Frontend Development with React.js

Project Documentation For cookbook

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1. Introduction

- **Project Title**: Cookbook
- **Team Members**:

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2. Project Overview

- **Purpose**: The application helps users monitor fitness activities, track progress, and set fitness goals. It includes features like workout logging, calorie tracking, and progress visualization.
- **Features**:
  - User authentication (login/signup)
  - Dashboard for daily activity tracking
  - Workout logging and history
  - Calorie tracker
  - Progress charts and analytics
  - Responsive design for mobile and desktop

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3. Architecture

- **Component Structure**:
  - **App Component**: Manages routing and global state.
  - **Dashboard Component**: Displays daily fitness metrics.

    - **WorkoutLog Component**: Allows users to log and view workout history.
    - **Auth Component**: Handles user authentication.
- **State Management**:
    - **Redux**: Used for global state management (user authentication, workout data, calorie tracking).
    - **Local State**: Managed using React's useState and useEffect hooks.
- **Routing**:
    - **React Router**: Used for navigation between pages.

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4. Setup Instructions

- **Prerequisites**:
    - Node.js (v16 or higher)
    - npm (v8 or higher)
    - Git (for cloning the repository)
- **Installation Steps**:
    1. Link:https://github.com/asunm12911852/cookbook.git
    2. Navigate to the client directory.
    3. Install dependencies using npm install.
    4. Configure environment variables in a .env file.
    5. Start the development server with npm start.

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5. Folder Structure

- **Client**:
    - src/components: Contains React components (e.g., Dashboard, WorkoutLog).
    - src/pages: Contains page components for routing.
    - src/assets: Stores static assets like images and styles.
    - src/redux: Contains Redux store, actions, and reducers.
    - src/utils: Utility functions and custom hooks.
- **Utilities**:
    - useFetch: Custom hook for API requests.
    - formatDate: Utility for formatting dates.

- calculateCalories: Helper function for calorie calculations.

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6. Running the Application

- **Frontend**:
  - Navigate to the client directory and run npm start.
  - The application will be available at http://localhost:3000.

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7. Component Documentation

- **Key Components**:
  - **Dashboard Component**: Displays daily fitness metrics.
  WorkoutLog Component: Allows users to log workouts.
  - **CalorieTracker Component**: Tracks calorie intake and expenditure.
  - **ProgressChart Component**: Visualizes user progress.
- **Reusable Components**:
  - **Button**: Customizable button component.
  - **InputField**: Reusable input field with validation.
  - **Modal**: Reusable modal for pop-ups or alerts.

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8. State Management

- **Global State**:
  - Managed by Redux (e.g., user authentication, workout data).
- State flows from Redux store to components
- **Local State**:
  - Managed within components using React's useState and useEffect.

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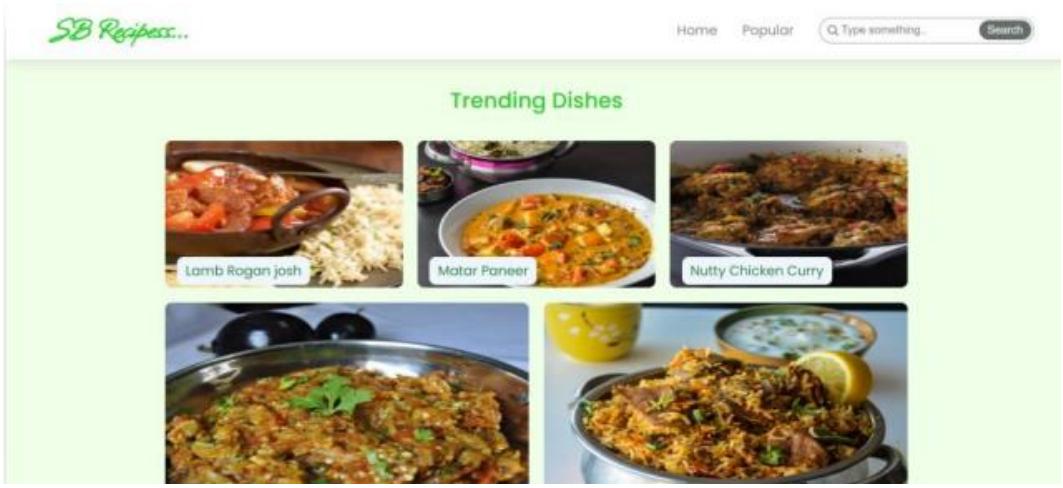
9. User Interface

- **Screenshots**:
  - Dashboard, Search Page, and Workout Log screenshots are provided (images not included in the text).



10.Styling

- **CSS Frameworks/Libraries**:
  - **Styled-Components**: Used for component-level styling.
  - **Bootstrap**: Used for responsive layouts and pre-built components.
- **Theming**: Custom theme with light and dark modes

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11. Testing

- **Testing Strategy**:
  - **Unit Testing**: Jest and React Testing Library.
  - **Integration Testing**: Ensures components work together.
  - **End-to-End Testing**: Cypress for user flow testing.
- **Code Coverage**: 85% coverage using Jest.

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12. Screenshots or Demo

- **DemoLink**: https://drive.google.com/file/d/1RTM3obE6uhDTh9m5c2LQecaSP1hrdkv4/view?usp=drivesdk
- **Screenshots**: Provided in the UI section.

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13. Known Issues

1. Calorie tracker sometimes fails to update in real-time.
2. Progress chart may not render correctly on older browsers.
3. Mobile navigation menu occasionally overlaps with content on smaller screens.

14. Future Enhancements

- **New Features**:
  - Integration with wearable devices (e.g., Fitbit, Apple Watch).
  - Social features to share progress with friends.
  - Gamification (e.g., badges, rewards).
- **UI/UX Improvements**:
  - Add animations for a more engaging experience.
  - Improve mobile navigation menu.
- **Performance Optimization**:
  - Optimize chart rendering for low-end devices.
  - Implement lazy loading for components.

This documentation provides a comprehensive guide to the project, including its architecture, setup, components, state management, and future plans.