SB Foods - Detailed Project Report

1. Introduction

Project Title: SB Foods: Online Food Ordering and Management System

Team Members:

1. **Jameeru J** - Team Lead, Backend Development.
2. **Abdul Kalam K** - Frontend Development.
3. **Madhavan M** - Database Design and Integration.
4. **Sridhar R** - Testing and Quality Assurance.

2. Project Overview

Purpose:

SB Foods is an online food ordering platform designed to streamline interactions between customers, restaurants, and admins. The platform facilitates product listing, cart management, and secure ordering processes. Restaurants benefit from a dashboard to manage their products and orders efficiently.

Features:

- Comprehensive Product
- Catalog: Browse food items across diverse restaurants with detailed descriptions, reviews, pricing, and discounts.
- Secure Checkout Process: Ensure safe transactions with a seamless user interface.
- Order Details and History: Track orders, including payment methods, shipping addresses, and order summaries.
- Admin Management: Control over users, products, and restaurant approvals.
- Restaurant Dashboard: Manage listings, monitor order activity, and view order details.

3. Architecture

Frontend:

The frontend is built with React.js, employing reusable components, state management using React Context API or Redux, and responsive design with Material UI and CSS. Pages include:

→ Home
→ Product Catalog
→ Cart
→ Checkout
→ Order History

Backend:

The backend uses Node.js with Express.js to handle REST API calls, middleware functions, and server-side operations. Key functionalities include:

→ User authentication (JWT-based).
→ Order and cart management APIs.
→ Admin operations for user and product management.

Database:

The database is designed with MongoDB, utilizing the Mongoose ODM. Key collections include:

- **Users:** Stores user details and credentials.
- **Restaurants:** Holds restaurant information and product listings.
- **Products:** Details of food items, including pricing and categories.
- **Carts:** Tracks items added by users.
- **Orders:** Records completed orders and associated details.

4. Setup Instructions

Prerequisites:

- Install Node.js and npm .
  (Download Link) : https://nodejs.org/en/download/package-manager
- Install MongoDB
  (Download Link) : https://www.mongodb.com/try/download/compass
- Install Git
  (Download Link) : https://git-scm.com/downloads
- Install an IDE like Visual Studio Code
  (Download Link) : https://code.visualstudio.com/download
- Installation:

  Clone the Repository:

  git clone https://github.com/Jameeru/Sbfood_Website.git

bash

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

cd Food-Ordering-App-MERN

Install Dependencies:

bash

npm install

Set Up Environment Variables:

Create a .env file in the root directory with the following:

1. MONGO_URI=your_mongodb_connection_string
2. PORT=5000

5. Folder Structure

Client (React):

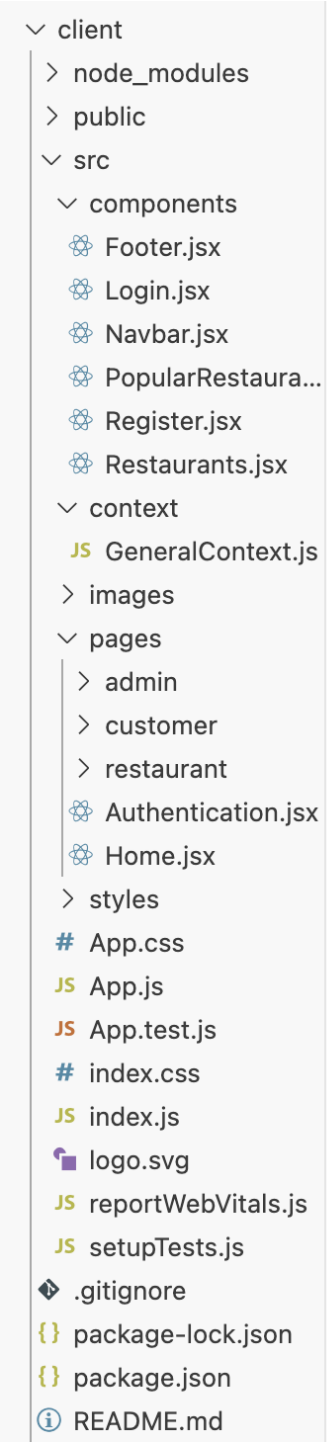
1. src/components: Contains reusable components like ProductCard, CartItem, etc.
2. src/pages: Includes primary pages like Home.js, Cart.js, and Checkout.js.
3. src/context: Manages application state using Context API.

Server (Node.js):

4. routes: Contains API route definitions (userRoutes.js, productRoutes.js).
5. controllers: Business logic for each route (userController.js, orderController.js).
6. models: MongoDB schemas (User.js, Order.js, Product.js).

6. Running the Application

Frontend:

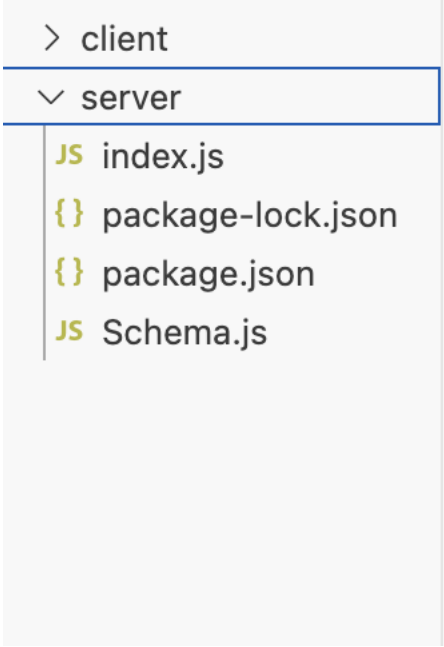


bash

<<cd client

<<npm start

Backend:



bash

>>cd server

>>npm start

Access the application at **http://localhost:3000.**

7. **API Documentation**

Endpoints:

Users:

→ POST /api/users/register – Registers a new user.
→ POST /api/users/login – Logs in a user and returns a JWT.

Products:

→ GET /api/products – Fetch all products.

Cart:

→ POST /api/cart – Add item to cart.
→ GET /api/cart/:userId – Retrieve user's cart.

Orders:

→ POST /api/orders – Place an order.
→ GET /api/orders/:userId – Fetch user's order history.

8. Authentication

JWT Authentication: Tokens are generated upon login and stored in localStorage.

Role-based Access Control:

Users: Restricted to product browsing and ordering.

Admins: Full access to user, product, and order management.

9. User Interface

Key pages include:

→ Home Page: Displays available restaurants and products.
→ Cart Page: Showcases items added by the user with options to edit/remove.
→ Checkout Page: Captures address and payment details.
→ Order History: Displays previous orders.

10. Testing

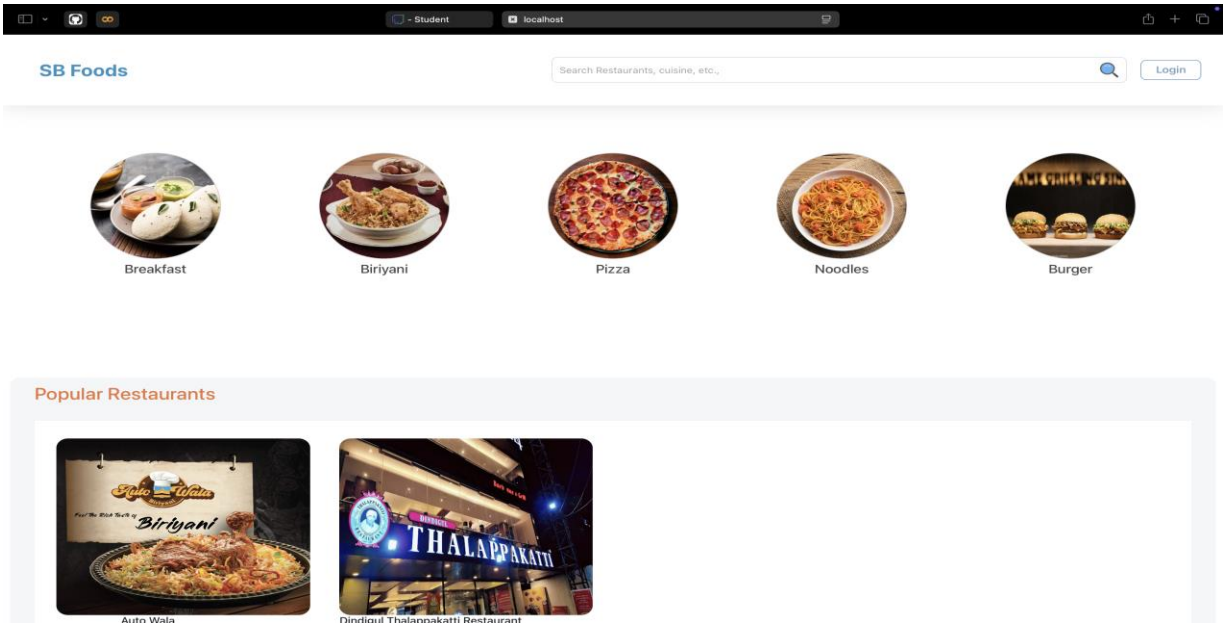
Frontend: Jest and React Testing Library for component testing.

Backend: Mocha and Chai for API endpoint testing.

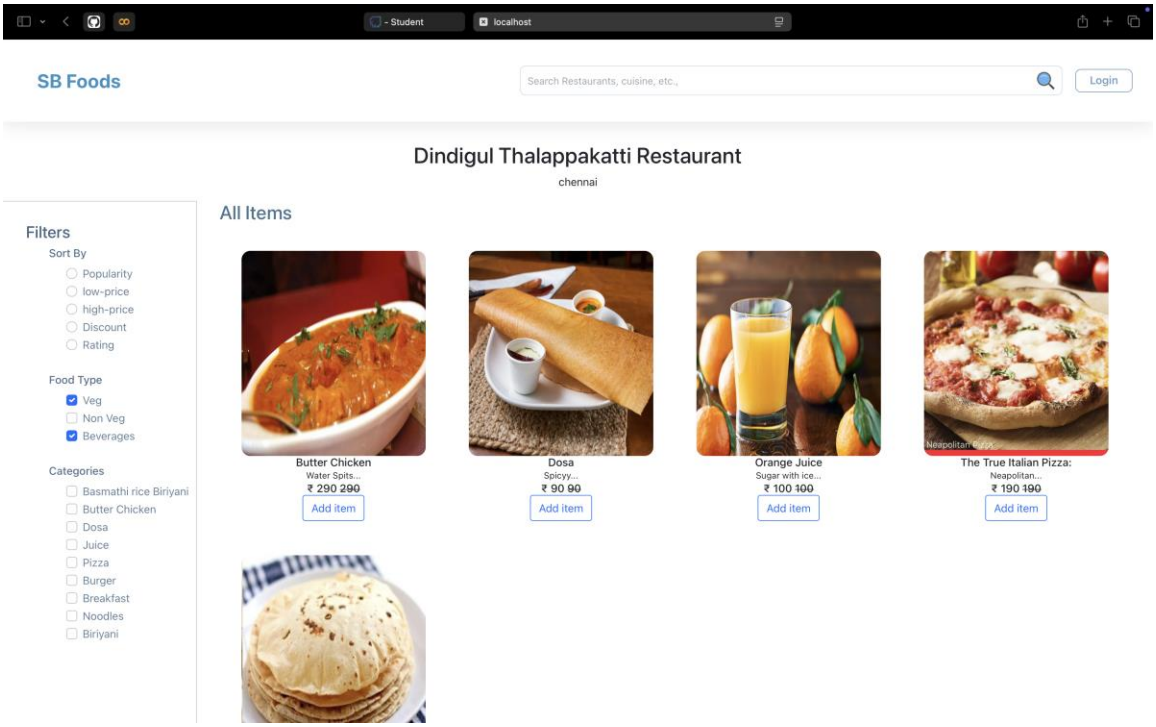
11. Screenshots or Demo

Screenshots:

Home Page



Cart Page



Checkout Flow

Demo:

[https://drive.google.com/file/d/1g6XH1CLsRswCbywnfFp5ENNUPCF2Ks9l/view?usp=sharing]

12. Known Issues

Occasionally slow response times when querying large datasets.

Lack of email notifications for order confirmation.

13. Future Enhancements

Mobile Application: Develop a companion app for iOS and Android.

Recommendation System: Suggest popular products based on user history.

Payment Integration: Add PayPal and Apple Pay.

Real-Time Order Tracking: Enable GPS-based delivery tracking.