

# Frontend Development with React.js

## Project Documentation

### 1. Introduction

**Project Title:** FitFlex: Your Personal Fitness Companion

**Team Size:**4

**Team Id:**NM2025TMID36952

**Team Leader:**BARATH K

**Team Member:** ARUN KUMAR A

**Team Member:**AYYANAR E

**Team Member:**BADRASALAM S

### 2. Project Overview

**Purpose:**

- FitFlex is a personal fitness companion web application designed to help users manage their fitness journey. It provides workout tracking, nutrition guidance, progress monitoring, and motivational support in a user-friendly interface.

**Features:**

- User dashboard with fitness goals
- Workout plans and nutrition tracking
- Progress charts and statistics
- Responsive and interactive UI

### 3. Architecture

### Component Structure:

- App.js: Root component managing routes and state.
- components/: Reusable UI components such as Navbar, Footer, Cards, Forms, etc.
- pages/: Page-level components like Home, Dashboard, Profile, Login/Register.
- assets/: Images, icons, and media files
- styles/: Global CSS or modular styles.

### State Management:

- Context API is used to manage global state such as user authentication, workout data, and preferences.

### Routing:

- React Router is used for navigation between pages (Home, Dashboard, Profile, Login, etc.).

## 4. Setup Instructions

### Prerequisites:

- Install Node.js and npm before running the project.
- Download: Node.js Official Website
- Installation Guide: Node.js Installation Instructions

### Installation:

# Clone the repository

git clone <repository-link>

# Navigate to project directory

cd fitness-app

# Install dependencies

npm install

# Run the development server

npm start

## 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  
|— README.md

## 6. Running the Application

Frontend:

- Npm start
- Runs the app in development mode. Open <http://localhost:3000> to view it in the browser.

## 7. Component Documentation

Key Components:

- Navbar: Provides navigation across pages.
- Dashboard Card: Displays user stats and goals.
- Workout Form: Allows users to log workouts.

Reusable Components:

- Button, Input, Modal – reused across multiple pages.

## 8. State Management

Global State:

- User authentication and profile details.
- Workout/nutrition logs.

Local State:

- Form inputs, UI toggles, modal visibility.

## G. User Interface

- Responsive design with a clean layout.

Example UI features:

- Login form
- Dashboard with charts
- Workout input forms

## 10. Styling

CSS Frameworks/Libraries:

- Custom CSS with modular styles.
- Flexbox/Grid for layouts.

Theming:

- Consistent color palette with fitness-inspired design.

## 11. Testing

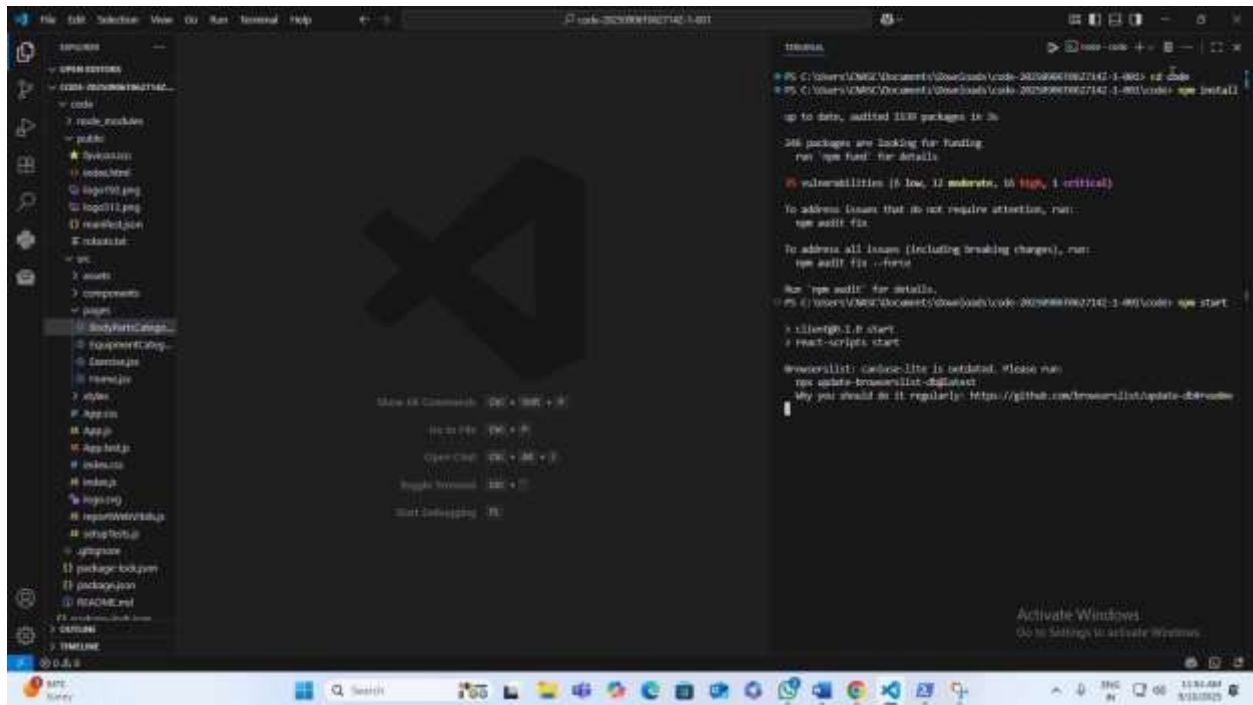
Testing Strategy:

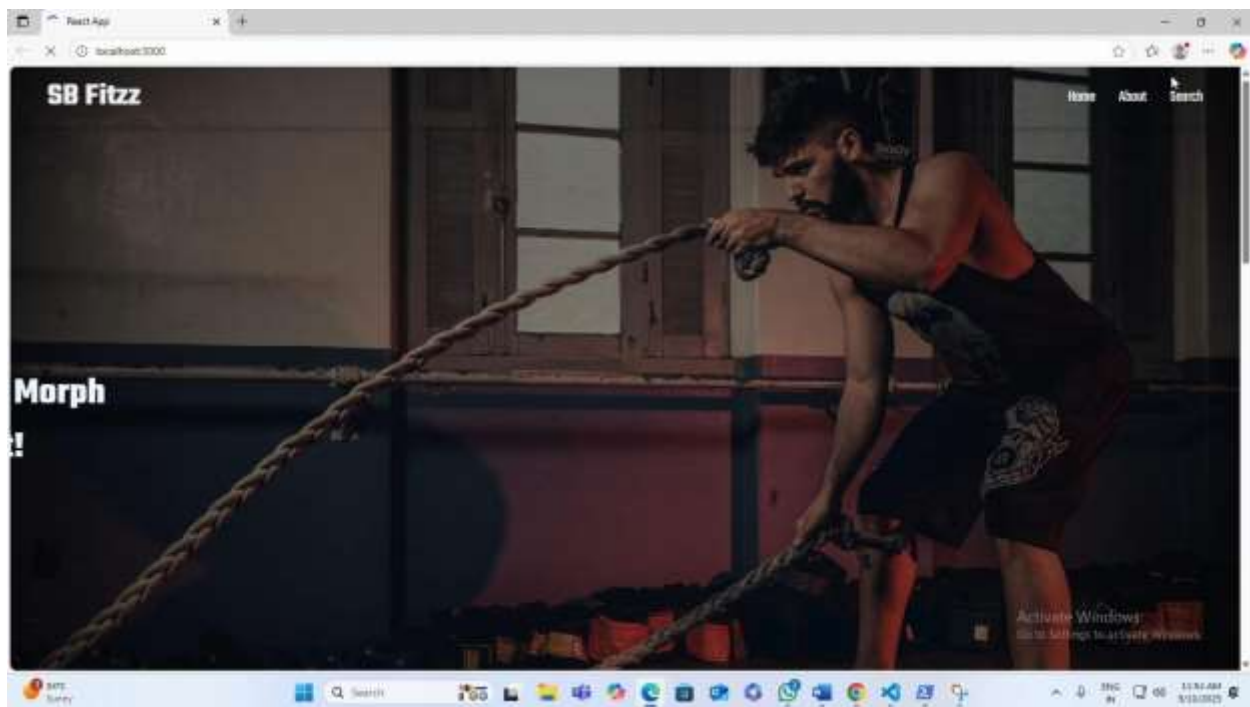
- Unit testing with Jest.
- Component testing with React Testing Library.

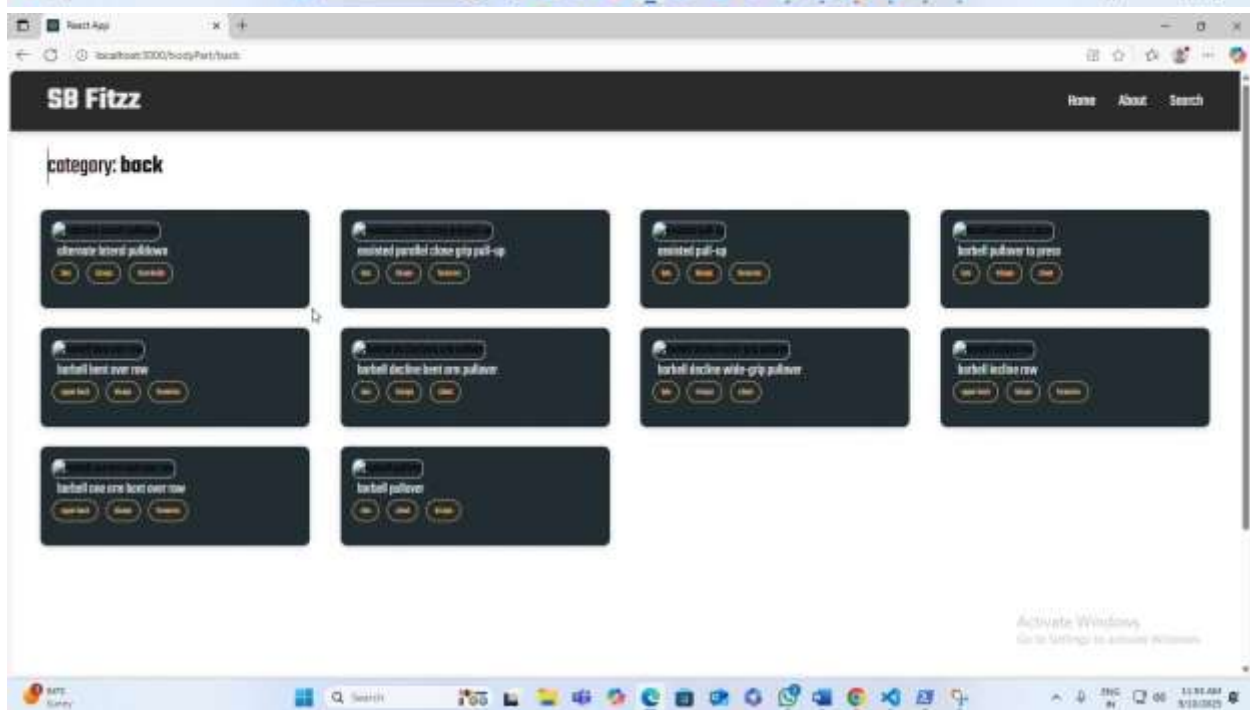
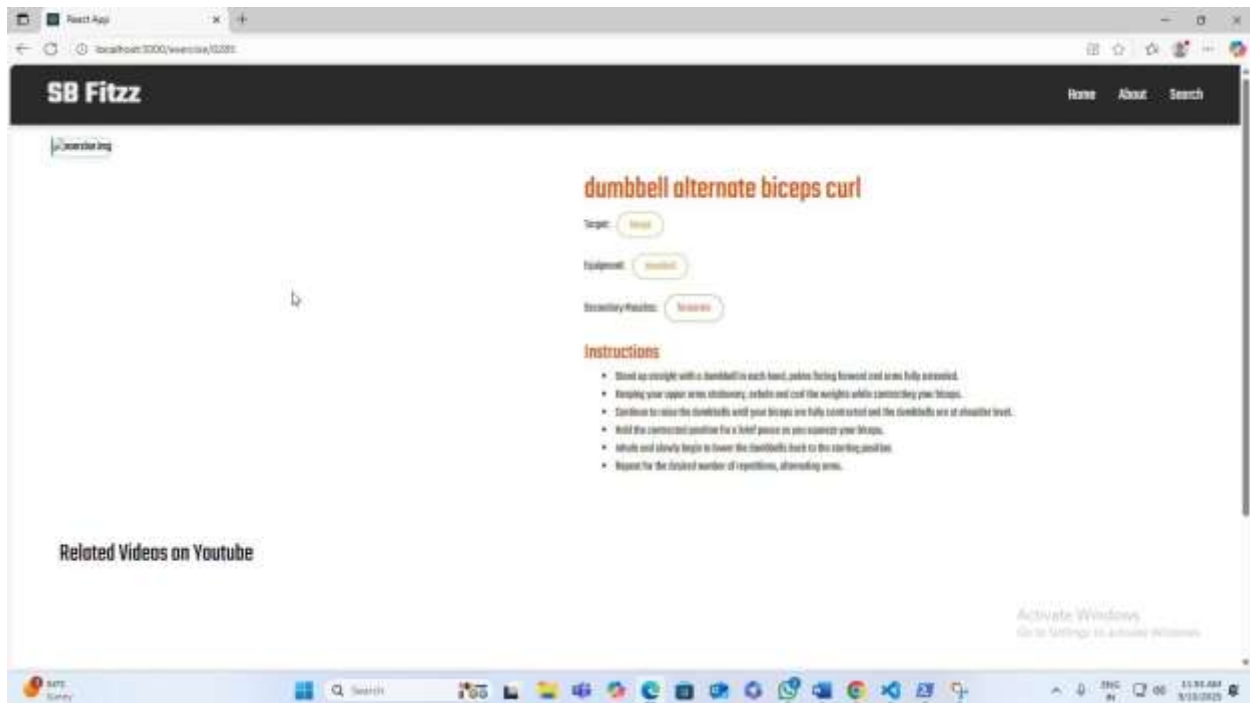
## Code Coverage:

- Ensured via Jest coverage reports.

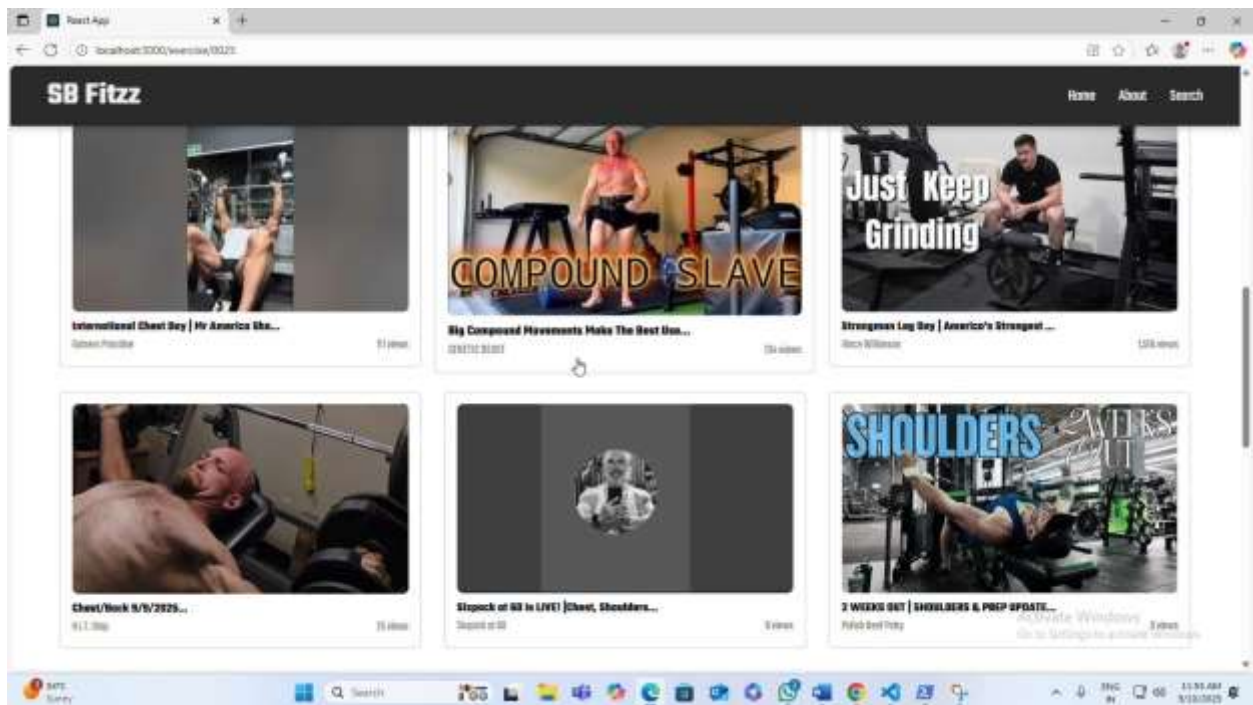
## 12. Screenshots or Demo











Google Drive Demo Link(<https://github.com/barath-k-07/fitflex-your-personal-companion/blob/main/fitness.mp4>)

### 13. Known Issues

- Performance may slow down with large datasets.
- Dark mode not fully supported.

### 14. Future Enhancements

- AI-based fitness recommendations.
- Integration with wearable devices.
- Community forum for user interaction.
- Gamification with badges and rewards.

