

Frontend Development with React.js

Project Documentation

1. Introduction

Project Title: FIT FLEX : your personal Fitness companion

Team Members:

Kannan.R – Team Lead, Frontend & UI Design

Barath.R – Component Development & State Management

Bhuvaneshwaran.S – API Integration & Routing

Kaviyarasan.P – Testing & Documentation

2. Project Overview

Purpose:

The purpose of this project is to create a your personal fitness that helps users explore, save, and body health conditions . It simplifies the exercise providing easy-to-follow steps, personalized FITNESS recommendations, and exercise -based search.

Features:

Browse fitness by category (leg, chest, abs, shoulder, etc.).

Search exercise using our body health

Save favorite workout for later.

Step-by-step workout instructions.

Responsive UI for mobile and desktop.

3. Architecture

Component Structure:

App.js – Root component managing routes.

Navbar.js – Navigation bar for exercise categories.

Workout List.js – Displays list of exercise.

Workout Details.js – Shows detailed exercise with steps.

SearchBar.js – Allows exercise-based search.

Favorites.js – Displays saved exercise.

State Management:

Context API for global state (favorites, search results).

Local state with useState for component-specific data.

Routing:

react-router-dom used for navigation.

Routes: / (Home), /exercise/:id, /favorites, /search.

4. Setup Instructions

Prerequisites:

Node.js (v16 or later)

npm or yarn package manager

Installation:

```
git clone https://github.com/kannan2007cs-jpg/FIT-FLEX-
```

```
cd FIT FLEX -frontend
```

```
npm install
```

```
npm start
```

5. Folder Structure

FIT FLEX -frontend/

```
| — public/
| — src/
|   | — assets/    # Images, icons
|   | — components/ # Reusable UI components (Navbar, SearchBar, etc.)
|   | — pages/     # Pages (Home, workout Details, Favorites)
|   | — context/   # Context API for global state
|   | — hooks/     # Custom hooks (useFetch TRAINING , etc.)
|   | — styles/    # CSS files or styled-components
|   | — App.js
|   | — index.js
```

Utilities:

Custom hooks (useFIT FLEX .js) for API calls.

Helper functions (formatexercise.js, filterexercise.js).

6. Running the Application

Frontend Server:

```
cd FIT FLEX -fronten
```

```
npm start
```

7. Component Documentation

Key Components:

Navbar: Provides navigation between categories.

Workout List: Displays exercise fetched from API.

Workout Details: Shows instructions, ingredients, and steps.

Reusable Components:

Card.js – For displaying workout cards.

Button.js – Styled reusable button.

SearchBar.js – Reusable search input with props for placeholder text.

8. State Management

Global State:

Favorites list GYM in Context API.

Search results GYM globally for navigation between pages.

Local State:

Form inputs (search, filters).

UI toggles (dropdowns, modals).

9. User Interface

Screenshots (Sample Views):

Home Page: Grid of FIT FLEX.

Workout Details: exercise + instructions.

Favorites Page: Saved EXERCISE.

(Screenshots/demos can be added later.)

10. Styling

CSS Frameworks/Libraries:

Tailwind CSS for utility-first styling.

Custom CSS for unique UI elements.

Theming:

Light and dark mode toggle implemented.

Consistent WORKOUT -related UI.

11. Testing

Testing Strategy:

Unit testing with Jest & React Testing Library.

Component rendering tests for Navbar, workout List, and workout Details.

Integration tests for search and favorites exercise.

Code Coverage:

Coverage reports generated using Jest.

12. Screenshots or Demo

Demo Link: [To be hosted on Netlify/Vercel]

Screenshots:

Workout card view.

Step-by-step training instructions.

Search and filter results.

13. Known Issues

API rate limiting may cause delays in workout loading.

Favorites not persisted on page refresh (requires backend/localStorage).

Some exercise may have missing images from the API.

14. Future Enhancements

Add workout planner & grocery list generator.

User authentication with login/logout.

Voice assistant integration for hands free workout.

Multi-language support.

Workout video integration.