2023 4:30—6:30pm

1.What are some of the main challenges you face in operating your canteen manually?

Long queues, time-consuming manual operations, inventory tracking difficulties, limited sales data analysis, and inefficient financial management

2.How do you currently manage inventory and ensure that you have...

Currently, we rely on manual checks and estimations to manage inventory. It can be challenging to accurately track stock levels, leading to instances where certain items may run out unexpectedly. We try our best to anticipate demand based on previous patterns, but there is room for improvement in terms of inventory management.

3.What are some of the customer feedback or complaints you have...

Effects of manual operation: Longer waiting times, decreased customer satisfaction, potential loss of business, increased operational costs due to additional manpower requirements.

4.How does manual operation affect the overall efficiency and productivity of your canteen?

Manual operation can significantly impact efficiency and productivity. The time spent on manual order-taking, processing payments, and preparing food can lead to longer waiting times, decreased customer satisfaction, and potential loss of business during busy periods. It also requires additional manpower to handle these tasks, which adds to the operational costs.

5.What are your expectations from an automated food ordering and management system for your canteen?

We expect an automated system to improve overall efficiency, reduce waiting times, and enhance customer satisfaction. We would like features such as real-time inventory tracking, automated order processing, and integration of online payment options. Additionally, having data analytics capabilities to gain insights into...

Interview with Student

Sarah Thompson

June 13, 2023 6:30—7:30pm

1. Can you tell us about your current experience with ordering food from the college canteen/cafeteria? What are some challenges or...

Sure! Currently, the process of ordering food from the college canteen/cafeteria can be quite time-consuming and inefficient. We often have to wait in long queues during peak hours, which eats into our limited break time. Additionally, there are instances when the cafeteria runs out of certain food items, and we have no way of knowing in advance. It can be frustrating to wait in line only to find out that our preferred choices are unavailable.

2. How do you think a mobile application for ordering food from the college canteen/cafeteria would benefit you and other students?

Having a dedicated app for ordering food from the college canteen/cafeteria would be incredibly beneficial. It would save us a significant amount of time by eliminating the need to wait in long queues. We could simply place our orders through the app and receive notifications when the food is ready for pickup.

3. What features or functionalities would you expect from such an application?

I would expect the app to have a user-friendly interface that allows us to easily navigate through different food options and place orders with customization options (e.g., special requests, dietary preferences). It would be helpful if the app could provide real-time updates on the estimated waiting time for each order, ensuring that we can plan accordingly. Additionally, features like online payment options and order history tracking would add convenience to the overall experience.

4. Are there any specific challenges or concerns you foresee in implementing such an application for the college canteen/cafeteria?

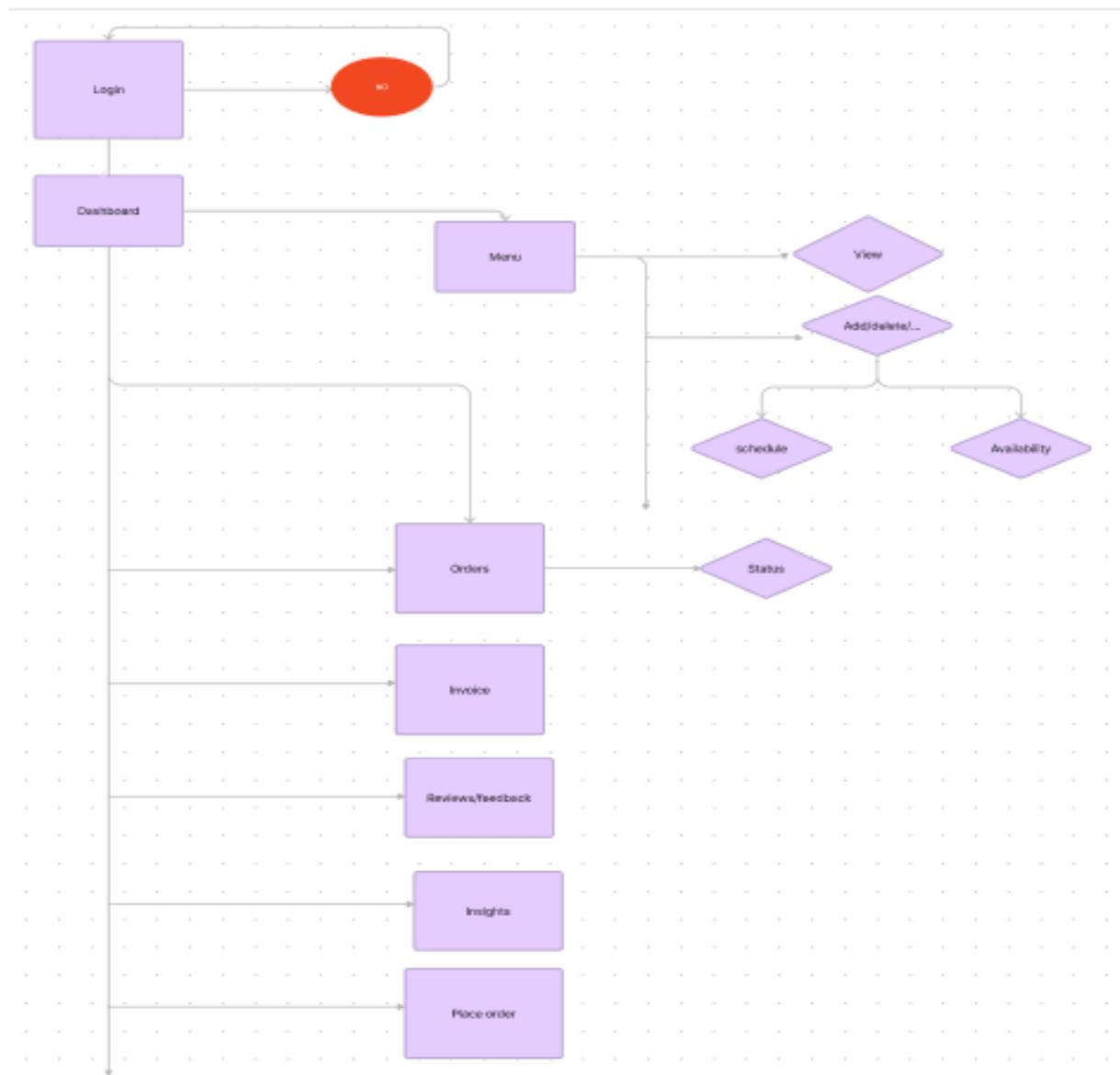
One potential challenge might be ensuring the accuracy and up-to-date availability of food items in the app. The cafeteria staff would need to be diligent in updating the inventory to avoid instances where ordered items are unavailable. Another concern would be streamlining the order pickup process to avoid overcrowding or confusion at the pickup location. It would be important to have a clear and efficient system in place to manage the flow of students collecting their orders.

5. Lastly, how likely would you be to use a mobile application for ordering food from the college canteen/cafeteria if it were to be developed?

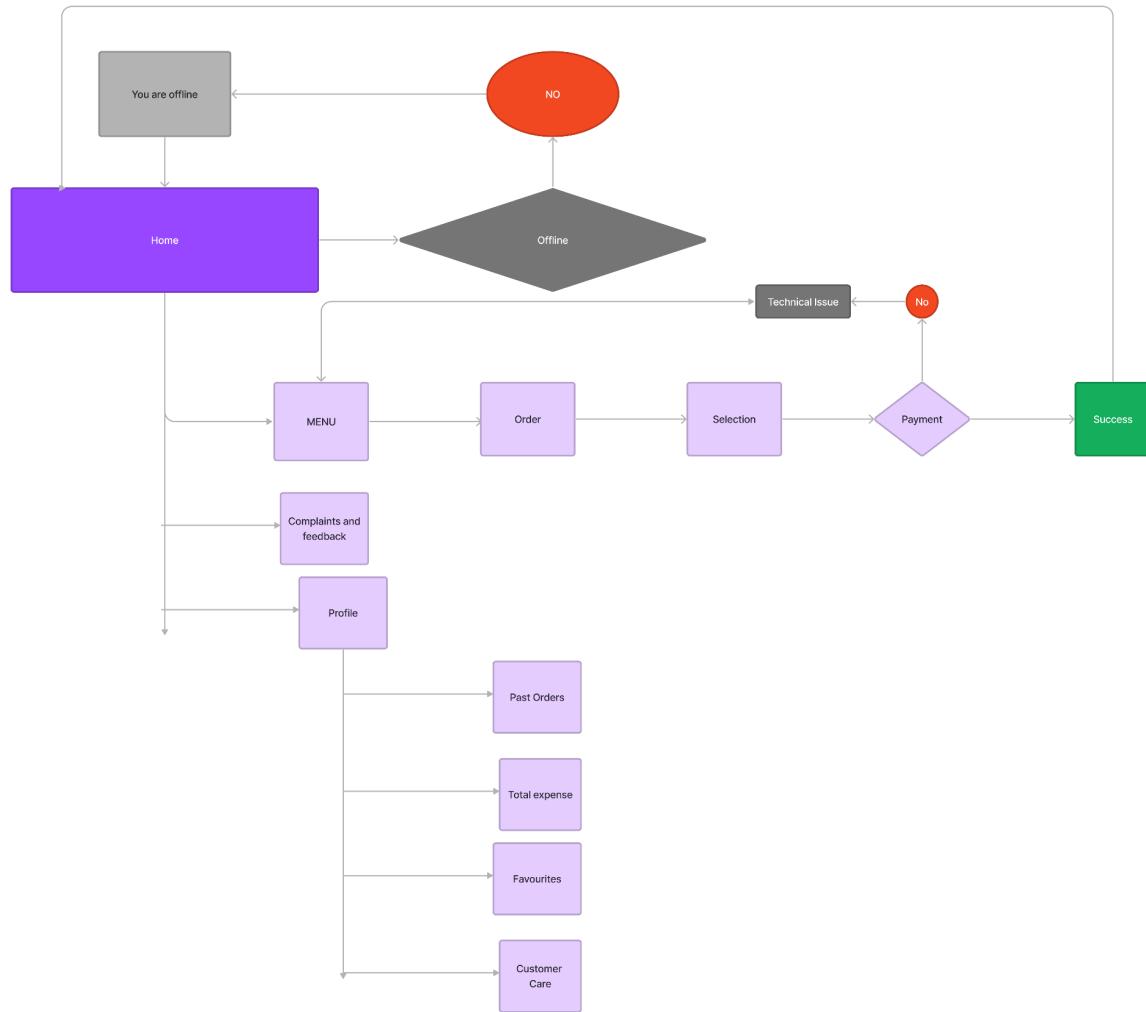
I would definitely be very interested in using such an application. The convenience and time-saving aspect would make it a valuable tool for me as a student. Being able to quickly place orders, avoid long queues, and have real-time information on food availability would greatly enhance my overall experience and allow me to make the most of my limited break times.

USER FLOW

ADMIN SIDE :This flowchart of the admin panel provides a secure login for the admin to access and manage various operations. This includes order management, menu updates, and user administration, empowering the admin to efficiently handle the canteen's operations and ensure a smooth and seamless experience for both users and staff.

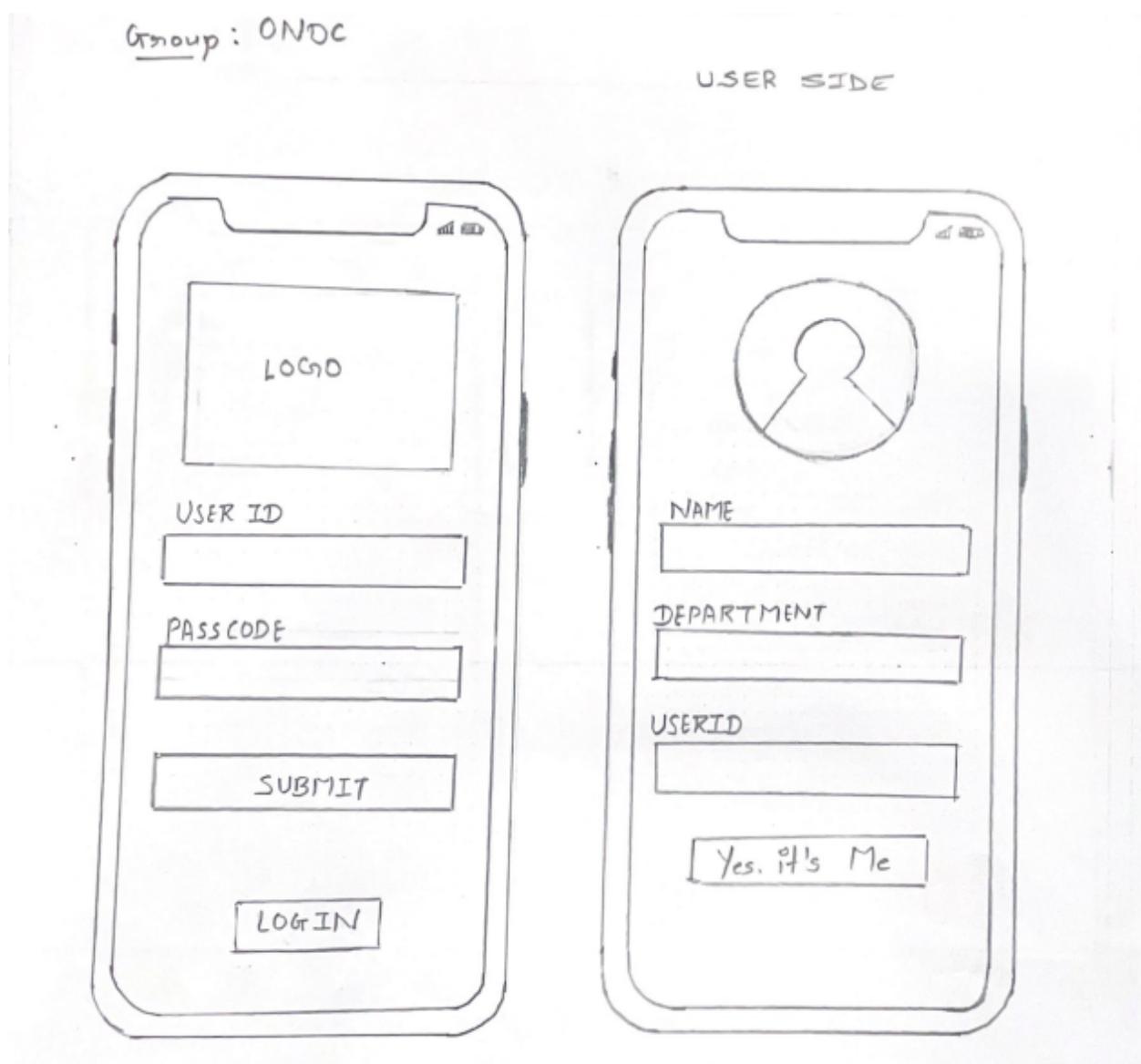


USER SIDE: The flowchart begins with the consumer's entry point on the product, like an onboarding screen or homepage, and ends with the final action or outcome, like purchasing a product. Depicting this process allows designers to evaluate and optimize the user experience and therefore increase client conversion rates.



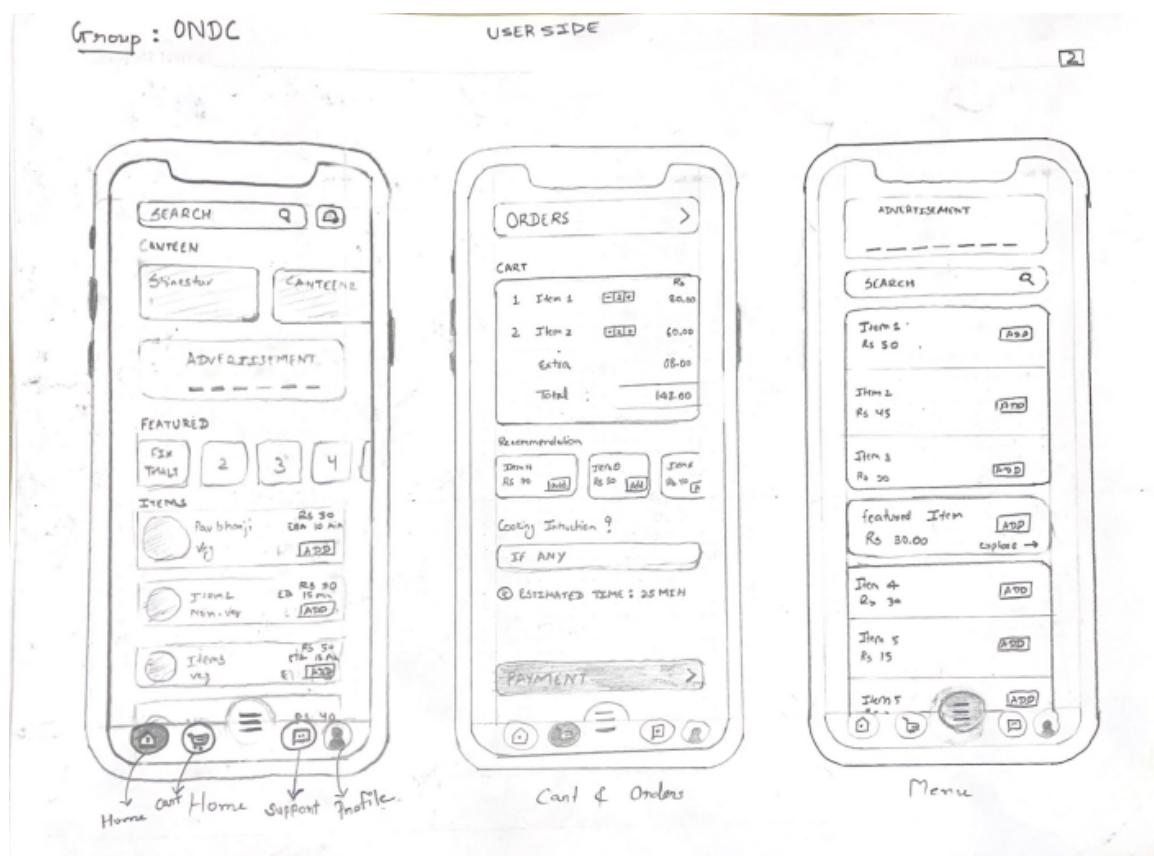
WIREFRAMING

They are low-fidelity, simplified representations that focus on the basic structure and content placement.



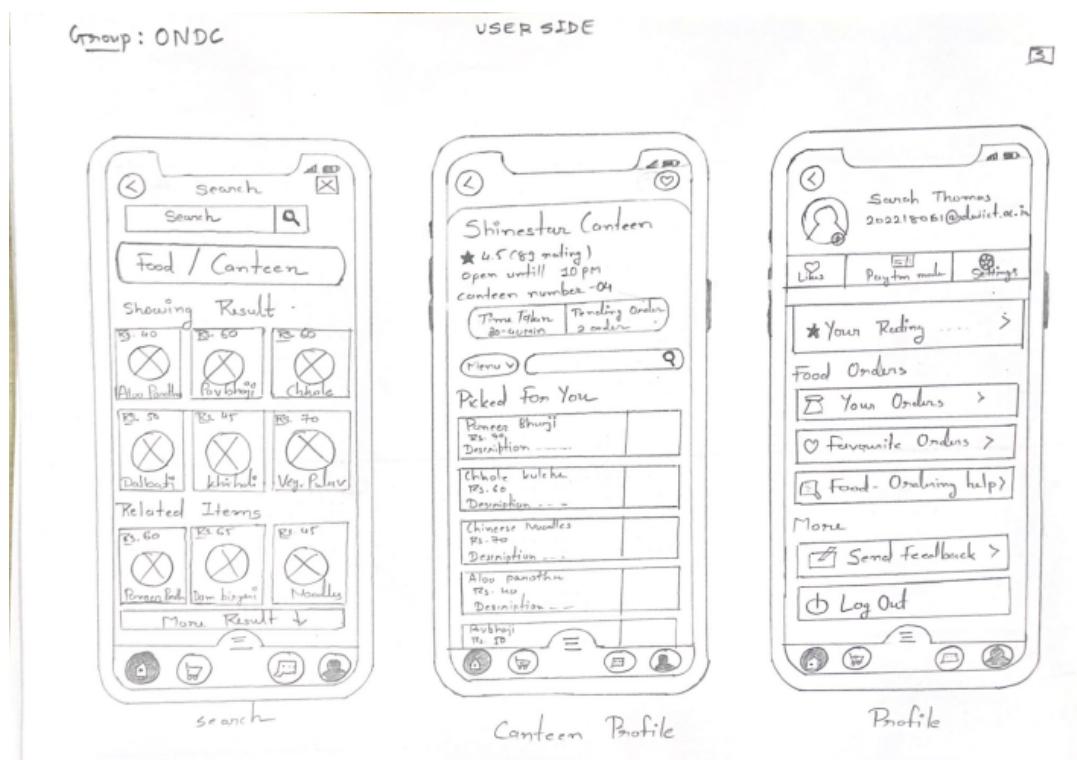
Group : ONDC

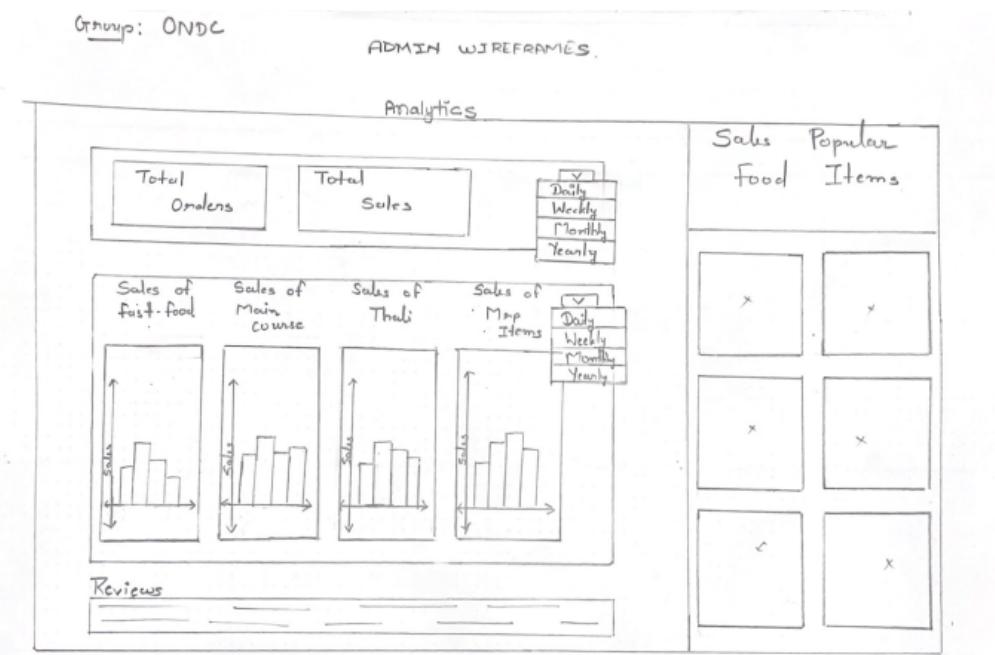
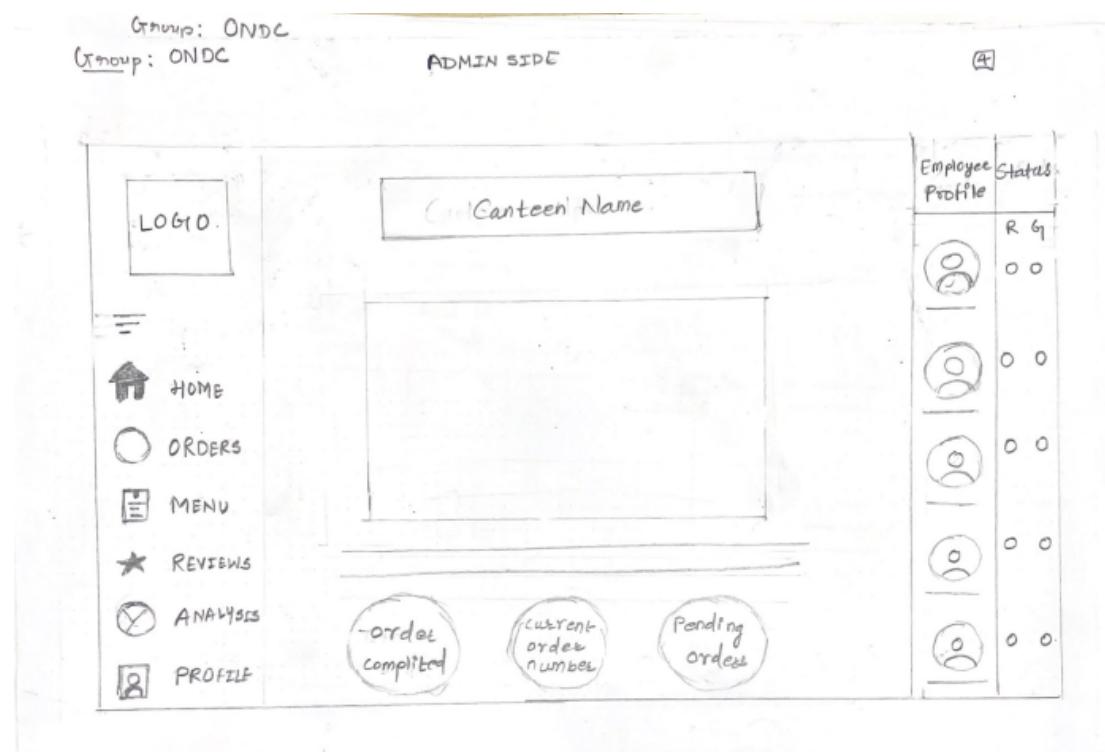
USER SIDE

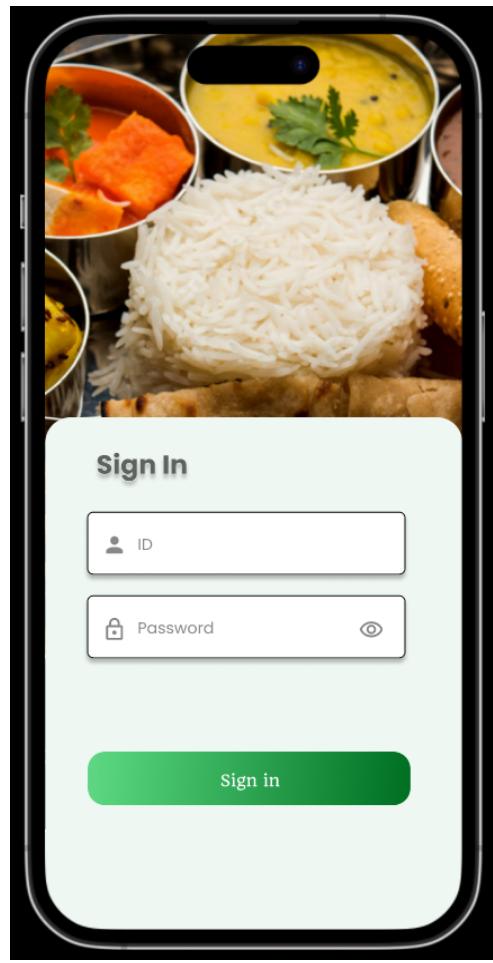
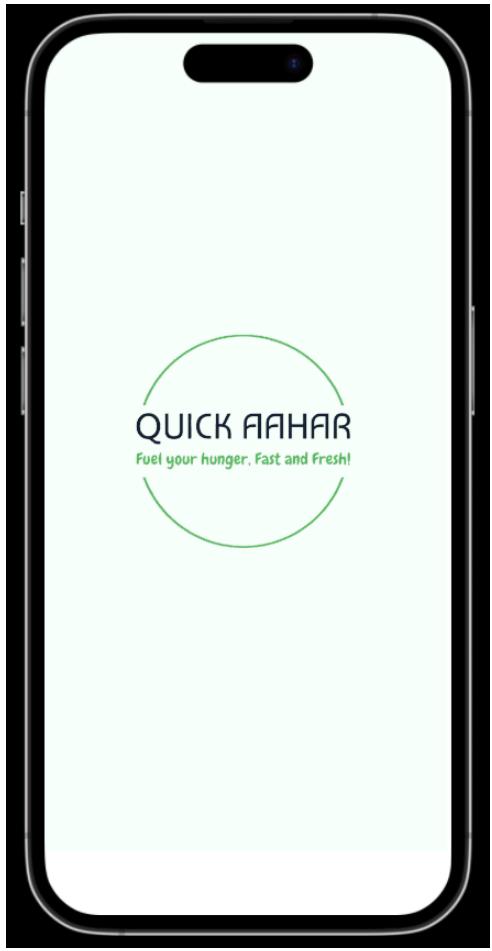


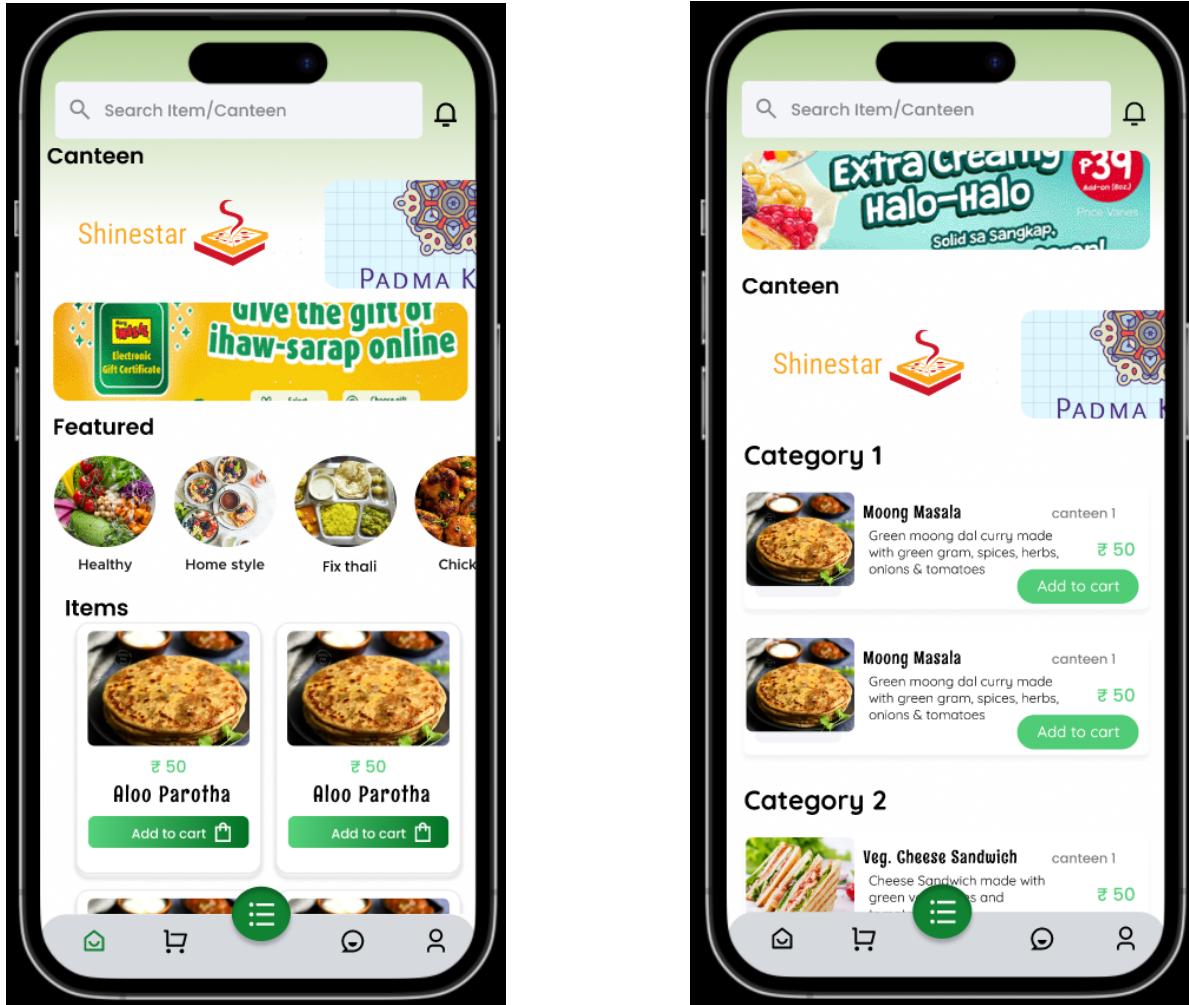
Group : ONDC

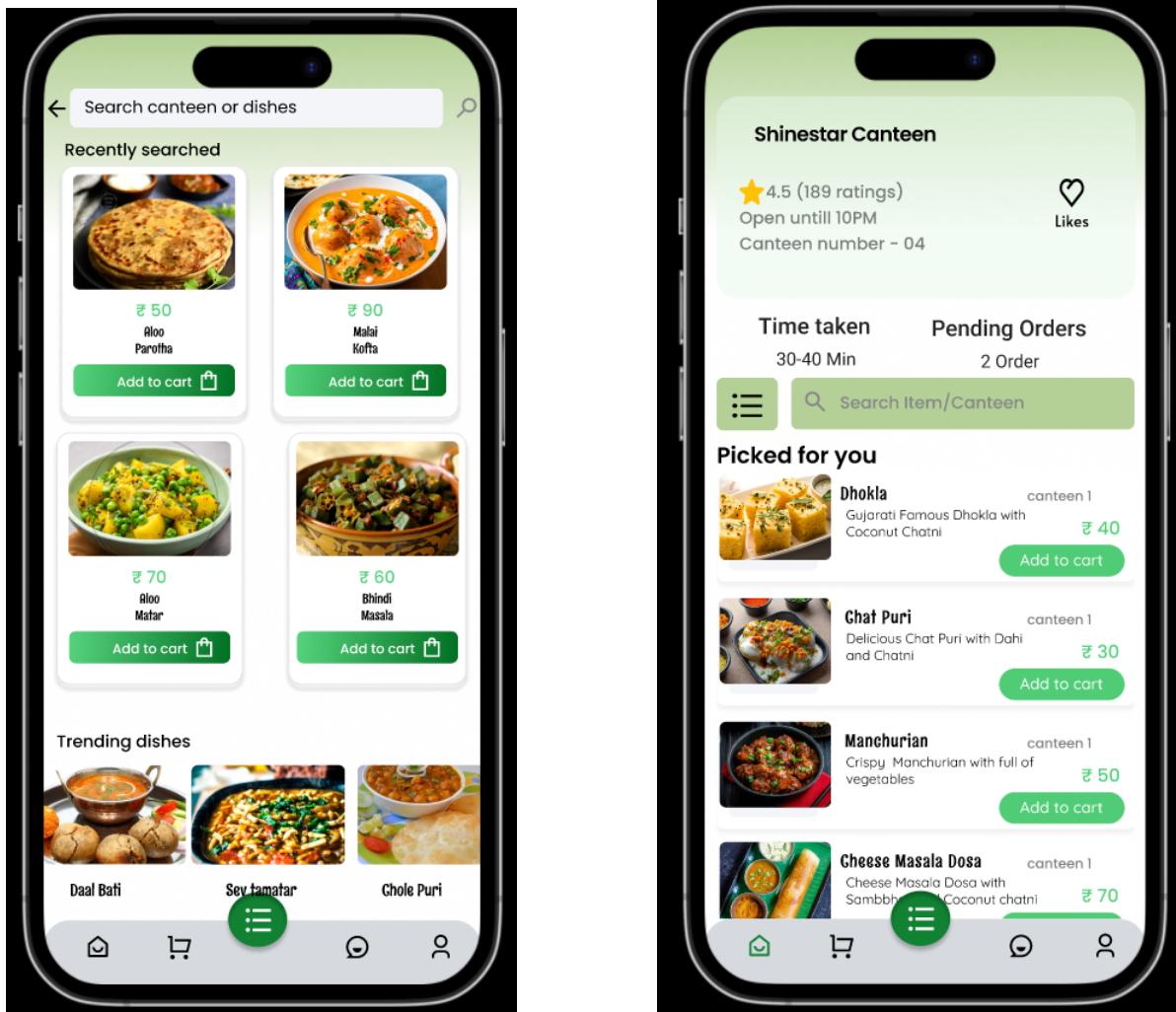
USER SIDE



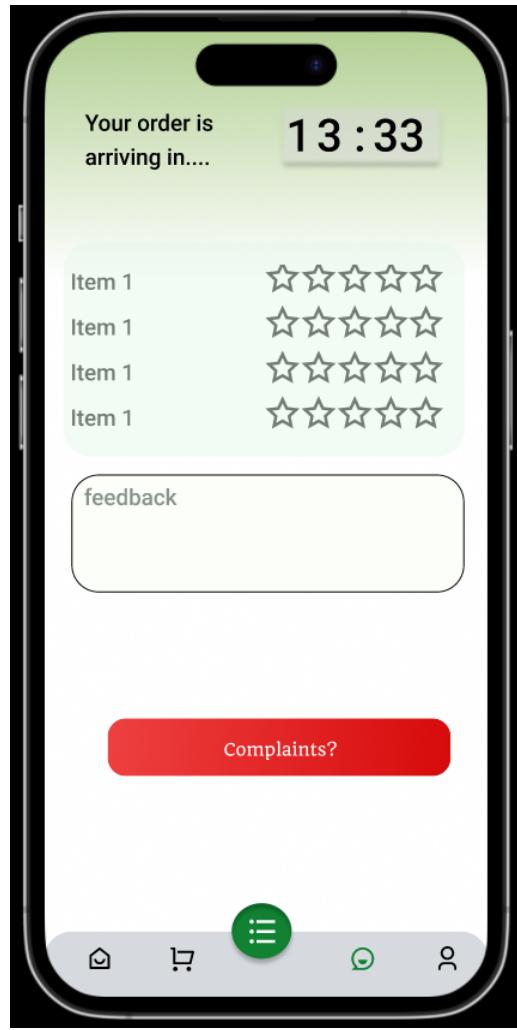
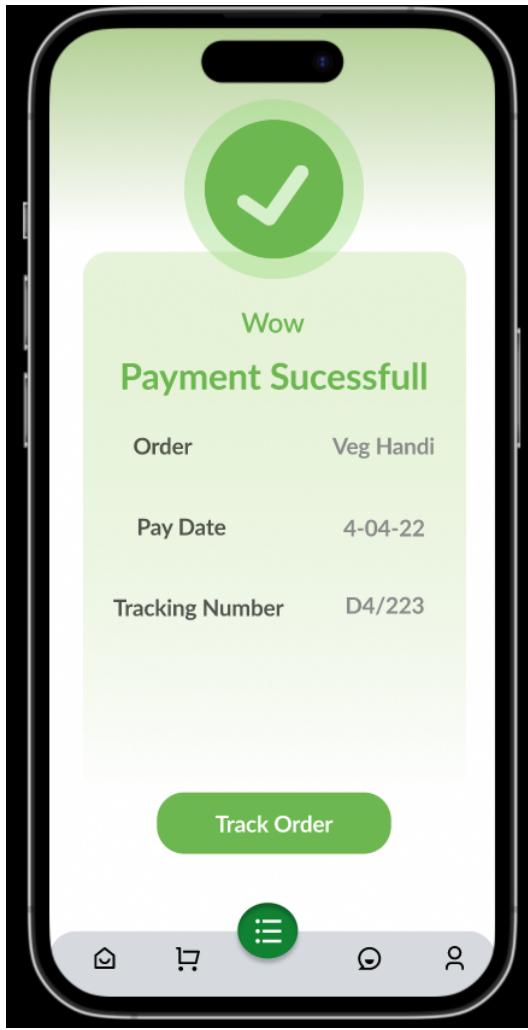












Quick
आहार
Swadish khana

Shinestar Enterprise

| Employee Profile | Status |
|------------------|--------|
| Name | R G |

Dashboard

- Menu
- Orders
- Invoice
- Reviews
- Analytics

Menu

name review of people ordering the food

name review of people ordering the food

Order Completed Current order Number Pending Order

Quick
आहार
Swadish khana

Menu Details

Search item/Canteen **ADD**

| ID | Product Name | Price | Category | Edit |
|----|--------------|-------|---------------------|------|
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |
| 45 | Tawa Paratha | 70 | + roti Indian Bread | edit |

Dashboard

- Menu
- Orders
- Invoice
- Reviews
- Analytics

Quick

आहार

Swadish Khana

[Dashboard](#)[Menu](#)[Orders](#)[Invoice](#)[Reviews](#)[Analytics](#)

Orders

| | | | | |
|--|---|---|---|---|
| > Order list 1 > Order list 2 > Order list 3 > Order list 4 > Order list 5 > Order list 6 > Order list 7 | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> |
| > Order list 1 > Order list 2 > Order list 3 > Order list 4 > Order list 5 > Order list 6 > Order list 7 | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> |
| > Order list 1 > Order list 2 > Order list 3 > Order list 4 > Order list 5 > Order list 6 > Order list 7 | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> |
| > Order list 1 > Order list 2 > Order list 3 > Order list 4 > Order list 5 > Order list 6 > Order list 7 | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> | <p>Instructions: Cooking instructions will be displayed here as per the given info of th customer</p> <p>Reject</p> <p>Done</p> |

| Quick आहार | | Invoice Details | | | | | | Search Item/Canteen | |
|----------------------------------|----------------------------------|-----------------|------------|----------|-------------|--------|---------|------------------------|-----------------------|
| | | Invoice ID | Date | Order ID | Customer ID | Amount | Payment | Generate Invoice | Send Invoice |
| <i>Dashboard</i> | | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | <i>Menu</i> | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | <i>Orders</i> | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | <i>Invoice</i> | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | <i>Reviews</i> | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | <i>Analytics</i> | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |
| | | 10 | 17-06-2023 | 01 | 202218003 | 300 | Cash | <button>Click</button> | <button>Send</button> |

**Quick
आहार**
Swadish khana

- Dashboard
- Menu
- Orders
- Invoice
- Reviews
- Analytics

Reviews


Jons Sei
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Sofia
2 days ago

★ ★ ★ ★
4.0

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Anandre
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Jons Sei
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Sofia
2 days ago

★ ★ ★ ★
4.0

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Anandre
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Jons Sei
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Sofia
2 days ago

★ ★ ★ ★
4.0

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.


Anandre
2 days ago

★ ★ ★ ★
4.5

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text.

Conclusion

In conclusion, the proposed food ordering application for college canteens addresses the inefficiencies and challenges of the current system. By providing a user-friendly interface for students, faculty, and staff, it streamlines the ordering process, enhances food hygiene practices, and offers convenient features such as personalized accounts, order tracking, and multiple payment options.