

Frontend Development with React.js

Project Documentation

1. Introduction

Project Title: FitFlex – Your Personal Fitness Companion Team Size: 4

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2. Project Summary

Objective:

FitFlex is a web application that helps individuals manage their fitness activities. It offers features like tracking workouts, managing nutrition plans, monitoring progress, and delivering motivational support through an easy-to-use interface.

Key Features:

- Personalized dashboard showing fitness targets
- Plans for workouts and nutrition tracking
- Visual progress with charts and statistics
- Interactive and responsive user interface

3. System Architecture

Component Layout:

- App.js: Main component managing routing and global state.

- components/: Contains reusable elements like Navbar, Footer, Cards, Forms.
- pages/: Includes Home, Dashboard, Profile, Login, and Register pages.
- assets/: Images, icons, and other media resources.
- styles/: Global and modular CSS files.

State Management:

Global State:

- Handles user authentication, profile info, and logs for workouts and nutrition.

Local State:

- Manages form data, UI toggles, and modal visibility.

4. Installation Guide

Pre-requisites:

- Install Node.js and npm
- Official Node.js Website: <https://nodejs.org>

Installation Steps:

- Clone the project repository:
`git clone <repository-link>`
- Navigate to the project folder:
`cd fitness-app`

- Install dependencies:

```
npm install
```

- Start development server:

```
npm start
```

Access the app at <http://localhost:3000>

5. Folder Structure

fitness-app/

└─ node_modules/

└─ public/

└─ src/

 └─ assets/

 └─ components/

 └─ pages/

 └─ styles/

 └─ App.css

 └─ App.js

 └─ App.test.js

 └─ index.css

 └─ index.js

 └─ logo.svg

 └─ reportWebVitals.js

```
| └─ setupTests.js
├─ .gitignore
├─ package-lock.json
└─ package.json
```

6. User Interface Design

- Clean and responsive layout
- Example UI Features:
- Login Form
- Dashboard with progress charts
- Workout entry forms

7. Styling Approach

- Modular custom CSS
- Flexbox/Grid for layout
- Theming with a consistent fitness-inspired color palette

8. Testing Strategy

- Unit tests via Jest
- Component tests using React Testing Library
- Code coverage checked through Jest reports

9. Known Limitations

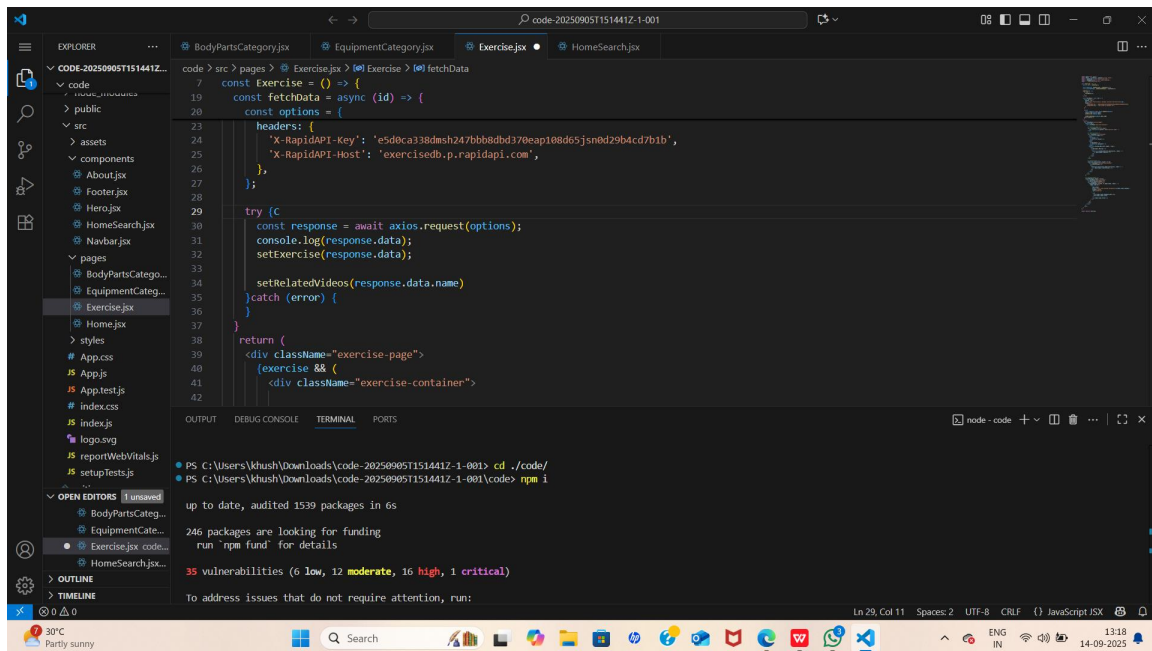
- Performance may degrade with large datasets

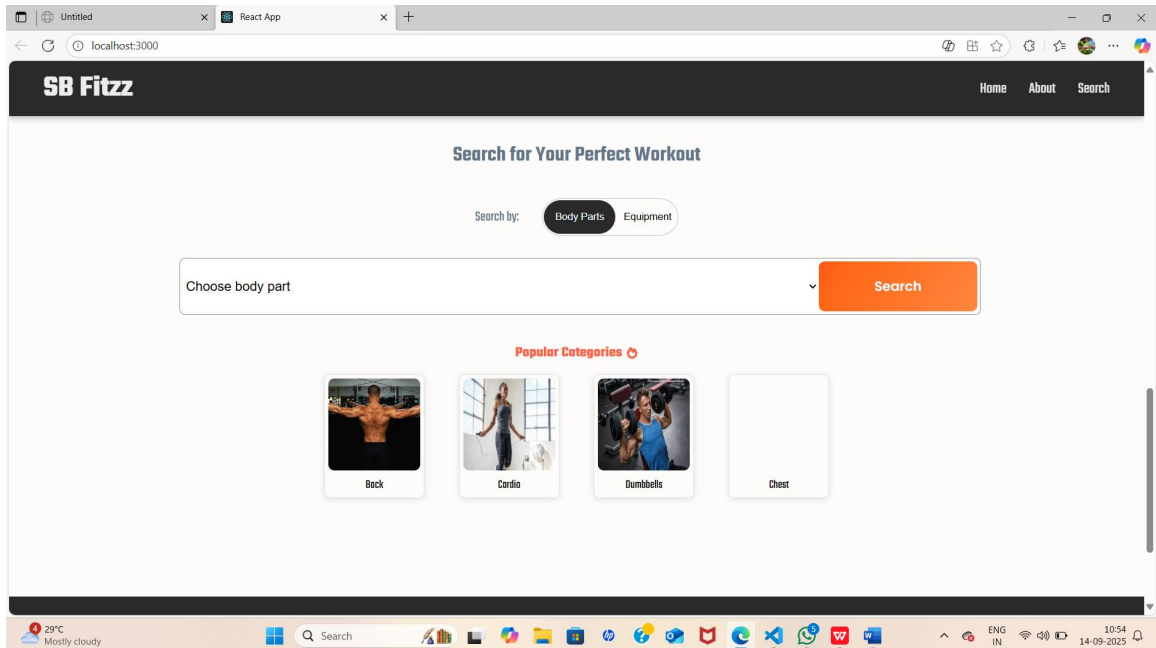
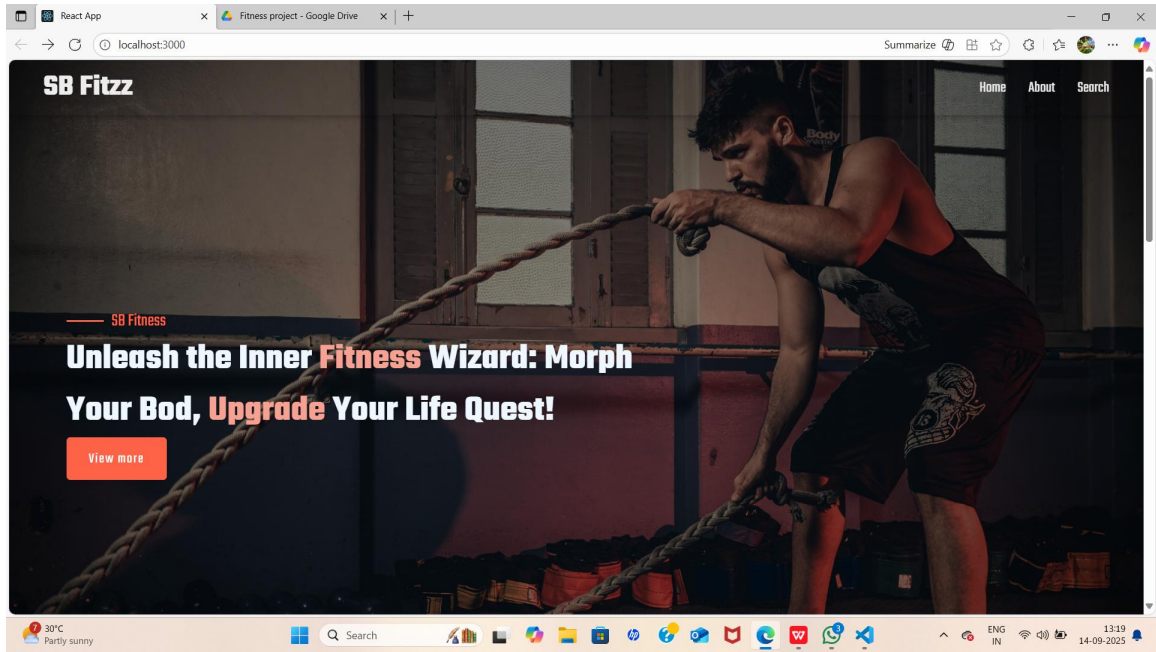
- Dark mode support is incomplete

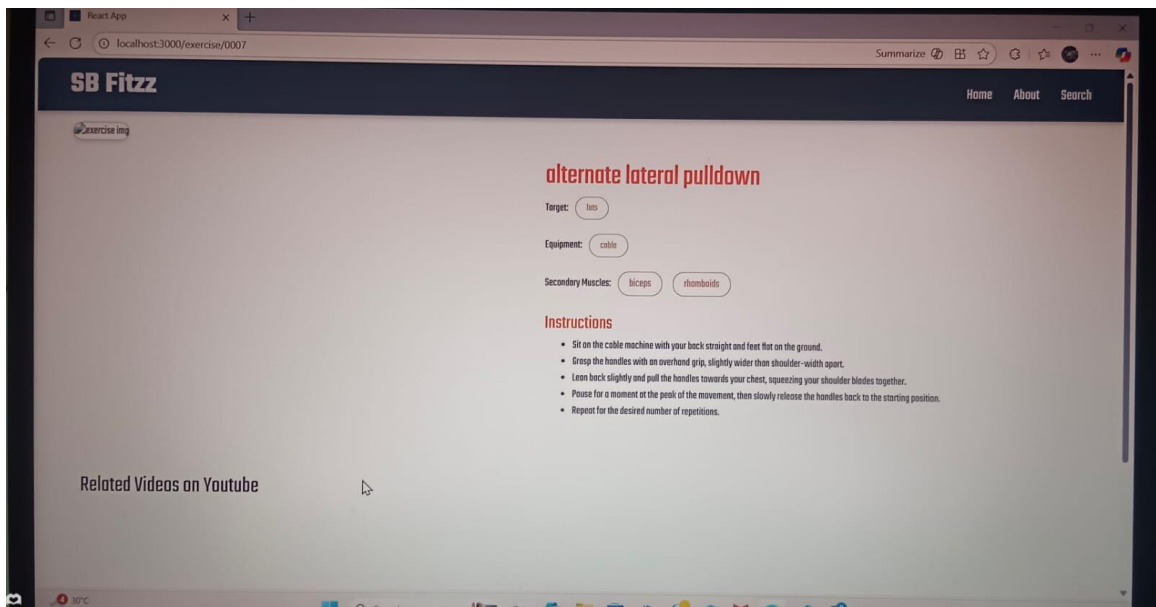
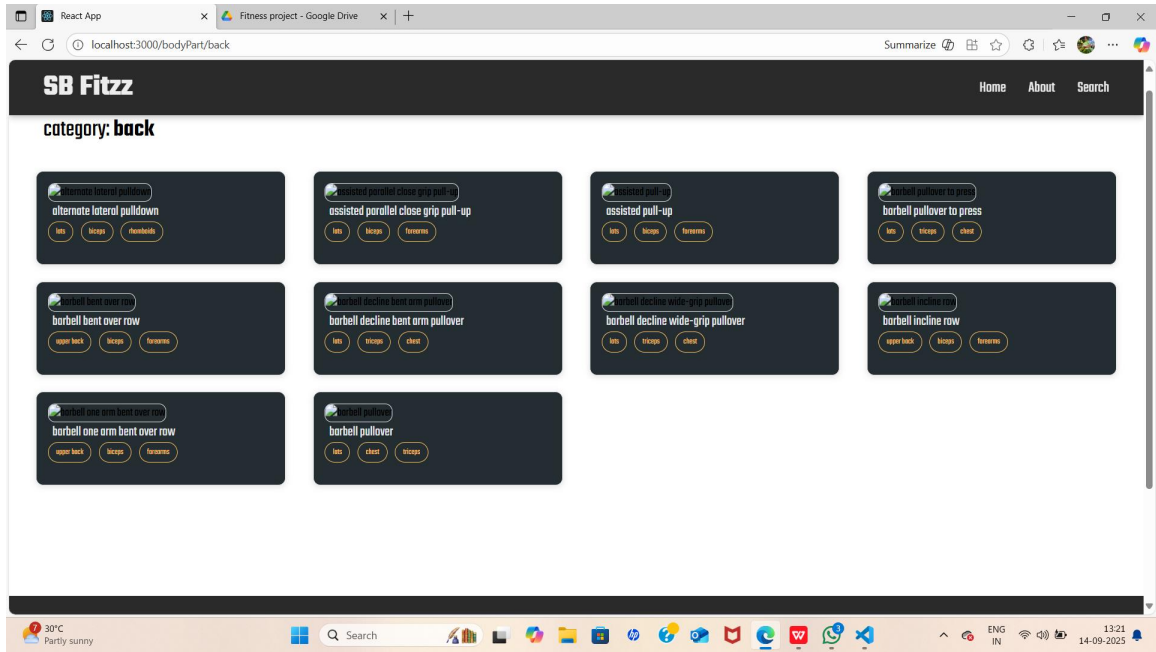
10. Future Improvements

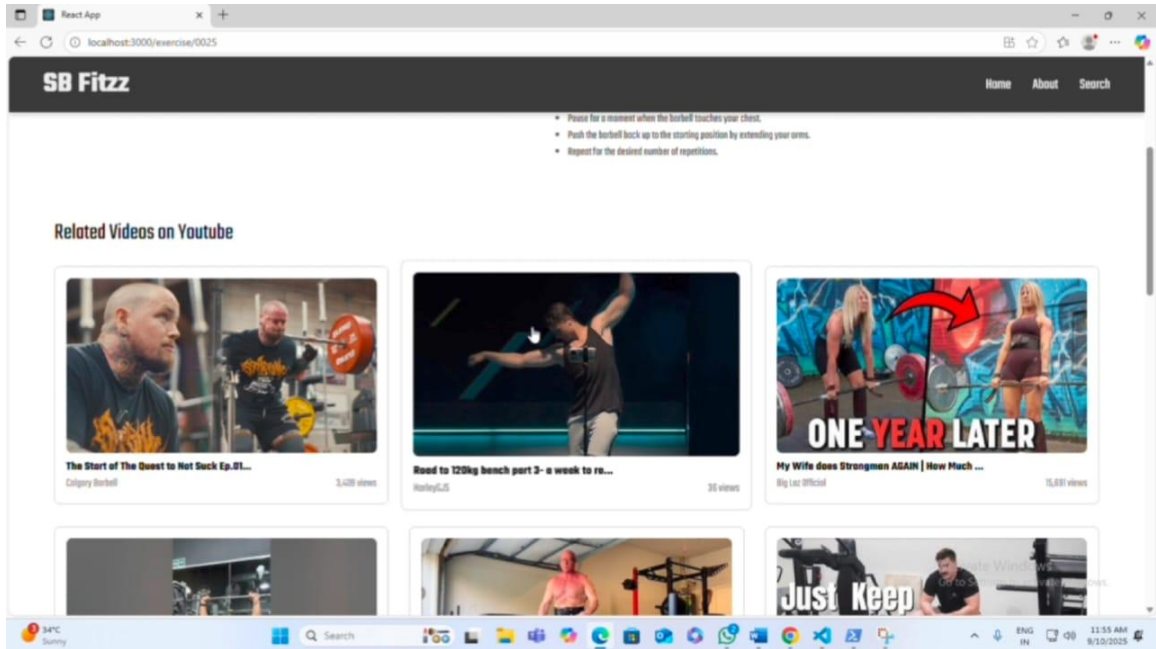
- AI-powered fitness suggestions
- Sync with wearable devices
- Community forum for discussion
- Gamification elements like badges and rewards

11. Screenshots









12.Demo video

Google Drive Demo Link:

Click here to watch: (https://drive.google.com/file/d/1rXla8J_pT3ftNjccMyt4h_p14-Ly5Bma/view?usp=drivesdk)