PROJECT REPORT

OrderOnTheGo:

Your On-Demand Food Ordering Solution

Submitted by

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1. INTRODUCTION

1.1 Project Overview

The Online Food Ordering System is a simple and convenient way for customers to order food online without visiting a restaurant in person. It uses the internet to connect customers directly with restaurants or food providers. Customers can visit the restaurant's website, browse the menu, select food items, and place an order. The food is then delivered to the customer's location at their chosen time. Payments can be made using debit/credit cards, digital wallets, or cash on delivery.

This system is safe, efficient, and is changing how the food industry works. It is especially useful for fast food restaurants, take-out places, and college cafeterias, but can be adapted for other types of food services as well.

The main benefit of this system is that it makes the ordering process faster and easier. Customers can see a live, interactive menu with prices, add or remove items, and review their order before checking out—making the whole experience smooth and user-friendly.

1.2 Purpose

The proposed system is designed to manage food ordering activities in fast food restaurants. It helps record customer orders and supports the restaurant's business operations by reducing manual effort.

Main Functions:

- Allow customers to place, view, and modify orders before submitting.
- Support payments via prepayment cards, credit cards, or debit cards.
- Display menu items and promotions through an easy-to-use interface.
- Send order details to both front-end and kitchen staff for quick processing.
- Generate reports to help in business decision-making.
- Enable management to update food details, change prices, add new menu items, and manage users, menus, and promotions.

Benefits:

- Reduces the need for more staff behind the counter.
- Lowers labor costs.
- Minimizes errors, since it's an automated system.
- Speeds up the ordering process and reduces long queues.

Main Objective:

To manage and automate the details of item categories, food items, delivery addresses, orders, and shopping carts—making the entire ordering process more efficient and less dependent on manual work.

2. IDEATION PHASE

2.1 Problem Statement

Create a problem statement to understand your customer's point of view. The Customer
Problem Statement template helps you focus on what matters to create experiences people
will love.
A well-articulated customer problem statement allows you and your team to find the ideal
solution for the challenges your customers face. Throughout the process, you'll also be able
to empathize with your customers, which helps you better understand how they perceive
your product or service.

I am	Describe customer with 3-4 key characteristics - *who are they?*	Describe the customer and their attributes here
I'm trying to	*List their outcome or "job" the care about - what are they trying to achieve?*	List the thing they are trying to achieve here
but	Describe what problems or barriers stand in the way – *what bothers them most?*	Describe the problems or barriers that get in the way here
because	Enter the "root cause" of why the problem or barrier exists – *what needs to be solved?*	Describe the reason the problems or barriers exist
which makes me feel	Describe the emotions from the customer's point of view – *how does it impact them emotionally?*	Describe the emotions the result from experiencing the problems or barriers

Reference: https://miro.com/templates/customer-problem-statement/

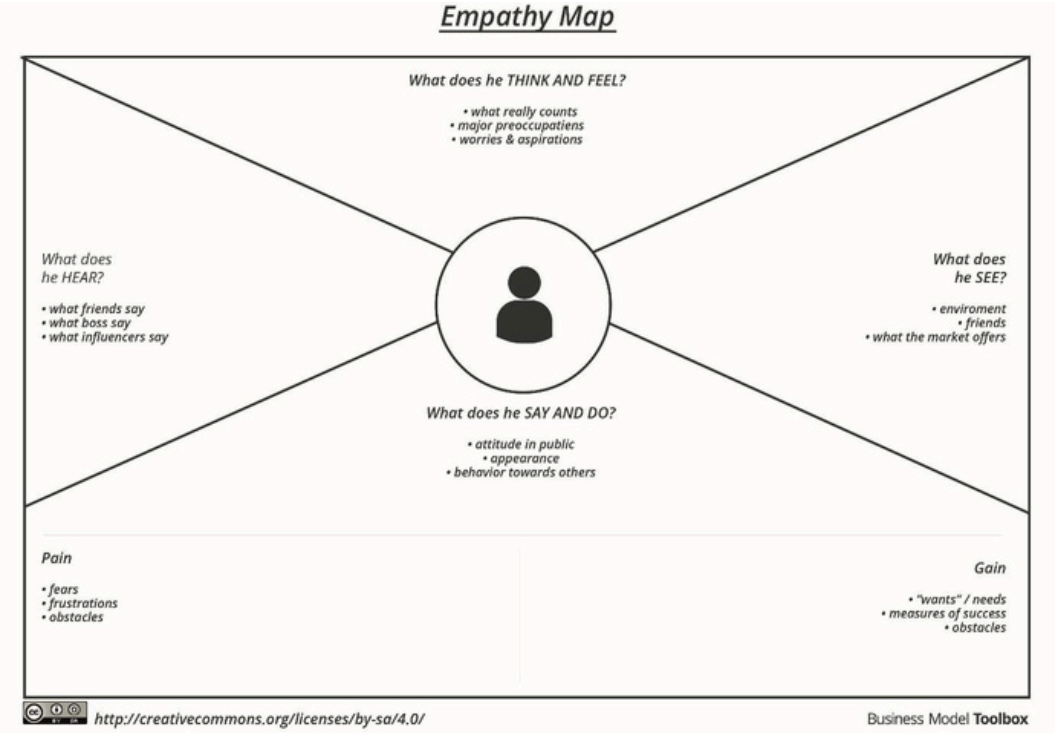
Example:

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A college student	Order affordable meals	There are no reliable options	Most apps don't cater to local tiffin/home-cooked food	Disappointed hungry
PS-2	An office worker	Get food delivered on time	It often gets delayed	There's no live tracking and unclear estimated delivery time	Anxious and frustrated

2.2 Empathy Map Canvas

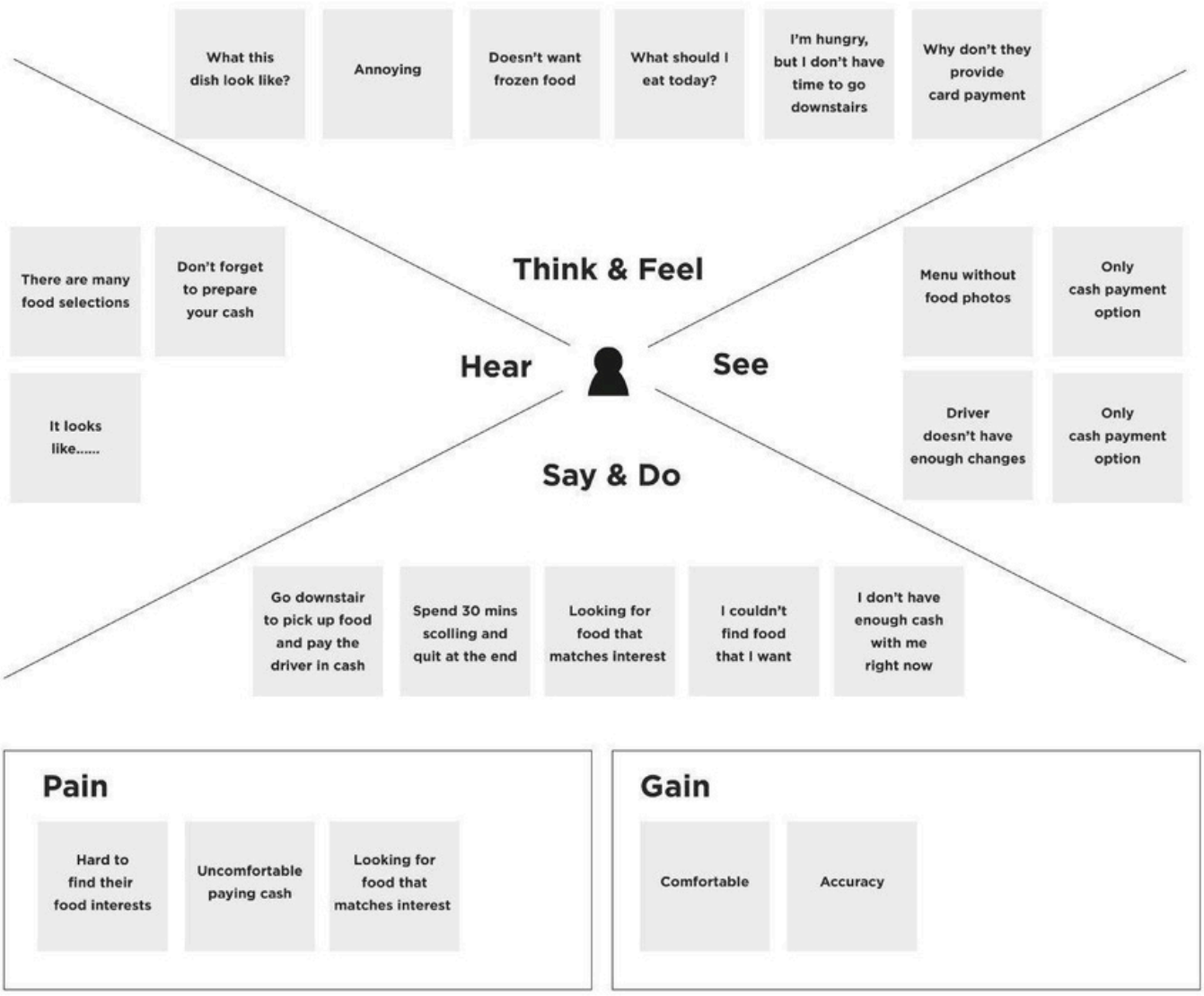
It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who
is experiencing it. The exercise of creating the map helps participants consider things from
the user's perspective along with his or her goals and challenges.

Example:



Reference: https://www.mural.co/templates/empathy-map-canvas

Example: Food Ordering & Delivery Application

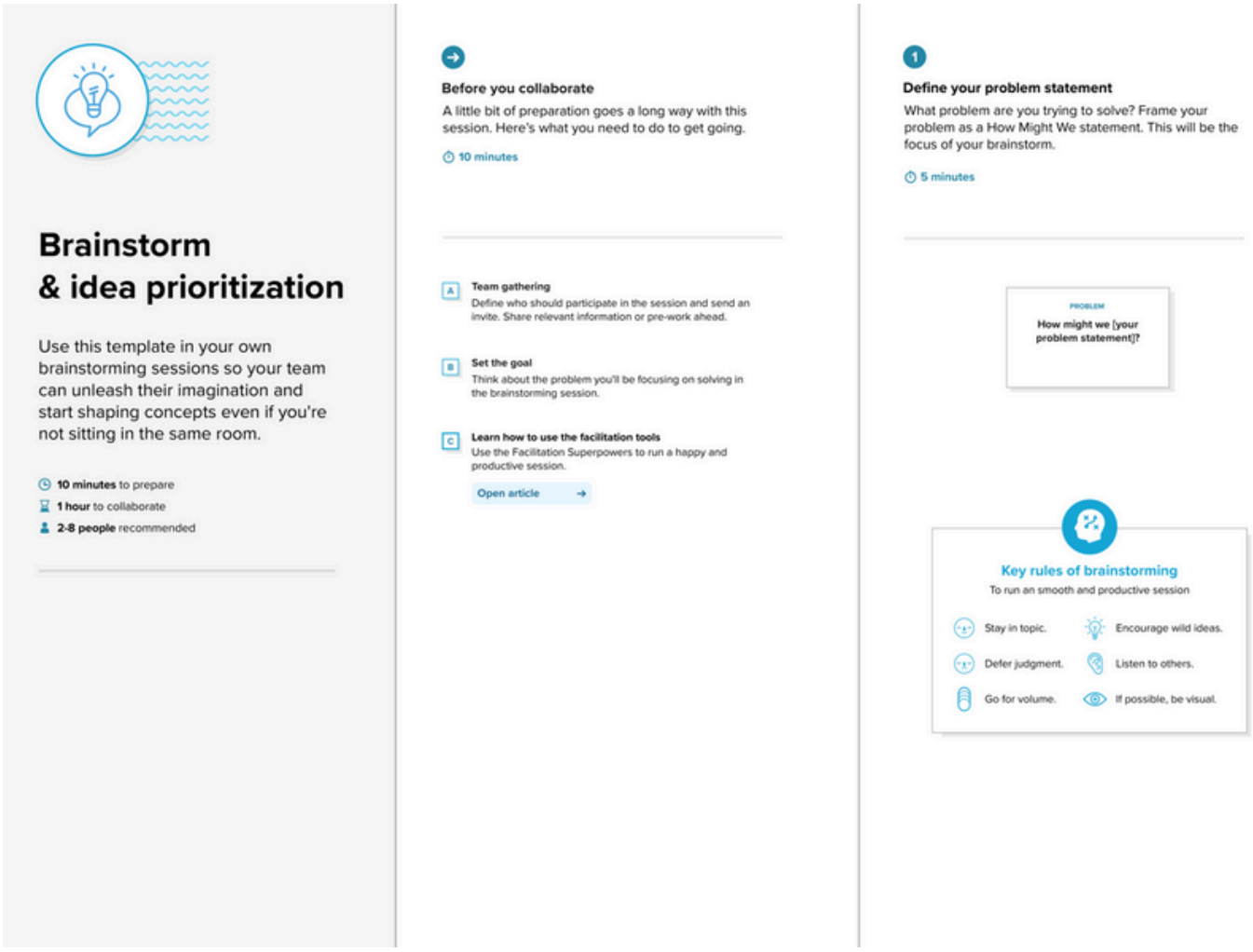


2.3 Brainstorm & Idea Prioritization Template:

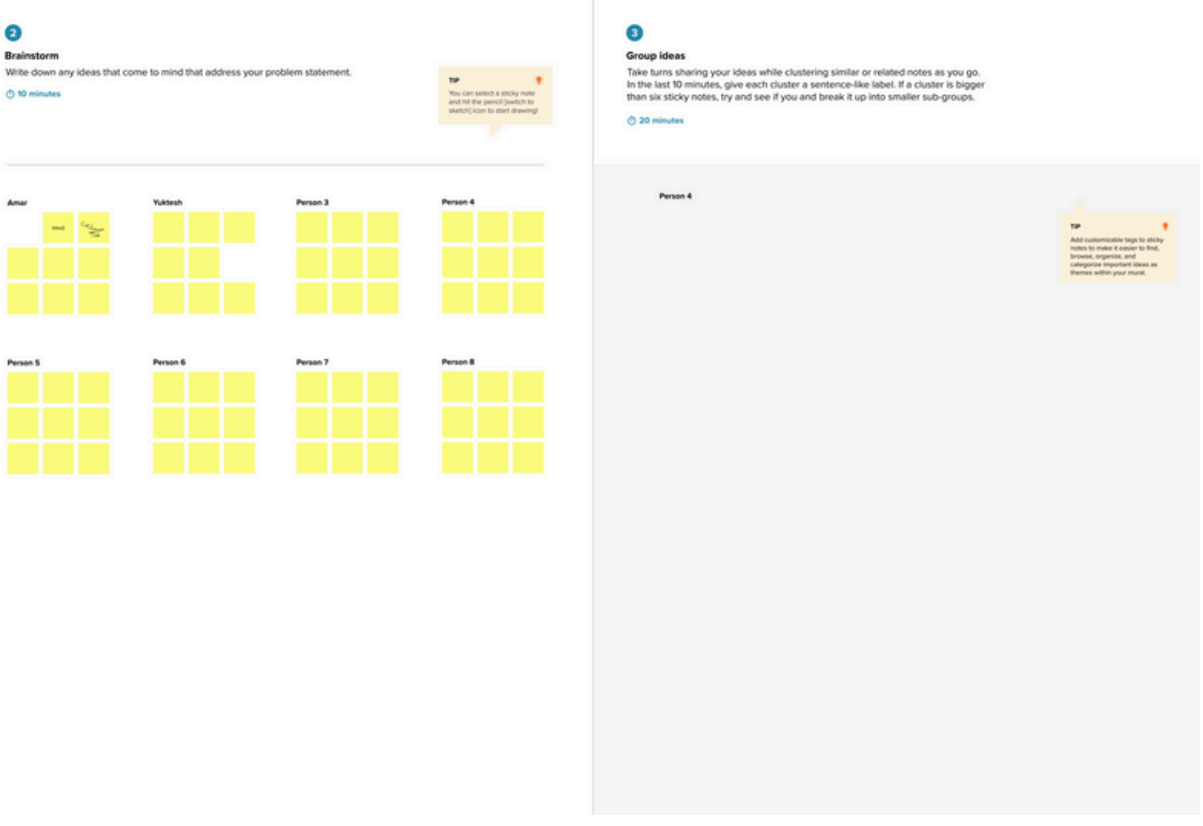
Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.
Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: https://www.mural.co/templates/brainstorm-and-idea-prioritization

Step-1: Team Gathering, Collaboration and Select the Problem Statement



Step-2: Brainstorm, Idea Listing and Grouping



Step-3: Idea Prioritization

4

Prioritize

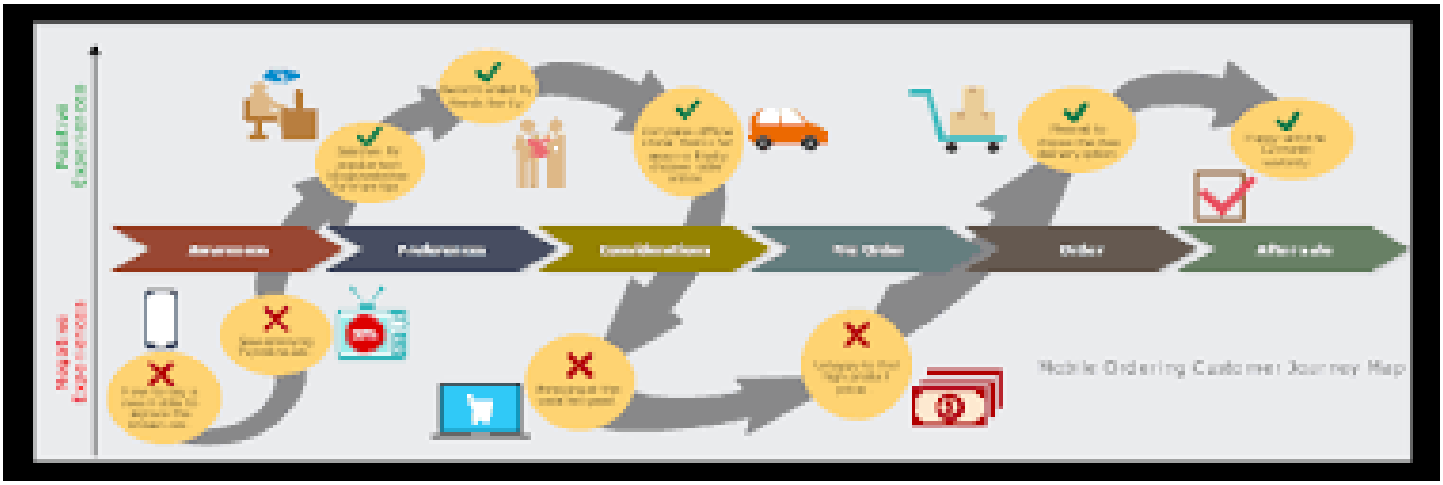
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

The customer journey includes opening the website or app, signing up or logging in, browsing food categories, viewing menu items, adding food to the cart, placing the order, making a payment, and receiving order confirmation and delivery updates.



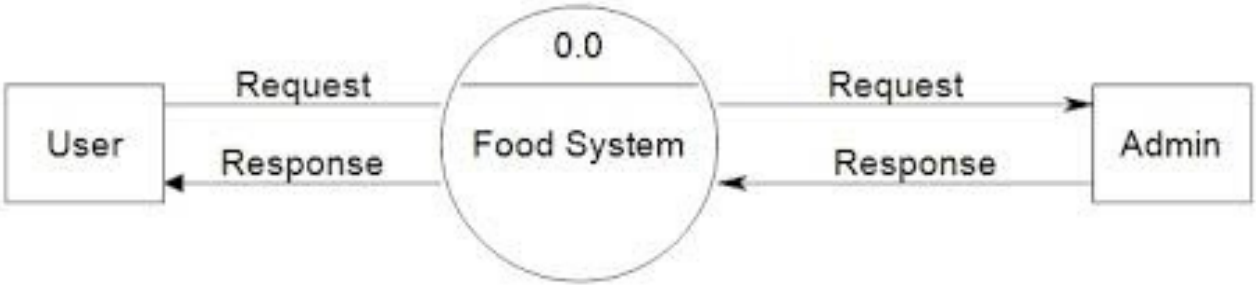
3.2 Solution Requirement

Functional Requirements:

- User login/signup (authentication with JWT)
- Browse food items by category
- Add, remove, and update items in the cart
- Place orders with real-time confirmation
- Online payment integration (Card, UPI, Wallet)
- Order tracking and delivery status
- Admin panel to manage menu, users, and orders

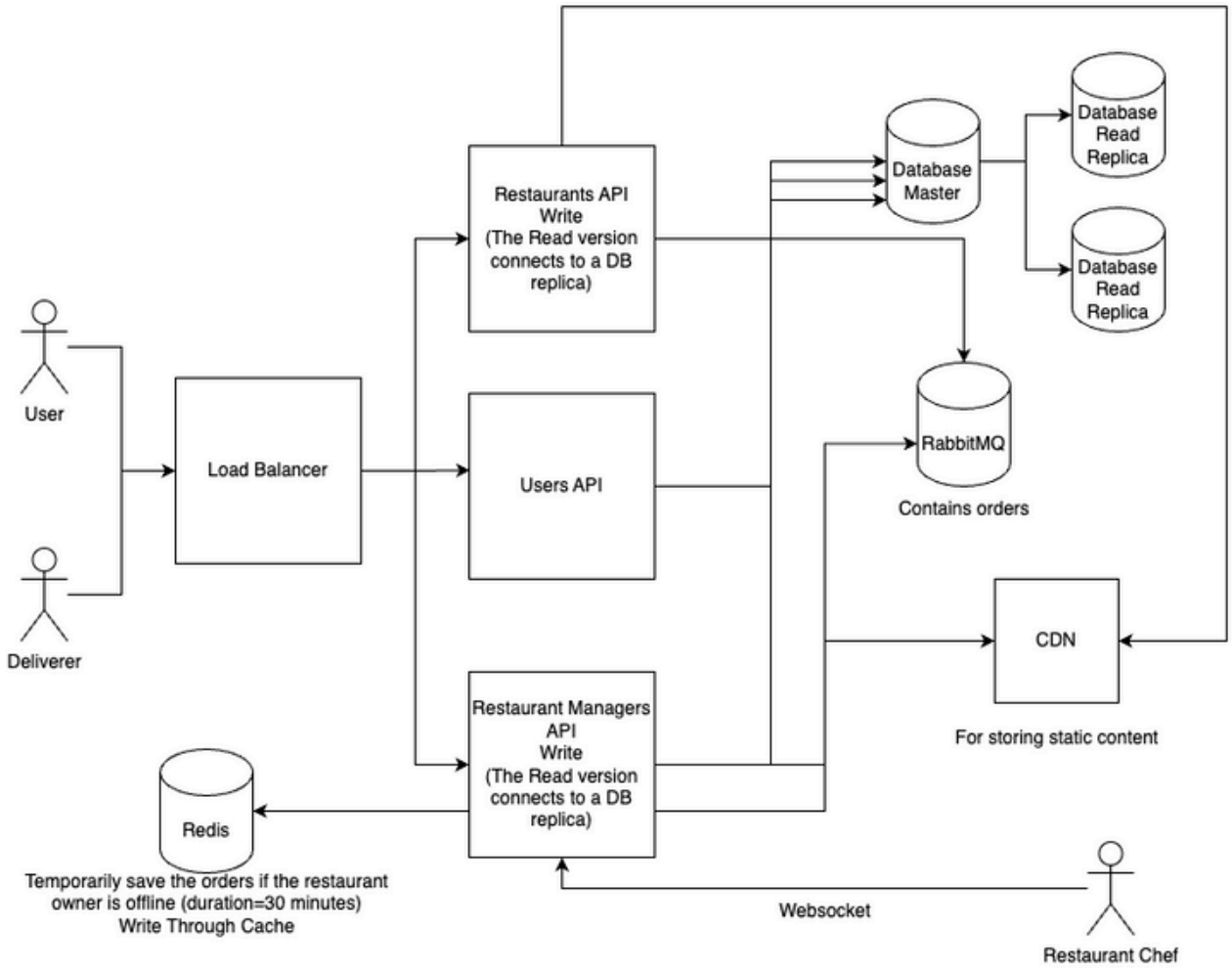
3.3 Data Flow Diagram

A Data Flow Diagram (DFD) illustrates how data flows within the Food Ordering System — from user actions on the frontend to backend APIs and database operations.



3.4 Technology Stack

The Food Ordering System uses the MERN stack, which includes MongoDB for the database, Express.js and Node.js for the backend, and React.js for the frontend. This combination enables full-stack JavaScript development for building a responsive and scalable web application.



4. PROJECT DESIGN

4.1 Problem Solution Fit

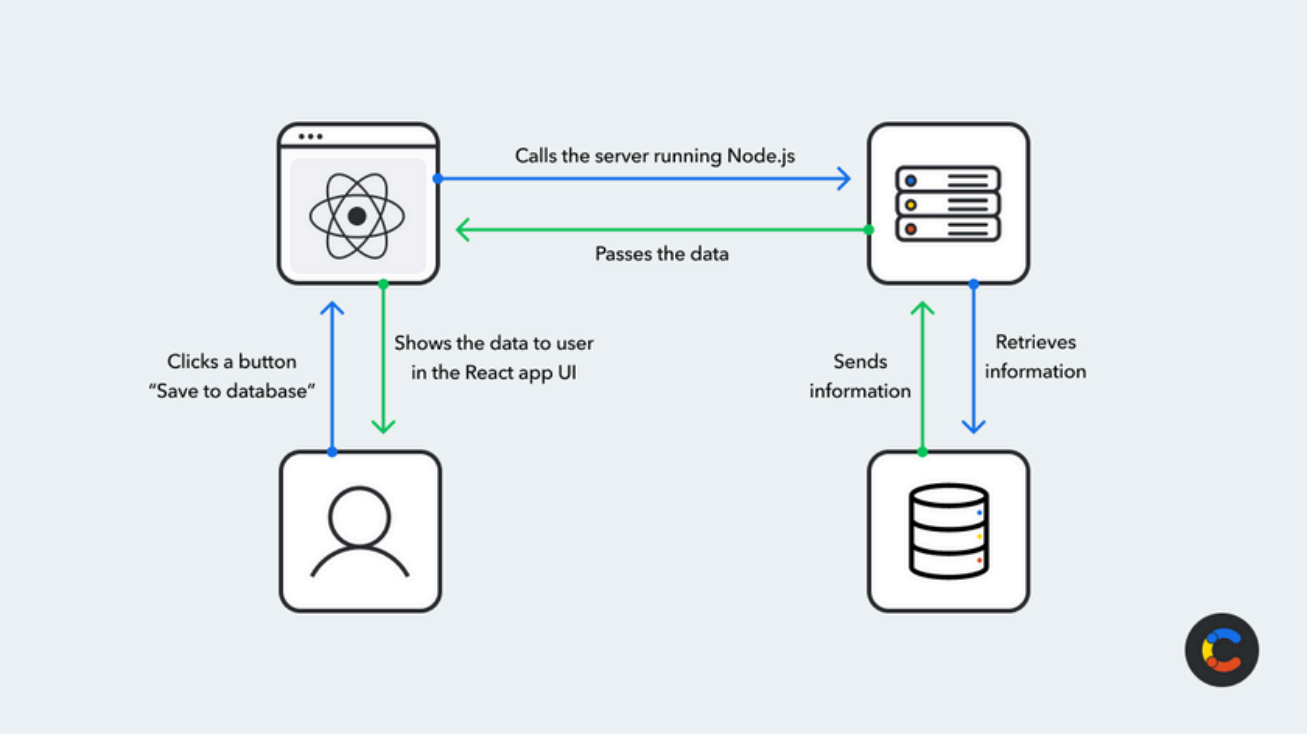
The Food Ordering System provides an efficient solution by combining a user-friendly interface with powerful backend services, addressing the need for quick, accurate, and contactless food ordering in restaurants

4.2 Proposed Solution

The system includes modules like customer registration, restaurant and menu browsing, cart management, order placement, secure payment integration, and an admin panel for managing food items and orders.

4.3 Solution Architecture

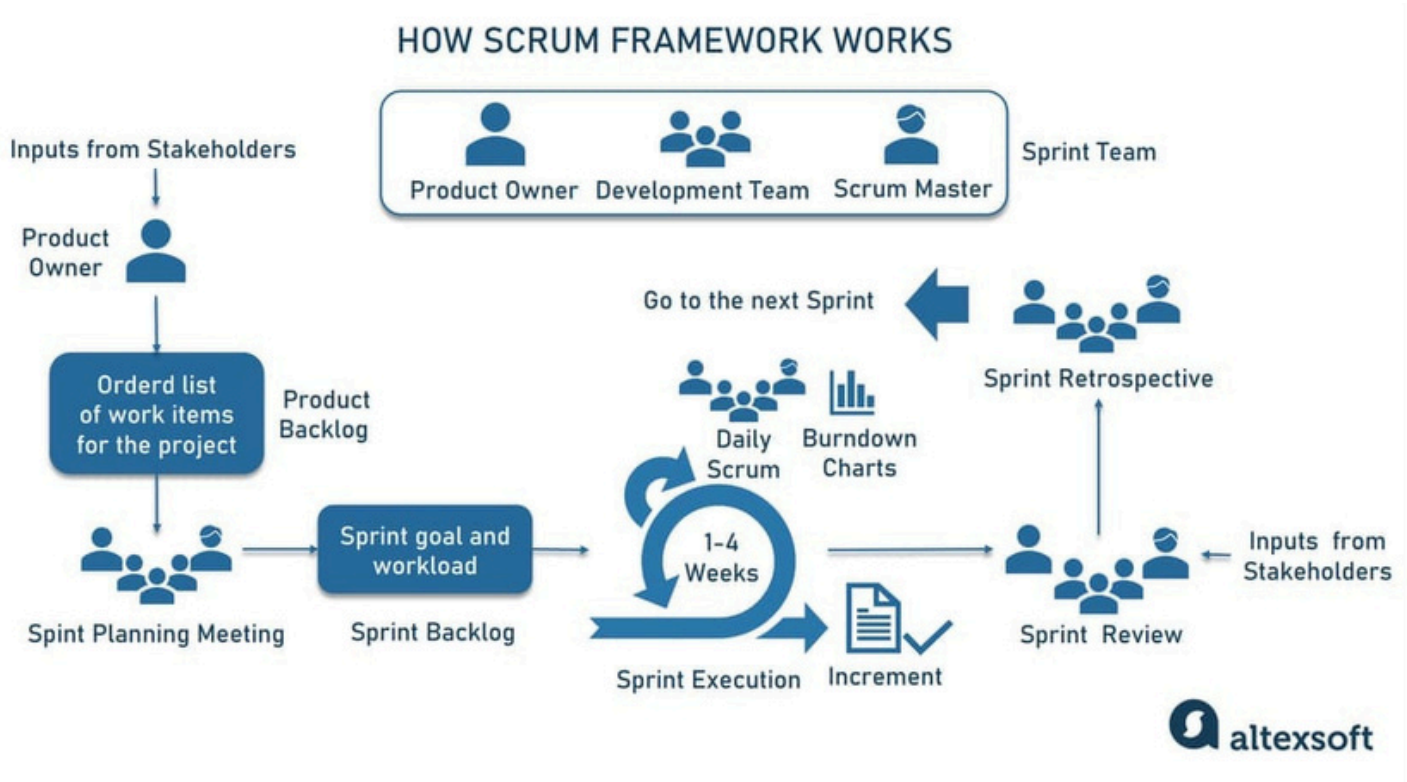
The architecture is based on the MERN stack with modular APIs, reusable React components, and secure Node.js backend services to ensure scalability, responsiveness, and smooth data flow.



5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

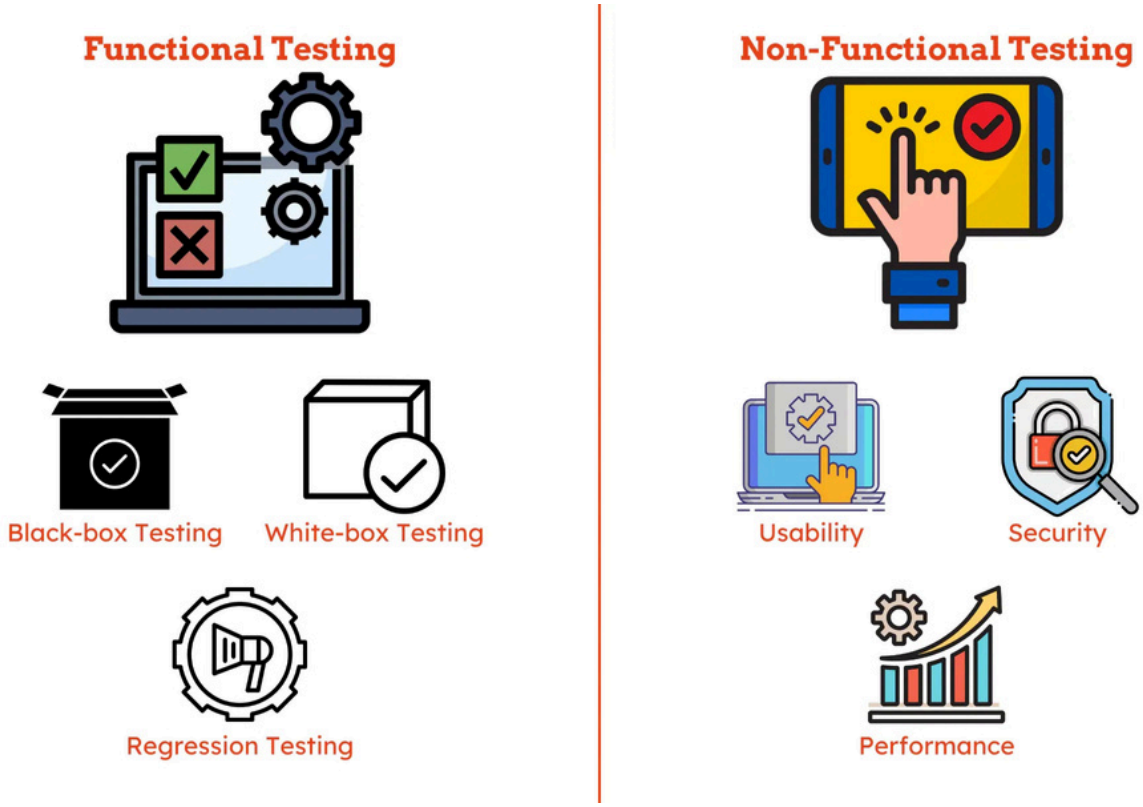
The project was planned using Agile methodology. It was divided into sprints covering UI/UX design, backend API development, frontend integration, order and cart functionality, payment gateway integration, admin panel setup, and testing.



6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

We used tools like JMeter and browser developer tools to test API response times, simulate user load, and validate system performance. The Food Ordering System maintains fast response and reliable behavior under high user demand, ensuring smooth order placement, cart updates, and payment processing.

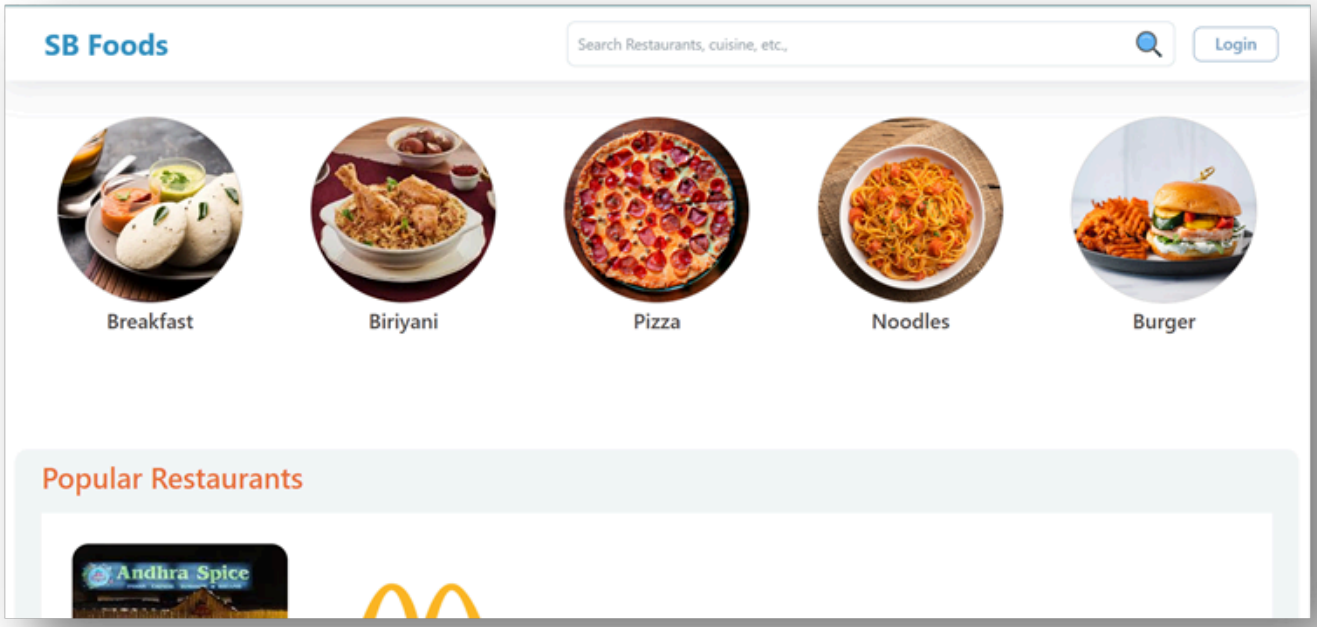


7. RESULTS

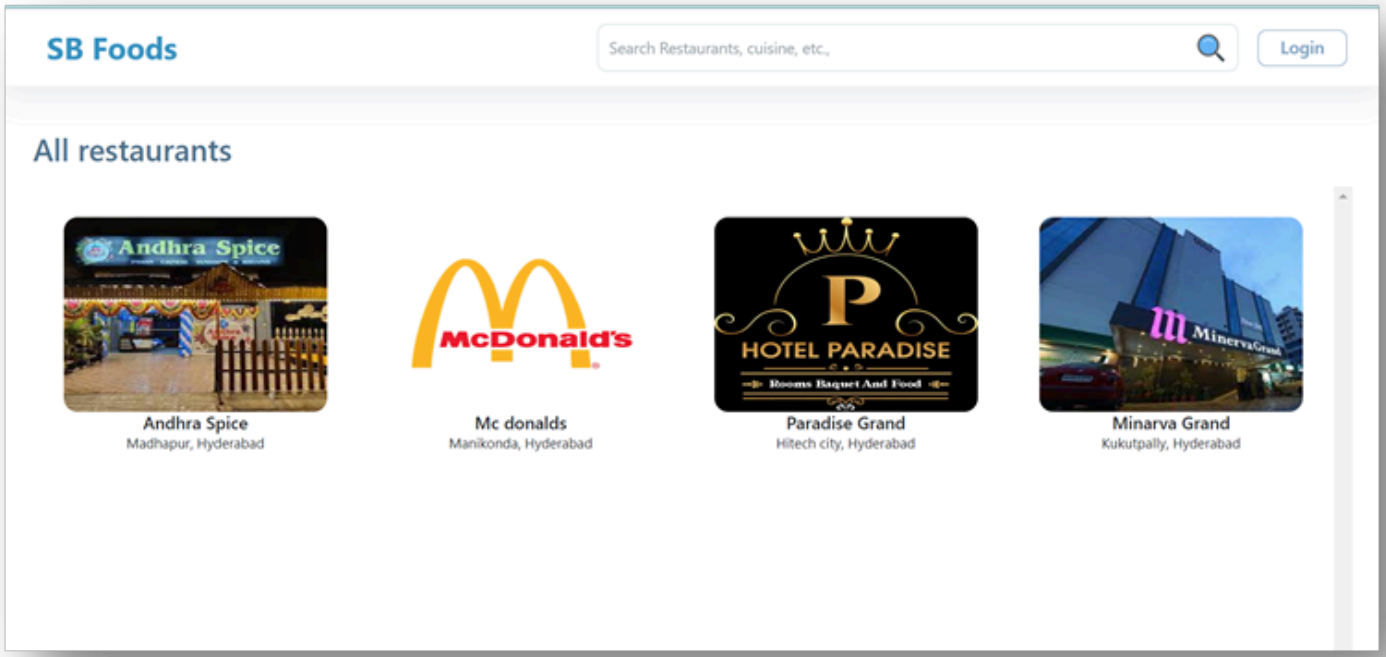
7.1 Output Screenshots

Screenshotsofthehomepage, Items details, user login, cart, and admin panel are included here to demonstrate the working application.

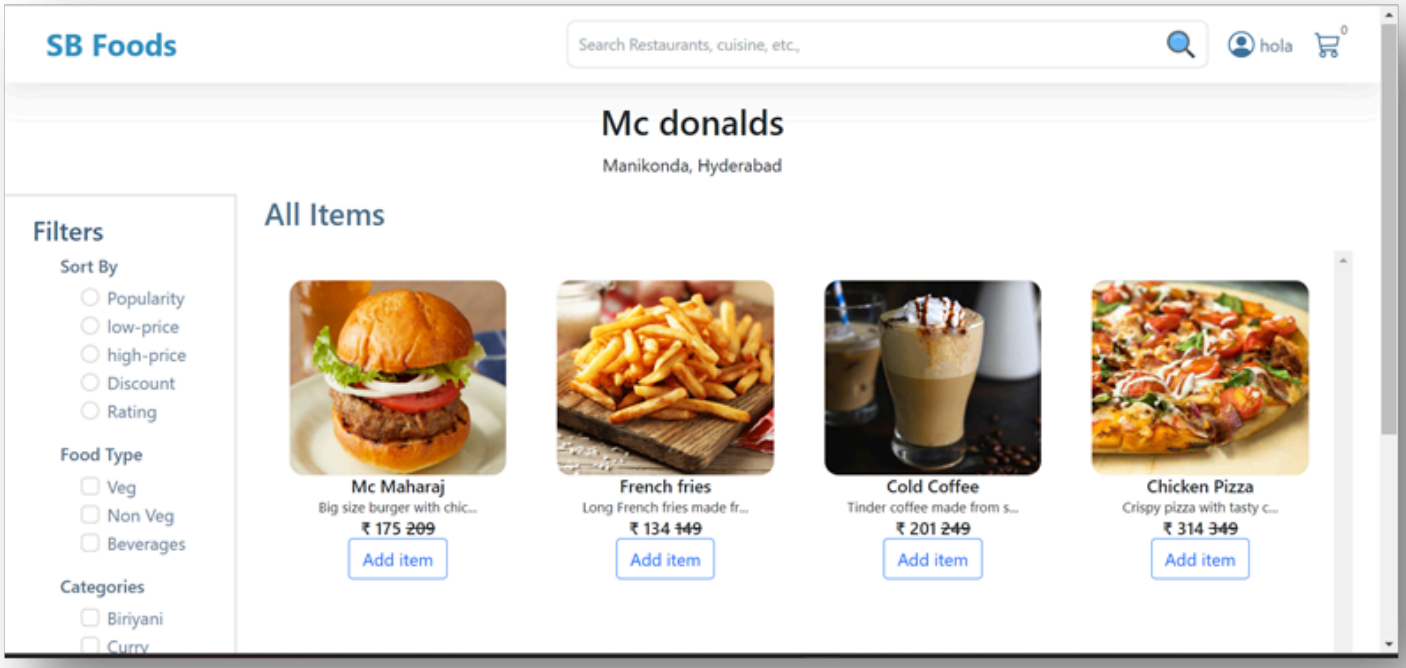
Landing page



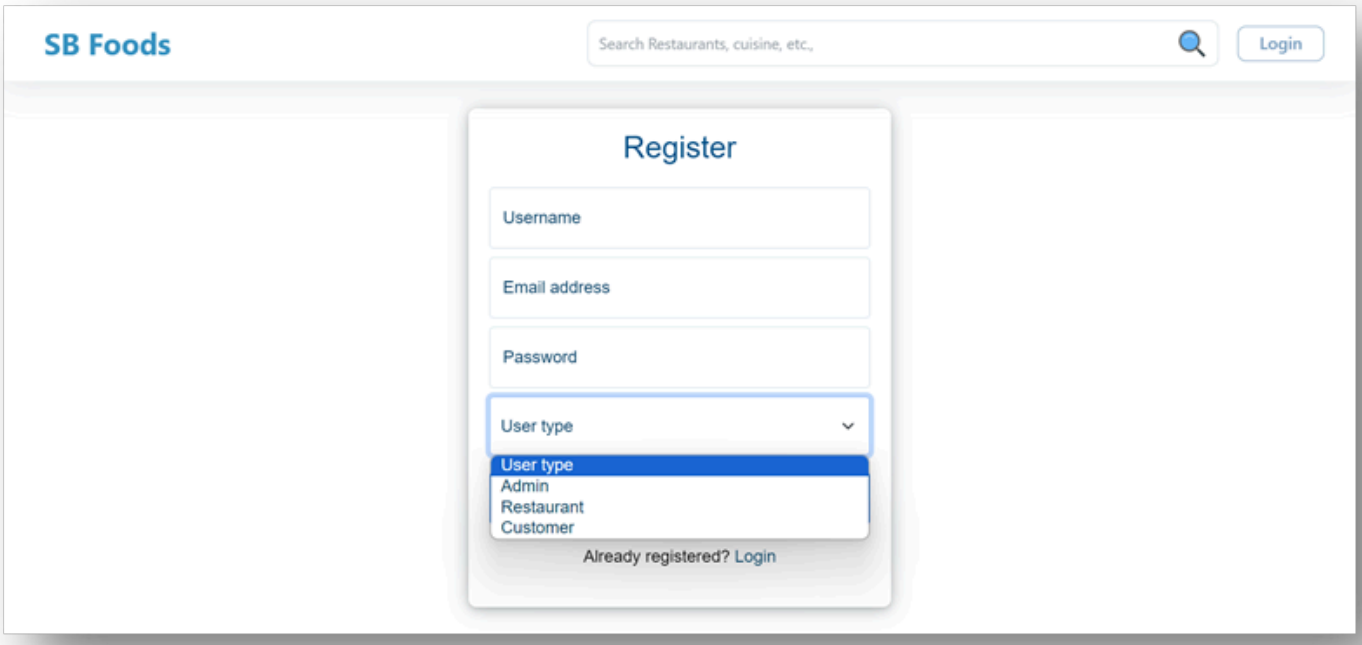
Restaurants



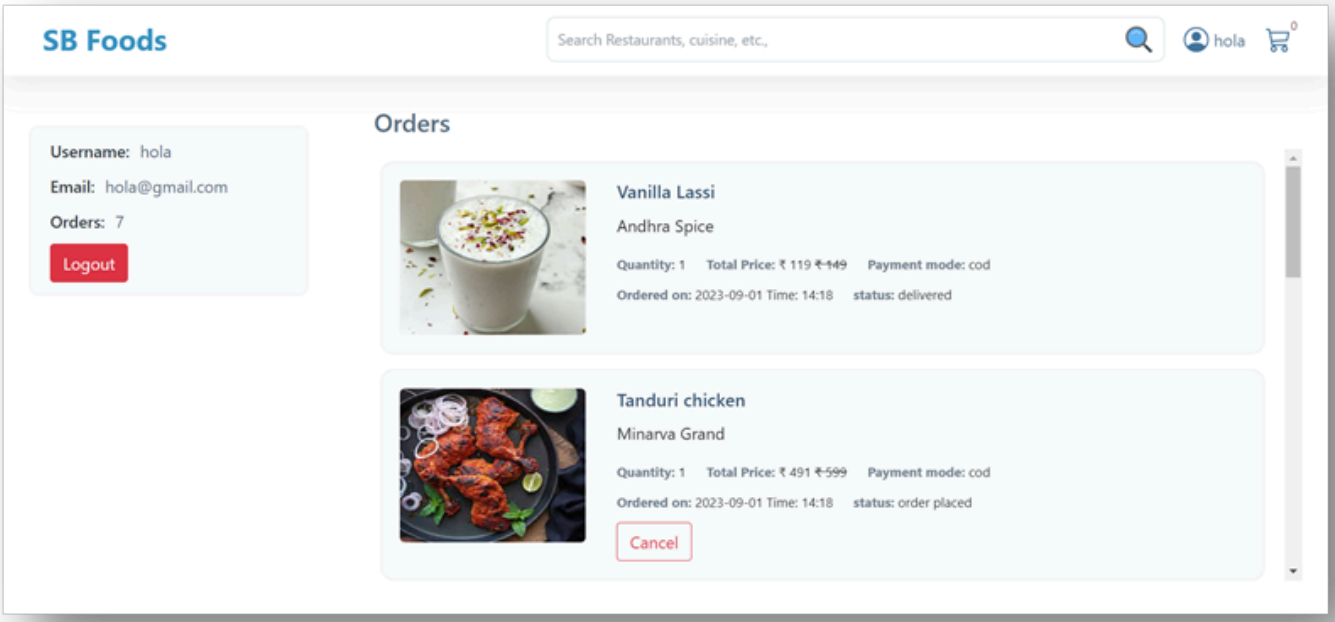
Restaurant Menu



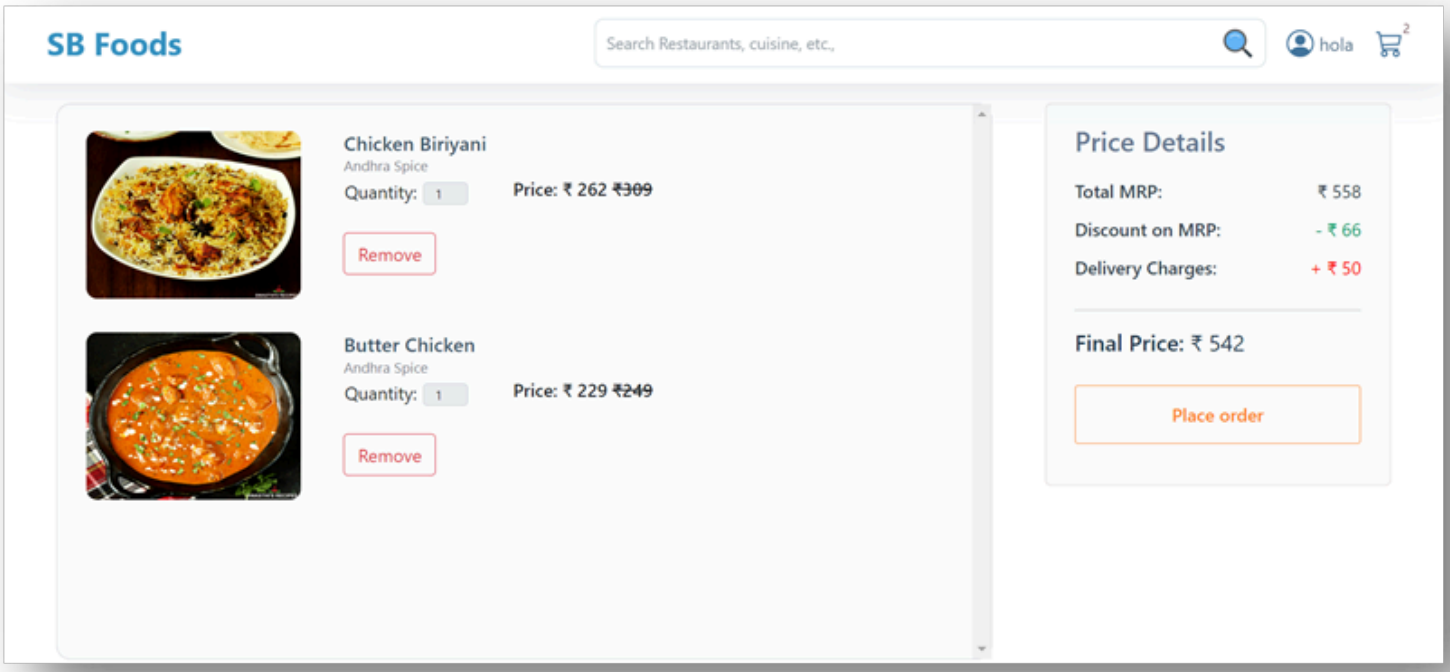
Authentication



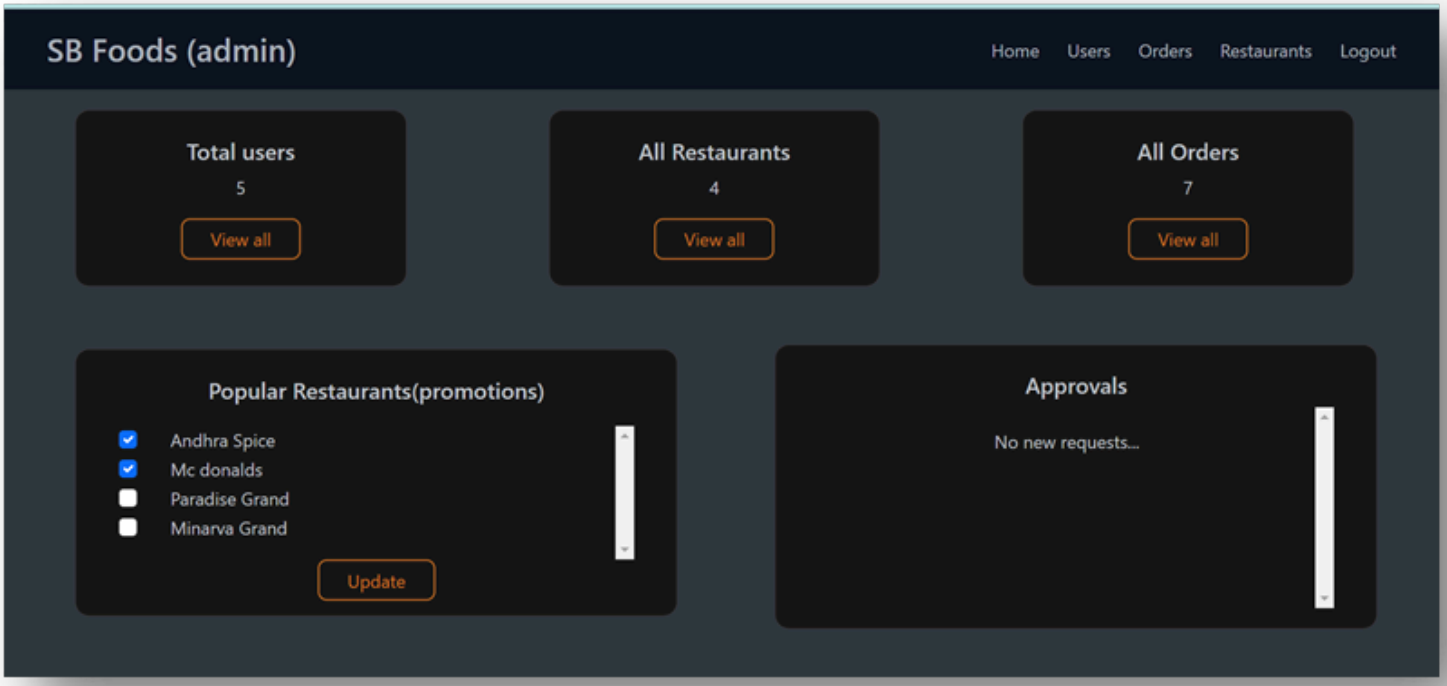
User Profile



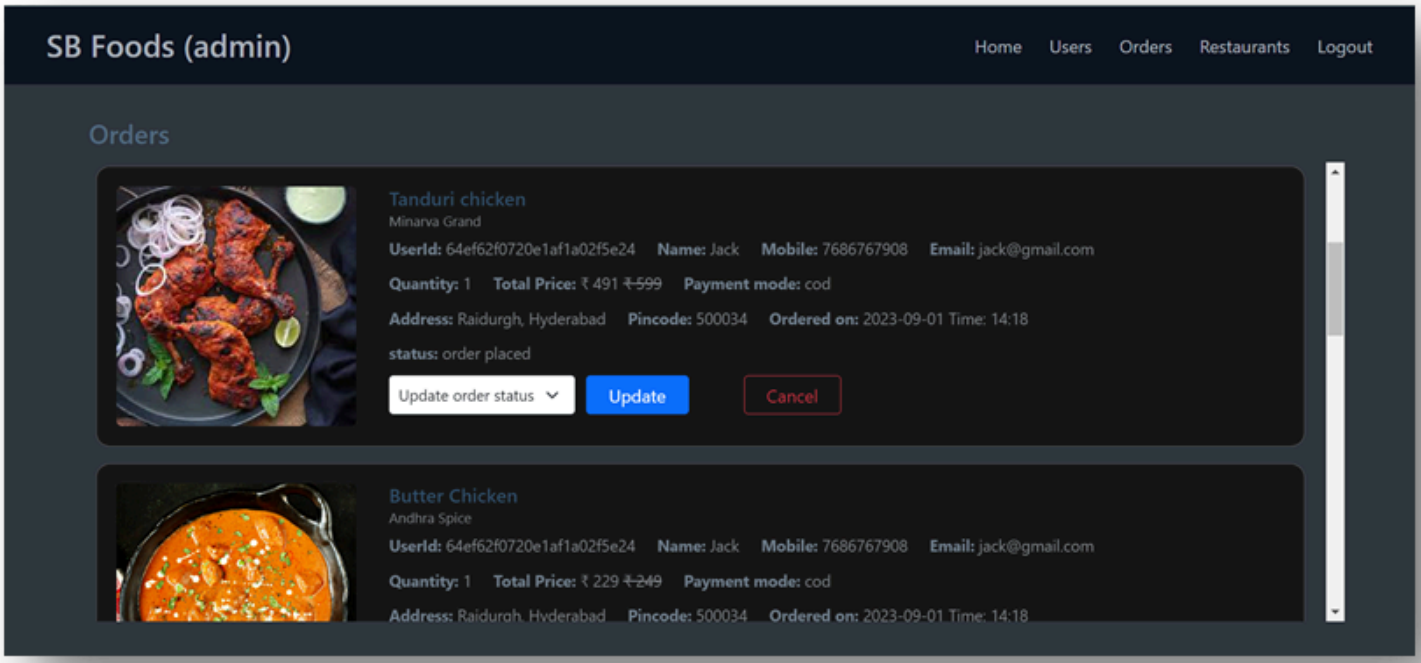
Cart



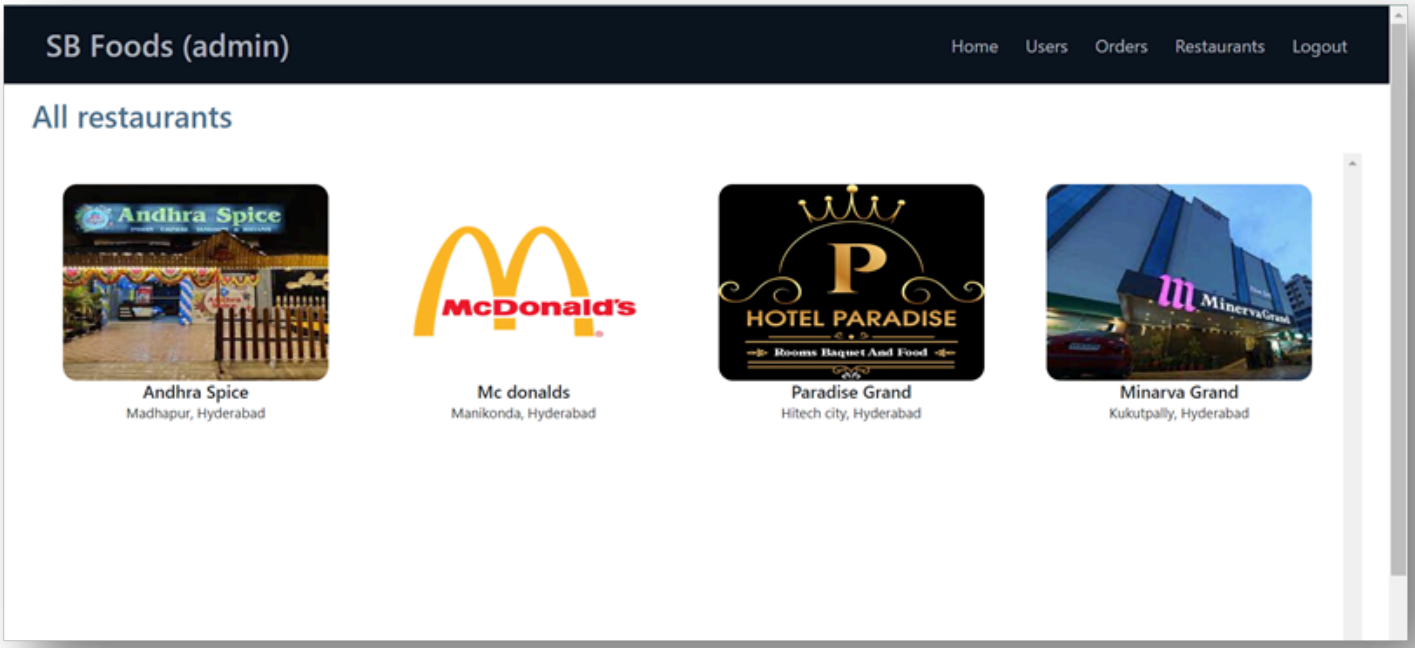
Admin dashboard



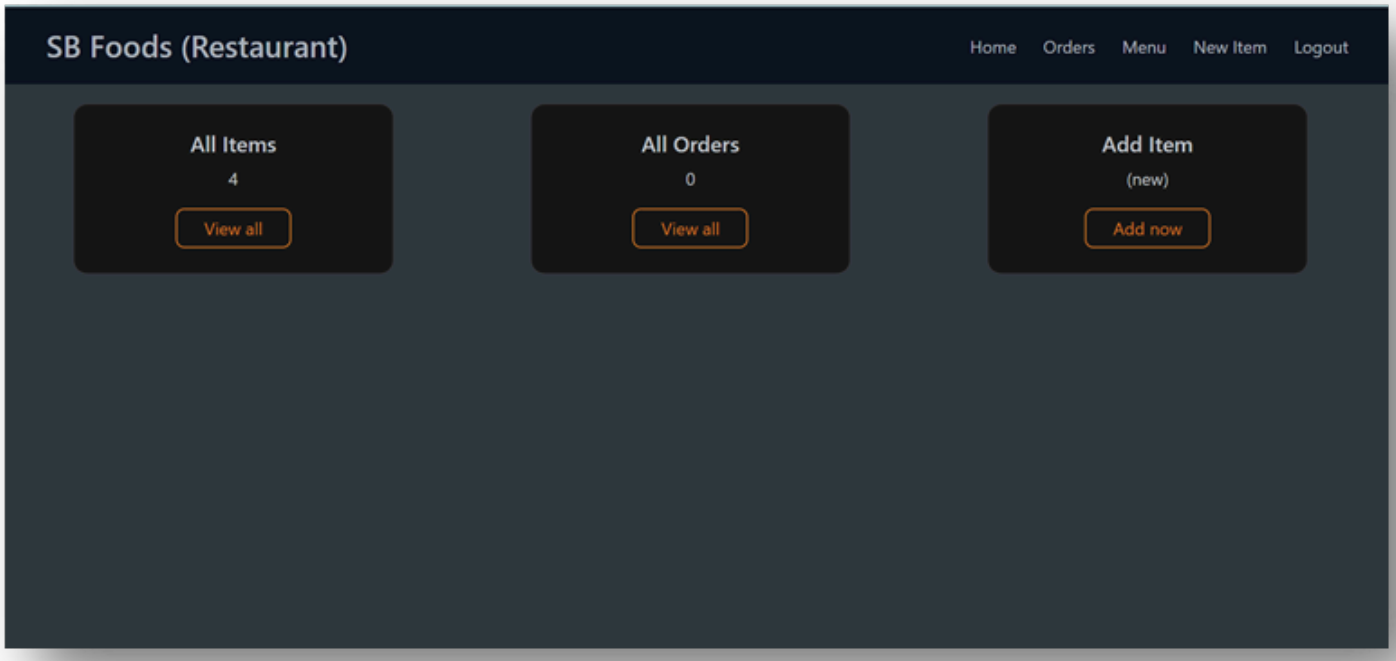
All Orders



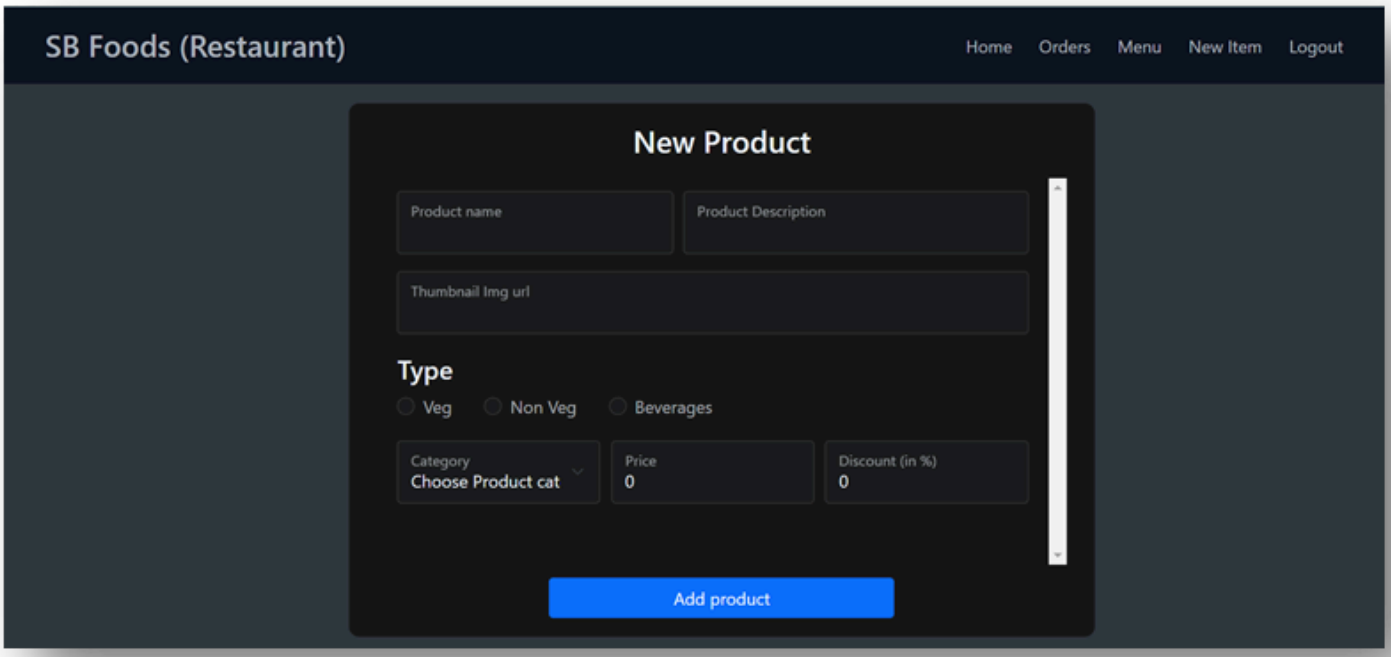
All restaurants



Restaurant Dashboard



New Item



8. ADVANTAGES & DISADVANTAGES

Advantages:
- User-friendly design
- Fast performance
- Easy deployment
- Scalable

Disadvantages: -
Requires good internet connection
- Limited offline access

9. CONCLUSION

The Food Ordering System successfully streamlines the process of browsing menus, placing orders, and making secure payments through a responsive and user-friendly web interface. Developed using the MERN stack, the system ensures scalability, real-time interactivity, and efficient data handling. It addresses the growing demand for digital food services, providing convenience to customers and effective order management for restaurant administrators.

10. FUTURE SCOPE

The Food Ordering System holds strong potential for future enhancements to meet evolving user needs and industry trends. Features such as real-time order tracking, integration with third-party delivery services, and personalized food recommendations using machine learning can significantly improve user engagement. Additionally, developing dedicated mobile applications, adding multilingual support, and implementing advanced analytics for user behavior and feedback will further enhance system usability, accessibility, and business decision-making.

11. APPENDIX

GitHub Link: https://github.com/LeonardoXmariposa/food-ordering-systemopia0

Video: https://youtu.be/ntOTdudM9wE?si=Xfa6TJub6Gf0T0EQ