**Frontend Development with React.js –**

**Project Documentation**

*Introduction*

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

Team detail:

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*Project Overview:*

FitFlex is a fitness-focused web application built with React.js, designed to provideuserwith personalized workout routines, an intuitive UI, and seamless navigation. The goal is to enhance fitness exploration through a modern, scalable, and interactive frontend.

*Architecture*

*Component Structure*

• App.js – Main entry point

• Components/ – Reusable UI elements (Navbar, Footer, Buttons, Cards, etc.)

• Pages/ – Main views (Home, Dashboard, Workout Plans, Profile)

• Layout/ – Shared layouts (Sidebar, Header, etc.)

• Hooks/ – Custom React hooks for logic reuse

• Context/ – Global state providers State Management

• Global State: Managed using Context API/Redux (choose one based on project).

• Local State: Managed via React useState/useReducer within individual components.

*Routing*

• Implemented using react-router-dom.

• Structure:

o / → Home

o /dashboard → User Dashboard

o /workouts → Workout Plans

o /profile → User Profile

*Setup Instructions*

*Prerequisites*

• Node.js (v16 or later)

• npm or yarn

**Installation**

# Clone repository

Git clone https:// https://github.com/NISHA206/FitFlex-Your-Personal-Fitness-Companion..git

# Navigate to project folder

cd NISHA206/FitFlex-Your-Personal-Fitness-Companion.

# Install dependencies

npm install

# Start development server

npm start

Folder Structure

fitflex-frontend/

│── public # Static assets

│── src/ │

|── assets # Images, icons, fonts

| ├── components # Reusable components (Navbar, Button, etc.)

│ ├── pages # Main application pages

│ ├── context # Context API/Redux store

│ ├── hooks # Custom React hooks

│ ├── utils # Helper functions

│ ├── App.js # Root component

│ ├── index.js # Entry point

│── package.json

│── README.md

*Running the Application*

# Start frontend development server

npm start

Runs the app in development modehttps://github.com/MUGILAN206/FitFlex-Your-PersonalFitness-Companion..git

*Component Documentation*

*Key Components*

• Navbar.jsx – Navigation across pages (props: links, user)

• WorkoutCard.jsx – Displays workout plan details (props: title, description, duration)

• ProfileForm.jsx – Handles user input for profile (props: onSubmit, initialValues)

Reusable Components

• Button.jsx – Custom button with theme variants (primary, secondary)

• Modal.jsx – Reusable modal component (isOpen, onClose)

State Management Global State

• AuthContext/Redux store – Manages authentication and user data.

• ThemeContext – Handles light/dark mode.

Local State

• Managed using useState and useReducer inside components for UI-level logic (e.g., toggling modal, form validation).

User Interface

• Home Page: Introduction to FitFlex with hero section.

• Dashboard: User workouts and progress tracking.

• Workout Plans: List of exercises with filters.

• Profile Page: User details and preferences.

(Insert screenshots or GIFs here)

Styling

CSS Frameworks/Libraries

• Tailwind CSS for utility-first styling.

• Styled Components for component-level styling (if needed).

Theming

• Supports Light/Dark mode with ThemeContext.

Testing

Testing Strategy

• Unit Testing: Using Jest + React Testing Library.

• Integration Testing: Testing component interactions.

• E2E Testing: Using Cypress/Playwright for user flows.

Code Coverage

• Ensured via Jest coverage reports (npm run test -- --coverage).

Screenshots or Demo

• [Insert screenshots here]

Known Issue

• Responsiveness issues on smaller screens.

• Dark mode not persisting after page reload.

Future Enhancements

• Add real-time chat with trainers.

• Integrate AI-powered workout recommendations.

• Add animations for transitions.

• Expand internationalization (i18n) support