Frontend Development with React.js
Project Documentation format

FitFlex: Your Personal Fitness Companion

1.Introduction:

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

SNO	TEAM MEMBERS	MAIL ID	TEAM ID
1	Maha Lakshmi P (Team Leader)	maha76248@gmail.com	NM2025TMID36742
2	Jhanani SB	jhananisb@gmail.com	NM2025TMID36742
3	Diviya s	diviyad624@gmail.com	NM2025TMID36742
4	Jenani A	Janani16072006@gmail.com	NM2025TMID36742

2.Project Overview:

Purpose:
CoreFit is a fitness web application designed to help users explore and learn exercises by body part or equipment. The purpose is to guide users toward a healthier lifestyle by providing structured workout options, step-by-step instructions, and related exercise videos. It ensures easy navigation, reliable exercise data from APIs, and motivating visuals for an engaging fitness experience.

Features:

- Motivational landing page with banner and tagline.
- About section explaining fitness goals and healthy lifestyle.
- Search exercises by Body Part and Equipment
  Quick link categories for fast navigation.
- Exercise list with local illustrations and API-fetched data.
- Exercise details page showing target muscles, equipment, secondary muscles, and instructions.
- Related YouTube videos displayed for each exercise.
- Footer with quick navigation links.

3.Architecture:

Component Structure:

Frontend:

- Built with React.js
- Uses functional components and React Router for navigation
- Styled with CSS files (component-based styling)

API Integration:

- RapidAPI – ExerciseDB for fetching exercise data (name, body part, equipment, instructions)
- YouTube API for displaying related workout videos

Assets:

- Local images stored in /public/assets/exercises used for exercise thumbnails

Component Structure

- Navbar.jsx – Provides navigation links (Home, About, Search).
- Hero.jsx – Banner section with motivational tagline.
- About.jsx – About section describing the purpose of CoreFit.
- HomeSearch.jsx – Search bar with dropdowns for body part and equipment, quick links for popular categories.
- Footer.jsx – Footer with quick links to categories and site navigation.

Pages

- Home.jsx – Landing page containing Hero, HomeSearch, and quick categories.
- BodyPartsCategory.jsx – Displays list of exercises filtered by selected body part.
- EquipmentCategory.jsx – Displays list of exercises filtered by selected equipment.
- Exercise.jsx – Exercise details page showing:
- Exercise image (from local assets)
- Target muscle, equipment, and secondary muscles (from API)
- Step-by-step instructions
- Related YouTube video

Data Flow

- User selects Body Part or Equipment → API request sent to ExerciseDB.
- Exercise list loads → Displays local image + exercise name.
- User clicks on an exercise → Navigates to Exercise.jsx.
- Details + instructions fetched from API → Displayed with related videos.

4.Setup Instructions:

Prerequisites:

- Node.js (v18 or higher) -
npm or yarn

Installation:

1. Clone the Repository:
  ```


  ``` smartinternz
2. Install Dependencies:
  ```
  npm install
  ```
3. Create `.env` file:
  ```
  REACT_APP_FITNESS_API_KEY=your_api_key_here
  ```
4. Run the Application:
  ```
  npm start
  ```

5.Folder Structure :

```
CoreFit/
├── public/                 # Public files accessible in app
│   ├── assets/
│   │   └── exercises/        # Local exercise images used in exercise list
│   ├── favicon.ico
│   ├── index.html            # Main HTML file
│   ├── logo192.png
│   ├── logo512.png
│   ├── manifest.json
│   └── robots.txt
│
├── src/                    # Application source code
│   ├── assets/               # Other local assets/icons
│   ├── components/           # Reusable UI components
```

```
│   │   ├── About.jsx
│   │   ├── Footer.jsx
│   │   ├── Hero.jsx
│   │   ├── HomeSearch.jsx
│   │   ├── Navbar.jsx
│   ├── pages/              # Main pages
│   │   ├── BodyPartsCategory.jsx
│   │   ├── EquipmentCategory.jsx
│   │   ├── Exercise.jsx
│   │   ├── Home.jsx
│   ├── styles/             # CSS styling
│   │   ├── About.css
│   │   ├── Categories.css
│   │   ├── Exercise.css
│   │   ├── Footer.css
│   │   ├── Hero.css
│   │   ├── Home.css
│   │   ├── HomeSearch.css
│   │   ├── Navbar.css
│   ├── utils/              # Utility functions (API calls etc.)
│
├── package.json            # Project dependencies
├── package-lock.json
├── README.md
```

6.Running the Application :

Frontend Server Command:

``` bash
npm start
```

7.Component Documentation:

Navbar.jsx – Provides top navigation with links to Home, About, and Search. It stays consistent across the app and helps users move easily between sections.

Hero.jsx – A motivational banner with tagline that creates the first impression and inspires users to begin exploring exercises.

About.jsx – Explains the purpose of CoreFit, highlighting fitness goals and encouraging users toward a healthier lifestyle.

HomeSearch.jsx – A central search section where users can filter exercises by body part or equipment. It also includes quick links for popular categories to simplify navigation.

Footer.jsx – The footer section with quick navigation links and branding, ensuring smooth navigation even at the end of each page.

Pages:

Home.jsx – The landing page that brings together Hero, HomeSearch, and quick categories. It serves as the entry point for users to start their journey.

BodyPartsCategory.jsx – Displays exercises filtered by a specific body part (like chest, arms, legs). Data is fetched from the ExerciseDB API and shown with local exercise images.

EquipmentCategory.jsx – Displays exercises filtered by chosen equipment (like dumbbells, barbells, bands). This helps users adapt workouts to the equipment they have.

Exercise.jsx – A detailed exercise page that shows the exercise image, target and secondary muscles, equipment used, step-by-step instructions, and related YouTube videos for bett

8.Authentication:

Currently, the FitFlex project does not have an authentication system implemented. However, authentication is a planned feature to ensure secure and personalized access for users.

9.User Interface:

The FitFlex application is designed with a simple, intuitive, and user-friendly interface to ensure smooth navigation and accessibility for all users. The goal is to provide a clean layout where users can quickly access workouts, track progress, and explore features without confusion.

Current Status:

Basic UI components are being structured.

Screens are minimal and functional for initial development.

Planned UI Elements:

Home Screen: Overview of workouts, quick navigation to features.

Workout Section: Exercise listings with images and descriptions.

Progress Tracker: Graphical representation of fitness stats.

Profile Page: User details, goals, and preferences.

Navigation Bar: Easy access to Home, Workouts, Progress, and Profile.

Design Approach:

Minimalist design with clear typography and responsive layouts.

Consistent color palette and icons for better usability.

Mobile-first design to ensure smooth experience on all devices.

10.Testing:

testing is performed to validate the app's basic features and ensure smooth functionality during real usage.

Areas Checked:

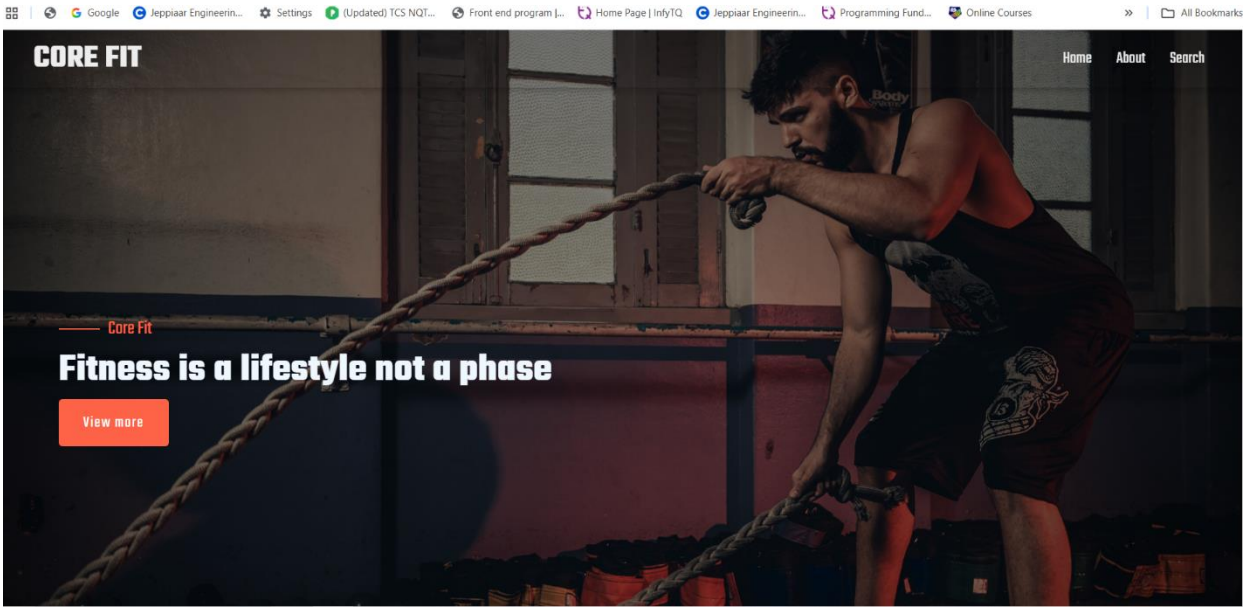
Navigation Flow: Moving between Home, Workouts, Progress, and Profile pages.

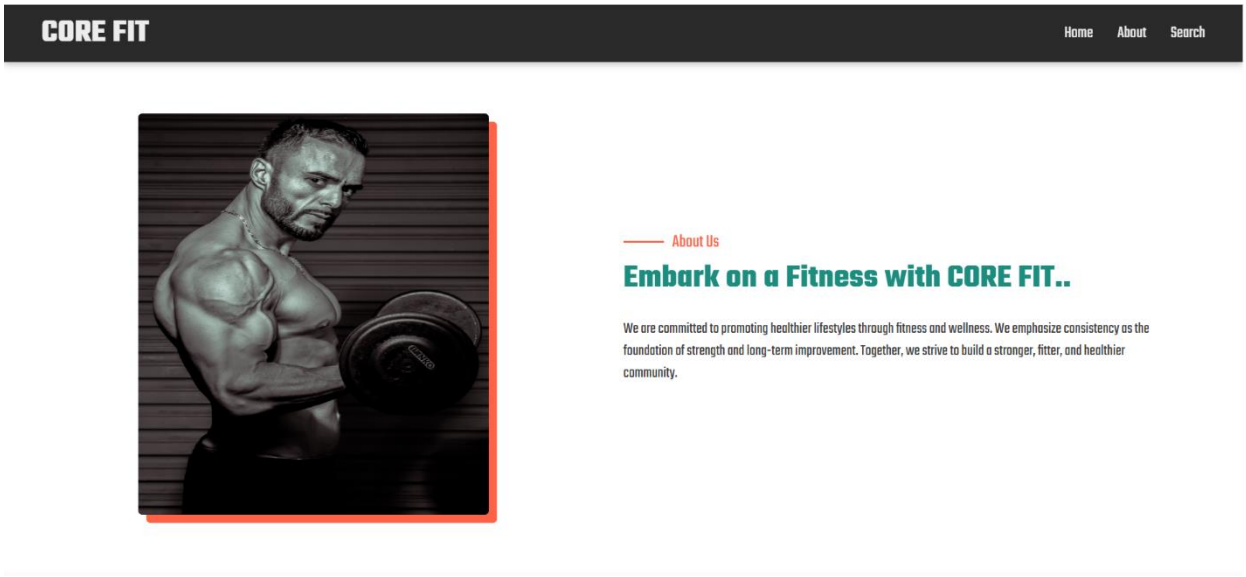
Core Features: Verifying workout details display properly and profile updates are saved.

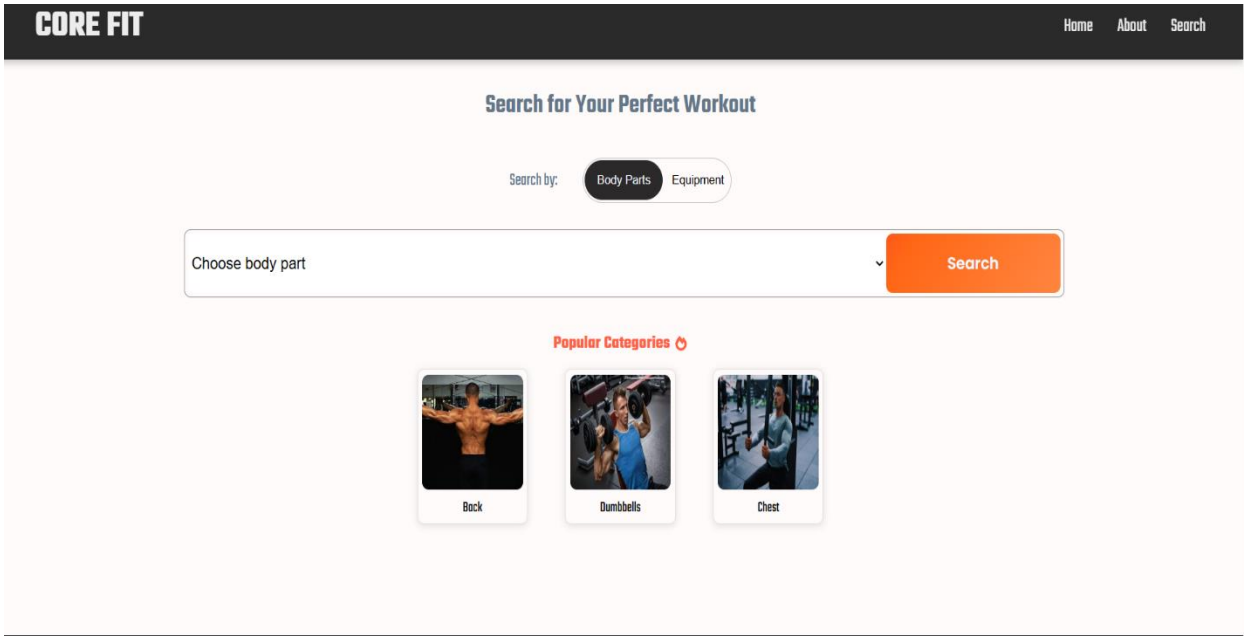
UI Consistency: Checking buttons, text, and layout for proper alignment and readability.

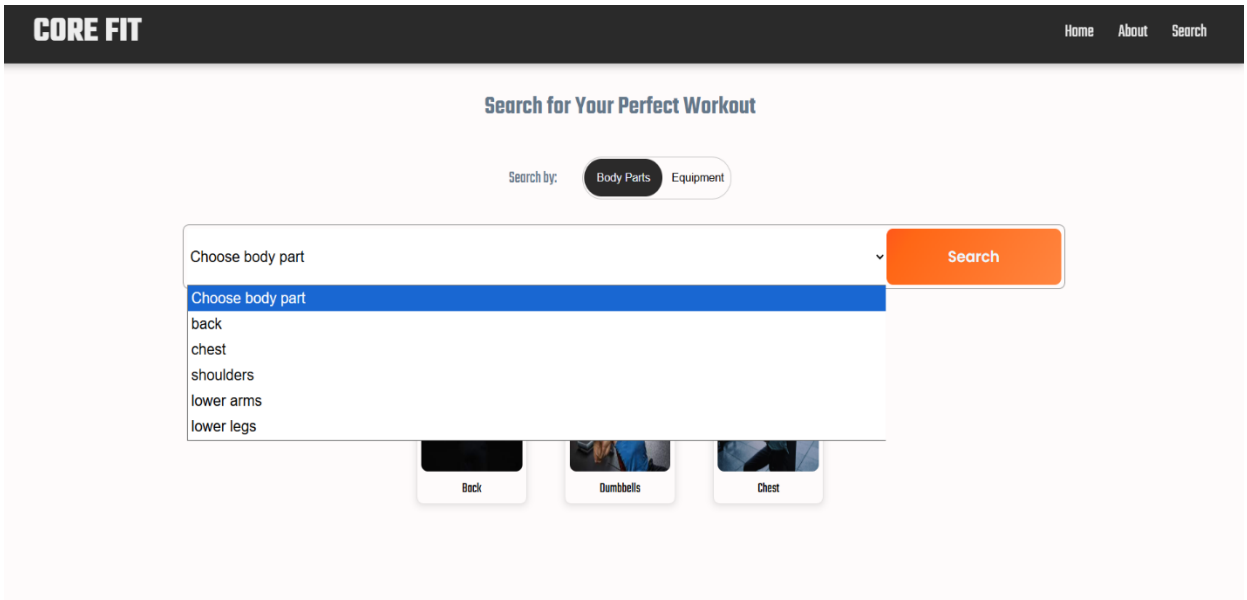
11.Screenshots:

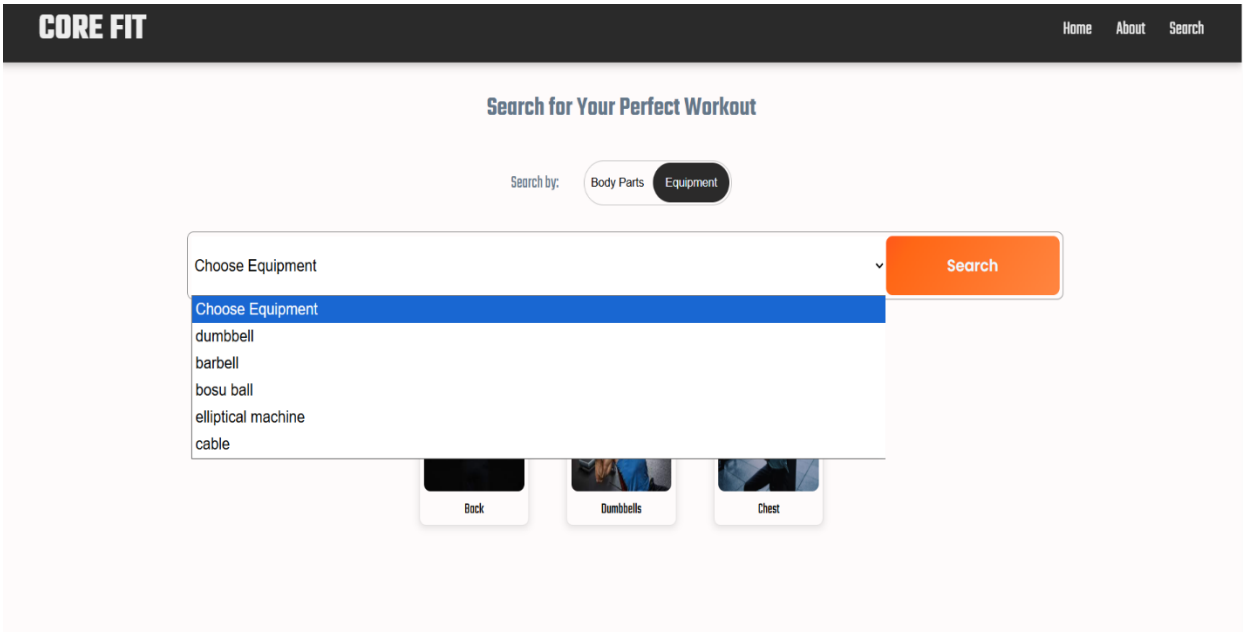
Screenshot:






CORE FIT
Home
About
Search
Search for Your Perfect Workout
Search by:
Body Parts
Equipment
Choose body part
Search
Popular Categories
Back
Dumbbells
Chest


CORE FIT
Home
About
Search
Search for Your Perfect Workout
Search by:
Body Parts
Equipment
Choose body part
Search
Choose body part
back
chest
shoulders
lower arms
lower legs
Back
Dumbbells
Chest



12.Known Issues:

- The current version of the app is a basic build, and a few issues are observed:
- Authentication system is not implemented yet
- Responsiveness may vary across different screen sizes.
- Testing is basic and does not cover all scenarios.
- Common pictures are being used for multiple items in the Body Parts and Equipment categories, since images were added from the local code system
- Note: These issues will be addressed in future updates as the app evolves.

13.Future Enhancements:

- Planned improvements to expand functionality and user experience.
- Two-Factor Authentication
- Biometric login (fingerprint/face ID)
- Dark mode support

- Personalized dashboards with recommendations

- Unique images for each item in Body Parts and Equipment categories instead of common placeholders