Full Stack Development with MERN

Project Documentation

1. Introduction

Project Title: SB Foods - On-Demand Food Ordering Platform
Team Members:

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- Puli Abhishek

2. Project Overview

Purpose:
To provide users with a seamless digital food ordering experience while enabling restaurants and administrators to manage their offerings and operations effectively.

Features:

- User registration and login
- Browse food products by restaurant
- Add to cart and checkout
- Email confirmation
- Restaurant and admin dashboards
- Order management system

3. Architecture

Frontend:

Built using **React.js**. Components are modular and pages are rendered dynamically based on user authentication. Routing is handled with React Router.

Backend:

Node.js with **Express.js** is used to define RESTful APIs. Middleware handles authentication, logging, and error-handling.

Database:

MongoDB Atlas stores collections for Users, Restaurants, Admins, Products, Carts, and Orders. Mongoose ODM is used for schema definition.

4. Setup Instructions

Prerequisites:

- Node.js (v16+)
- MongoDB Atlas Account
- Git

Installation:

Clone the repository

https://github.com/harsha-vardhan-reddy-07/Food-Ordering-App-MERN

Navigate to root folder

cd Food-Ordering-App-MERN

Install backend dependencies

npm install

Navigate to client folder

cd client

npm install

Environment Variables:

Create a .env file in the root directory and configure MongoDB URI, JWT secret, and PORT.

5. Folder Structure

Client:

/client

├── src

| ├── components

| ├── pages

| ├── App.js

| └── index.js

Server:

/server

├── models

├── routes

├── controllers

├── middleware

└── index.js

6. Running the Application

Frontend:

cd client

npm start

Backend:

cd server

npm start

App runs at: http://localhost:3000

7. API Documentation

User Routes

- POST /api/users/register – Register user
- POST /api/users/login – Login
- GET /api/users/profile – Get user profile

Product Routes

- GET /api/products – Fetch all products
- POST /api/products – Add new product (admin only)

Order Routes

- POST /api/orders – Place an order
- GET /api/orders/:id – View specific order

Cart Routes

- POST /api/cart – Add to cart
- GET /api/cart/:userId – View user cart

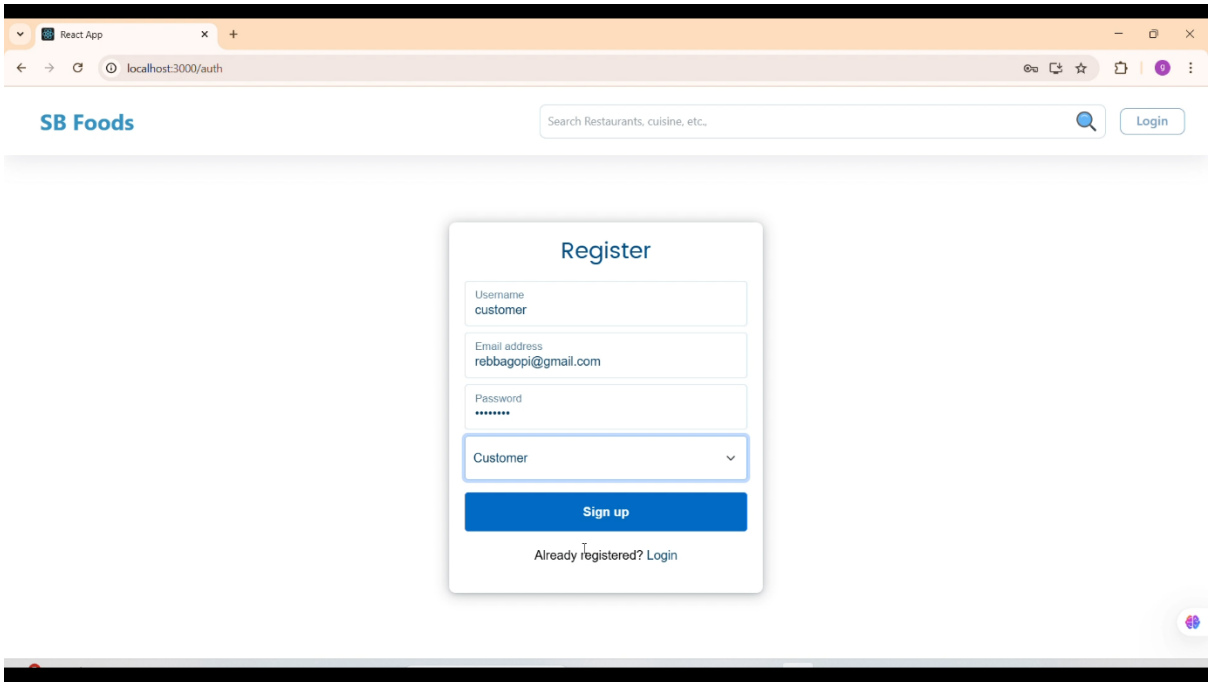
8. Authentication

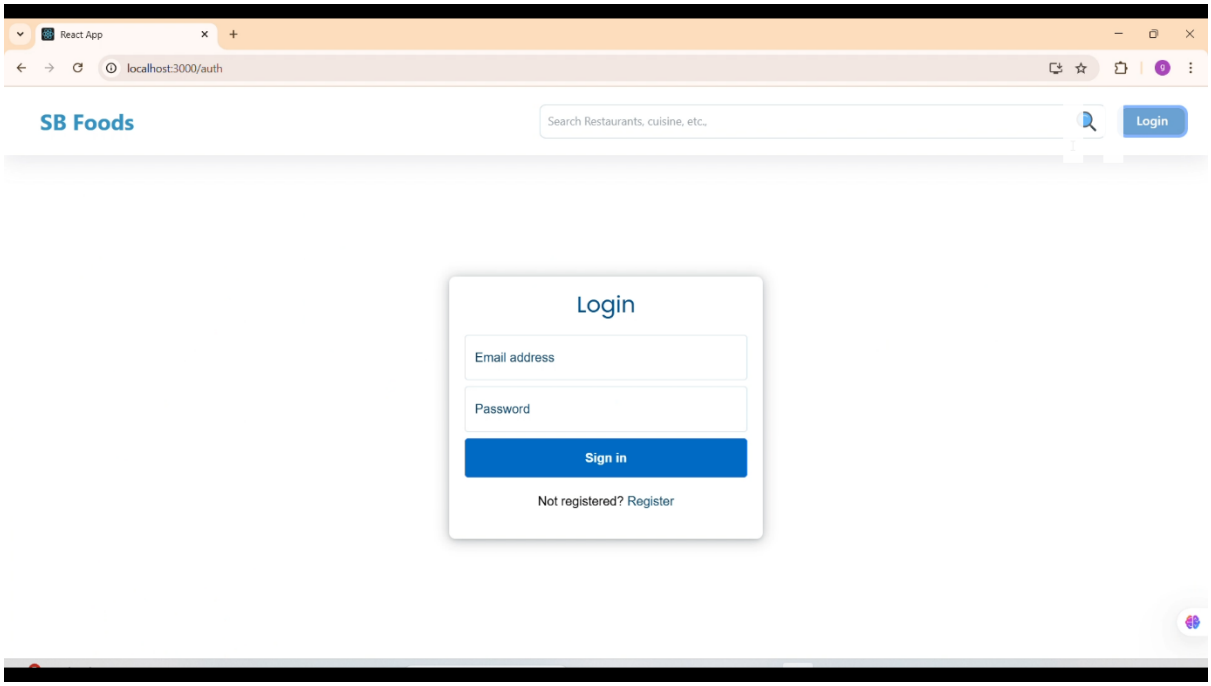
JWT-based authentication with tokens stored in local storage.

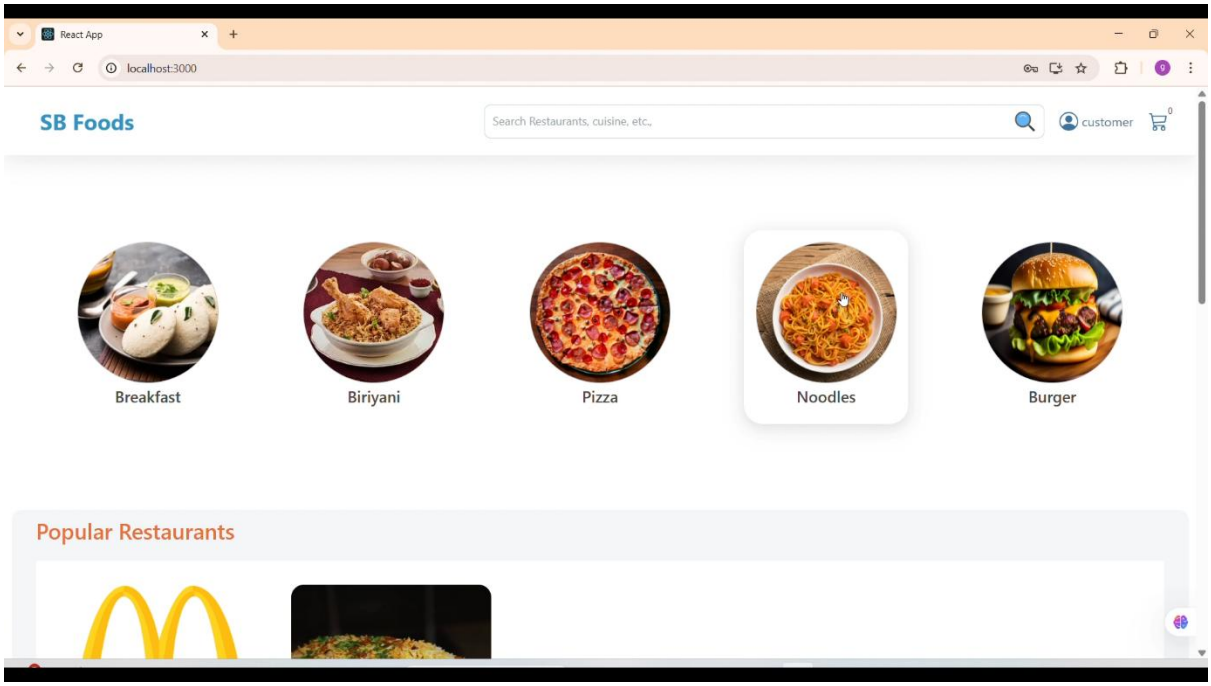
- Passwords are encrypted using bcrypt.
- Protected routes are guarded by middleware.

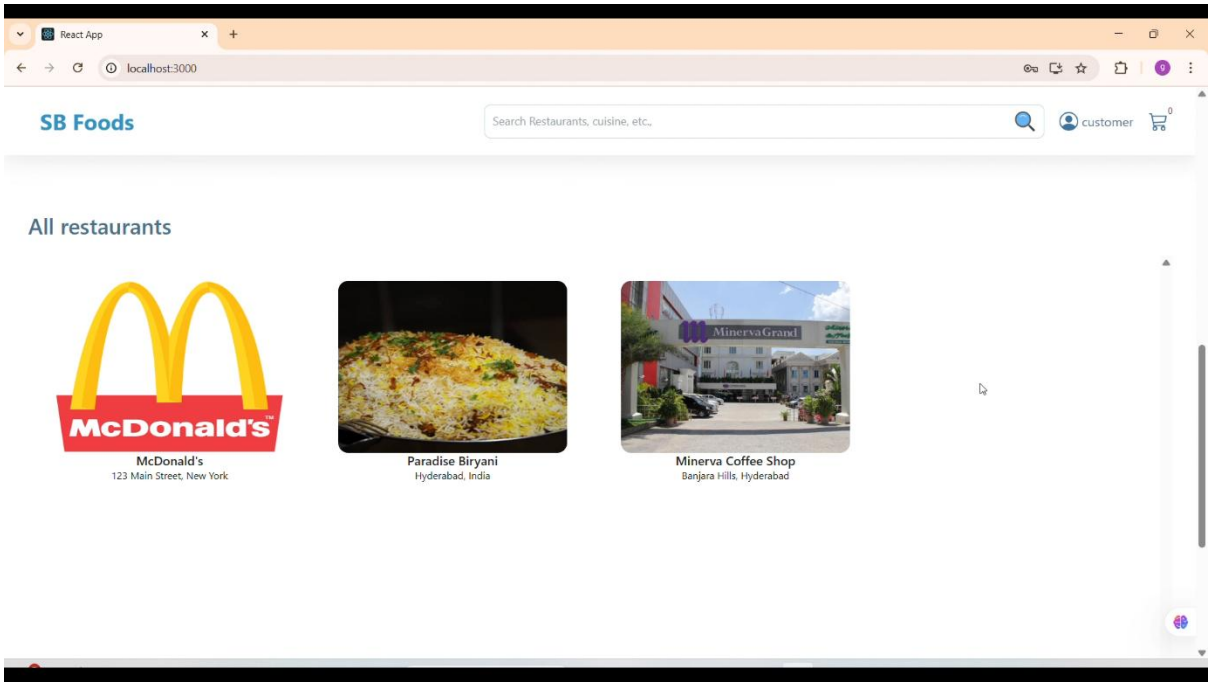
9. User Interface

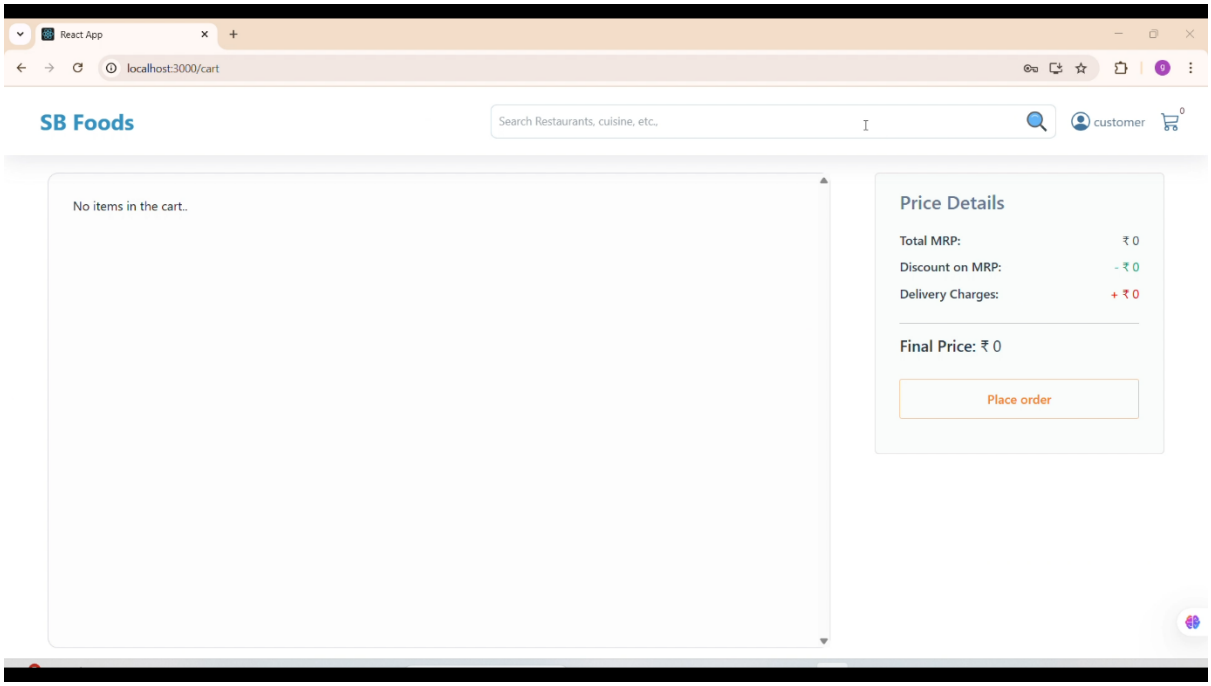
- Registration/Login page
- Home page with food listings
- Cart and order confirmation page
- Admin and restaurant dashboards






React App
localhost:3000
SB Foods
Search Restaurants, cuisine, etc.,
customer
Breakfast
Biriyani
Pizza
Noodles
Burger
Popular Restaurants


React App
localhost:3000
SB Foods
Search Restaurants, cuisine, etc.,
customer
All restaurants
McDonald's
123 Main Street, New York
Paradise Biryani
Hyderabad, India
MinervaGrand
Minerva Coffee Shop
Banjara Hills, Hyderabad



10. Testing

Testing Tools:

- Postman for API testing
- Manual testing of UAT scenarios
- Basic unit testing with Jest (if extended)

11. Screenshots or Demo

GitHub Repository: https://github.com/GopiRebba/OrderOnTheGo-Your-On-Demand-Food-Ordering-Solution

12. Known Issues

- No payment gateway integration
- Lack of mobile responsiveness in certain views

13. Future Enhancements

- Mobile app version with React Native
- AI-based food recommendations
- Wallet integration and reward system
- Multi-language support

Appendix A: Ideation Phase – Brainstorm & Idea Prioritization

Team Gathering & Collaboration:
Our team initiated the project by organizing a virtual brainstorming session to bring together diverse ideas and explore real-world problems that can be solved through technology. Each member was encouraged to share pain points they personally experienced or observed in their daily lives. The discussion focused on areas such as health, education, entertainment, and lifestyle.

Initial Brainstormed Ideas:

1. Smart Shopping Assistant for Retail
2. E-learning Adaptive Quiz Platform
3. Digital Food Ordering App
4. Online Grocery Inventory Tracker
5. Social Awareness Crime Reporting App

Prioritization Criteria:

- Relevance and urgency of the problem
- Feasibility of solution within project timeline
- Technical scope and learning opportunities
- User base and social impact potential

Selected Idea – SB Foods (Digital Food Ordering App):
After careful analysis and ranking based on feasibility, scope, and user demand, we finalized our problem statement around late-night food cravings and inefficient food ordering systems. We selected **SB Foods**, a full-stack food ordering app, which allows users to explore restaurants, add items to their cart, and place orders with ease.

This idea resonated with all team members and allowed us to incorporate a variety of technical concepts including React, Node, Express, MongoDB, and JWT authentication, while solving a relatable real-world challenge.