MEALMATE – A FOOD SUBSCRIPTION WEB APPLICATION

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Overview

Introduction

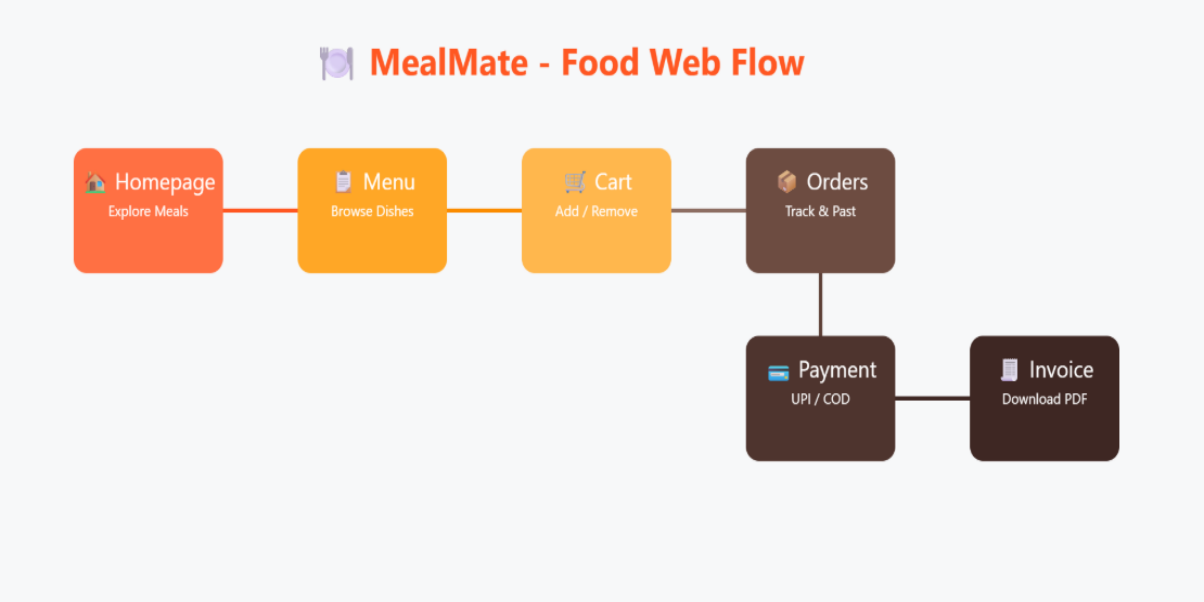
MealMate is an innovative meal subscription application designed to simplify the way individuals and families access healthy, delicious meals. In today's fast-paced world, finding the time to plan, shop for, and prepare nutritious meals can be a challenge. MealMate addresses this issue by offering a convenient and user-friendly platform that connects users with a variety of meal options tailored to their dietary preferences and lifestyle needs.

Purpose

The primary goal of MealMate is to provide a seamless meal planning experience that caters to diverse tastes and nutritional requirements. Whether users are looking for vegetarian, vegan, gluten-free, or family-friendly meals, MealMate curates a selection of recipes and meal plans that make healthy eating accessible and enjoyable.

Key Features

- Personalized Meal Plans: Users can customize their meal preferences based on dietary restrictions, favourite cuisines, and portion sizes.
- Easy Ordering: With just a few clicks, users can order meals for the week, ensuring they have everything they need without the hassle of grocery shopping.
- Flexible Subscription Options: MealMate offers various subscription plans, allowing users to choose the frequency and quantity of meals that best fit their lifestyle.
- Nutritional Information: Each meal comes with detailed nutritional information, helping users make informed choices about their diet.
- User -Friendly Interface: The application is designed with a focus on user experience, making it easy to navigate, select meals, and manage subscriptions.



1. Technologies Used

Frontend Technologies

- **React**: Used to build the user interface with reusable components for a smooth and interactive user experience.
- **HTML, CSS, JavaScript**: Core web technologies for structuring, styling, and adding basic interactivity to the frontend.

Backend Technologies

- **Node.js**: JavaScript runtime used for building the server-side of the application.
- **Express.js**: Web framework for Node.js to handle routing and API requests efficiently.
- **MongoDB**: NoSQL database to store users, meals, and subscription data flexibly.

2. Frontend work

Login/Sign up page

The Login and Signup pages in the MealMate application are the gateway for users to access the service. The Signup page lets new users create an account by providing basic information such as their name, email, and password. The Login

page enables existing users to securely authenticate with their credentials to access their personalized meal subscription dashboard.

Both pages are designed to be user-friendly and straightforward, with validation checks to ensure correctly formatted input. They provide clear feedback on errors like incorrect credentials or invalid input. Together, these pages establish the foundation for secure user access and a smooth onboarding experience.

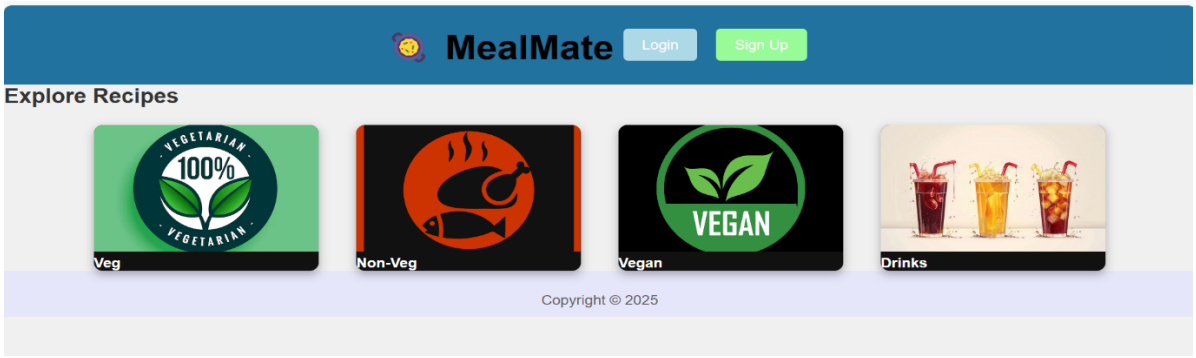
Meals List Overview

The Meals List in MealMate offers a diverse selection of meal categories designed to cater to a wide range of tastes and dietary preferences. Users can explore and select from categories like Vegan, Indian, Chinese, Vegetarian, Non-Vegetarian, and Drinks. Each category is presented as a checkbox, allowing users to filter and easily navigate to the specific list of food items within that category.

Meal Categories

- **Vegan**
  A collection of 100% plant-based meals free from any animal products, ideal for users following a vegan lifestyle.
- **Indian**
  Traditional and contemporary Indian cuisine featuring a variety of flavorful dishes crafted with authentic spices and ingredients.
- **Chinese**
  Popular Chinese meals including stir-fries, noodles, and dim sum, offering a rich taste of Asian flavors.
- **Vegetarian (Veg)**
  Nutritious vegetarian options that exclude meat and seafood but may include dairy and eggs.

- **Non-Vegetarian (Non-Veg)**
  A variety of dishes including chicken, fish, and other meats, catering to users who prefer non-vegetarian meals.
- **Drinks**
  Refreshing beverages ranging from smoothies and juices to teas and coffees to complement the meals.



Recipe Selection and Subscription Plans Overview

In MealMate, users can browse through a rich variety of recipes across different meal categories and select their favourite dishes to include in their subscription. The platform offers flexible subscription plans that allow users to tailor their meal deliveries according to their schedule and needs.

Recipe Selection

Users can review detailed information about individual recipes, including ingredients and nutritional facts. They can add desired recipes to their cart for subscription, ensuring they receive meals they enjoy and fit their dietary goals.

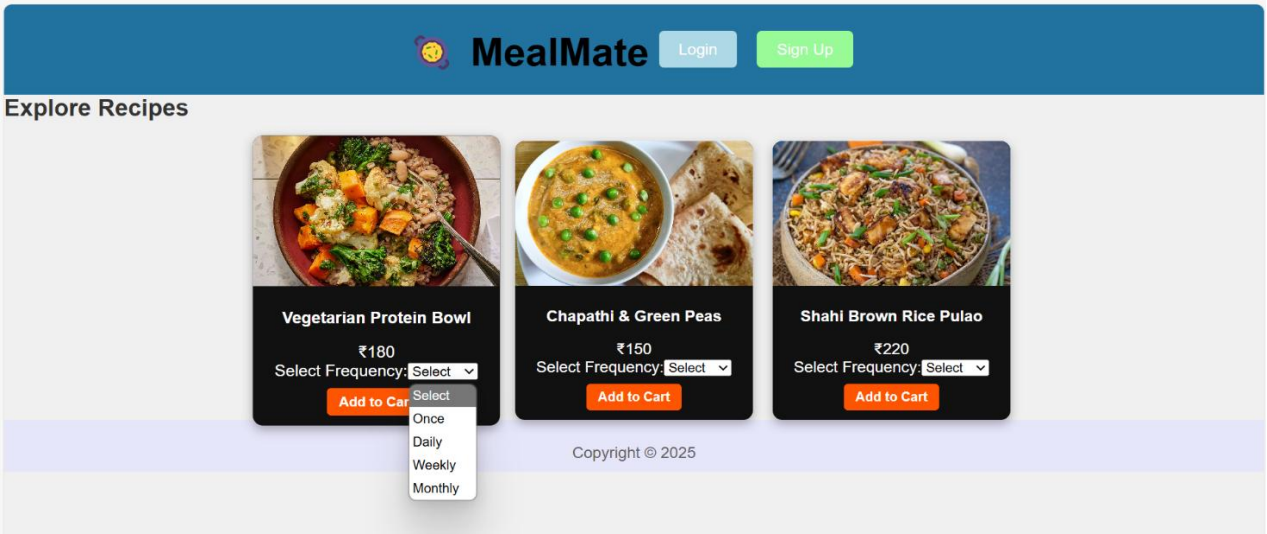
Subscription Plans

MealMate provides multiple subscription options to accommodate varying lifestyles:

- **Daily Plan**: Receive selected meals every day, perfect for users who want fresh meals delivered regularly.
- **Weekly Plan**: Meals are delivered on chosen days of the week, offering a convenient balance between flexibility and planning.

- **Monthly Plan**: Ideal for users who prefer planning ahead with a monthly meal subscription, ensuring they have meals covered for the entire month.

Users can customize their subscriptions by choosing the plan that best fits their preferences and adjust meal quantities as needed. Once selections and plans are confirmed, users add them to their cart for checkout.



Cart and Payment Overview

After selecting recipes and customizing subscription plans, users are directed to the Cart page where all chosen meal items and plans are summarized. The cart provides a clear overview of selected meals, quantities, plan durations (daily, weekly, monthly), and the total cost.

Cart Features

- Displays the list of selected recipes with details such as quantity and subscription plan.
- Allows users to modify quantities or remove items before finalizing the order.
- Shows the subtotal, taxes (if applicable), and total amount due for transparency.

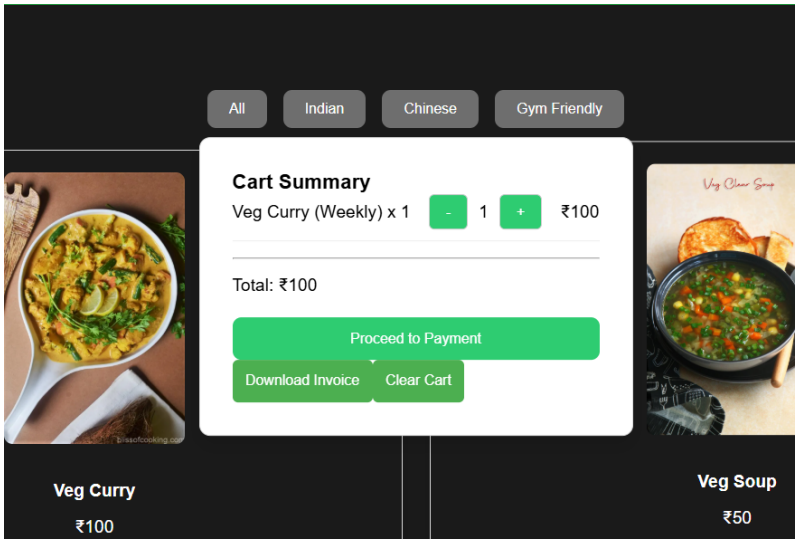
Payment Process

Users proceed from the cart to the Payment window to complete the transaction securely. The payment process supports multiple methods and includes the following features:

- Secure entry of payment details, such as credit/debit card information.
- Validation and encryption of payment data to ensure user security.

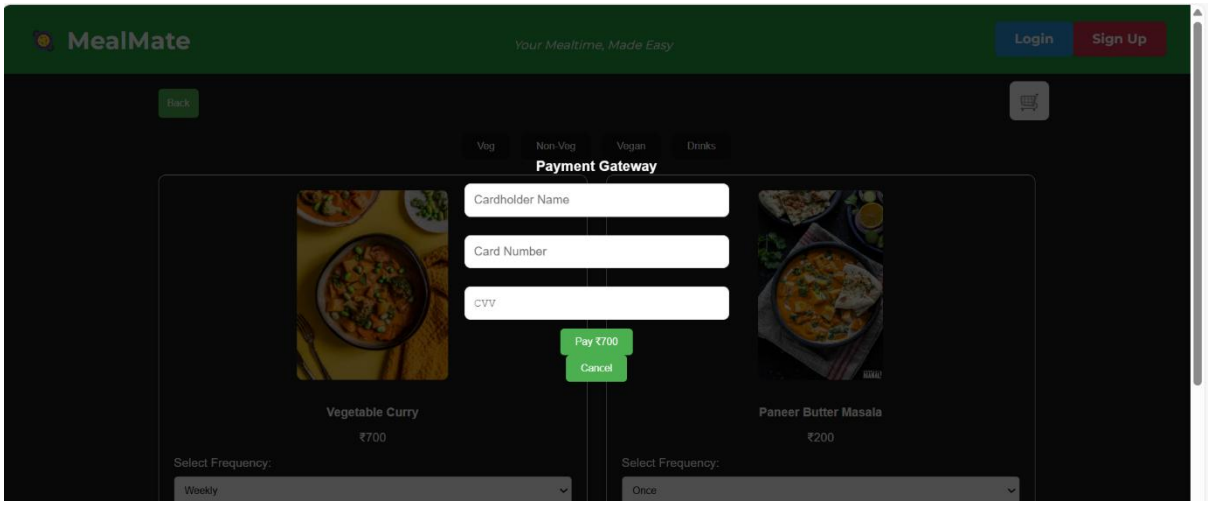
- Confirmation of the selected subscription plan and total cost.
- Receipt generation and notification upon successful payment.

This streamlined cart and payment flow ensures users can easily manage their meal subscription orders and complete secure payments with confidence on the MealMate platform.



Example Cart Item:

- **Item:** Veg Curry
- **Price per Meal:** ₹100
- **Subscription Plan:** Weekly
- **Total Price:** ₹700 (7 meals × ₹100 each)



Payment Success and Invoice Generation Overview

Once a user completes the payment successfully on MealMate, the application confirms the transaction and immediately generates an invoice for the order. This invoice provides a detailed summary and is automatically available for download.

Invoice Details

- **Item(s):** Lists the selected meals (e.g., Veg Curry)
- **Price per Meal:** Displays the cost per individual meal (e.g., ₹100)
- **Subscription Plan:** Shows the chosen plan type (e.g., Weekly)
- **Total Amount:** Calculates and displays the full payment amount based on quantity and plan (e.g., ₹700)

User Experience

- Users receive instant confirmation of their payment success.
- The invoice automatically downloads for record-keeping and reference.
- The invoice can also be accessed later through the user's account for review or re-download.

Backend Overview

The backend of the MealMate application is built using Node.js and Express, providing a robust and scalable server-side architecture. It handles user authentication, order processing, and food item management through a well-structured API.

Key Components

1. **Routing**:
    - **Order Routes (backend/routes/orderRoutes.js)**:
        - Handles the placement of orders through the **/place-order** endpoint.
        - Validates incoming data and creates new order entries in the database.
        - Updates the user's order history upon successful order placement.
    - **User Routes (backend/routes/userRoutes.js)**:
        - **Signup (/api/signup)**: Allows new users to create an account by providing their name, email, password, and address. Passwords are hashed for security.

        - **Login (/api/login)**: Authenticates users by verifying their email and password, generating a JWT token for session management.
    - **Food Options Route**:
        - Fetches food items based on category or retrieves all items if no category is specified.
2. **Models**:
    - **Order Model**: Represents orders placed by users, including user references, items, total amounts, and timestamps.
    - **User Model**: Represents user accounts, storing essential information such as name, email, hashed password, and order history.
    - **Food Item Model**: Represents the various food items available for selection, categorized for easy access.
3. **Configuration**:
    - **Environment Variables**: Utilizes **dotenv** to manage sensitive information such as database URLs and JWT secrets.
    - **MongoDB Connection**: Connects to a MongoDB database to store user and order data, ensuring data persistence.
4. **Middleware**:
    - **CORS**: Configured to allow requests from the frontend application, enabling seamless communication between the client and server.
    - **JSON Parsing**: Middleware to parse incoming JSON requests, making it easier to handle data.
5. **Admin Panel**:
    - **AdminJS**: Integrated for administrative management of food items and user accounts, providing a user-friendly interface for backend management.

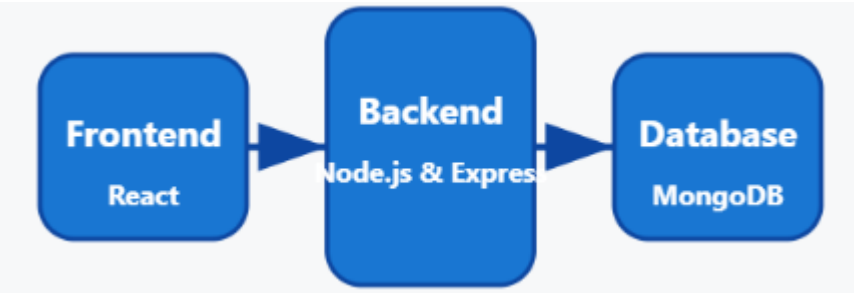
Server Initialization

The server is initialized to listen on a specified port, connecting to the MongoDB database and logging relevant messages to the console for monitoring.

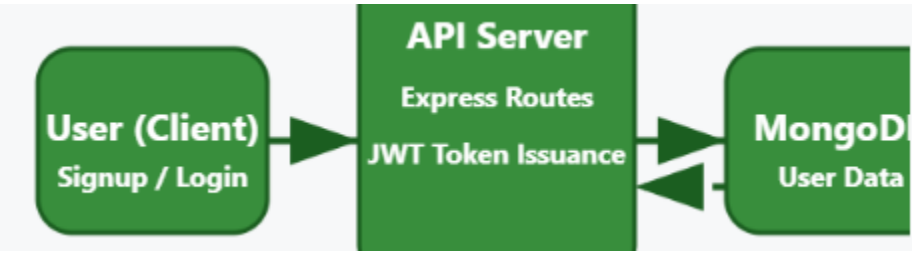
Error Handling

Robust error handling is implemented throughout the routes to ensure that users receive appropriate feedback in case of issues, such as invalid data or server errors.

MealMate Backend Architecture



User Authentication Flow



Order Processing Flow