PROJECT DOCUMENTATION

# FITFLEX-Your Personal Fitness Companion

## 1. Introduction

- **Project Title:** FITFLEX-Your Personal Fitness Companion
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## 2. Project Overview

- **Purpose:**
  FITFLEX is a fitness discovery platform built using **React.js**. It helps users explore workout routines categorized by **body parts** and **equipment**, with embedded YouTube tutorials and instructions.
- **Goals:**
  - Provide an intuitive and modern UI.
  - Fetch exercises dynamically from APIs.
  - Allow smooth navigation between pages and exercises.
- **Key Features:**
  - Search workouts by body parts or equipment.
  - View exercise details with instructions.
  - Watch related YouTube videos.
  - Responsive design for all devices.

## 3. Architecture

### Component Structure

- `App.js` — Root component, sets up routes.
- `Navbar` — Provides navigation and search.
- `Hero` — Landing section with background media.
- `HomeSearch` — Search workouts.

- `Category Pages` — Body parts & equipment filters.
- `Exercise` — Full detail view of a workout.
- `Footer` — App footer.

### State Management

- **Local State:** Managed using React `useState` and `useEffect`.
- **API Integration:** Axios used for fetching data from Fitness API & YouTube API.

### Routing

- Library: **react-router-dom**
- Routes:
  - `/` → `Home.jsx`
  - `/category/bodyparts` → `BodyPartsCategory.jsx`
  - `/category/equipment` → `EquipmentCategory.jsx`
  - `/exercise/:id` → `Exercise.jsx`

## 4. Setup Instructions

### Prerequisites

- **Node.js & npm**

  - Node.js is required to run React applications.
  - npm (Node Package Manager) is used to install dependencies.
  - Download Node.js

- **React.js**

  - React is the main JavaScript library used to build this project.
  - If you don't have an existing React app, create one using:
  - `npx create-react-app my-app`
  - `cd my-app`
  - `npm start`
  - In SB Fitzz, the React app is already created, so you just need to install dependencies (`npm install`).

- **Git**

  - Used for cloning and version control.
  - Download Git

- **Code Editor**

  - Recommended: **Visual Studio Code (VS Code)**
  - Download VS Code

- **Basic Knowledge**
  - HTML, CSS, JavaScript
  - React concepts (components, props, hooks, state, routing)

### Installation

- **Get the code:**

  • Download the code from the drive link given below:

  https://drive.google.com/drive/folders/14f9eBQ5W7VrLdPhP2W6PzOU_HCy8UMex?usp=sharing

  **Install Dependencies:**

  • Navigate into the cloned repository directory and install libraries:

  ```
  cd fitness-app-react
  npm install
  ```

- **Start the Development Server**:

  • To start the development server, execute the following command:

  ```
  npm start
  ```

  **Access the App:**

  • Open your web browser and navigate to http://localhost:3000.

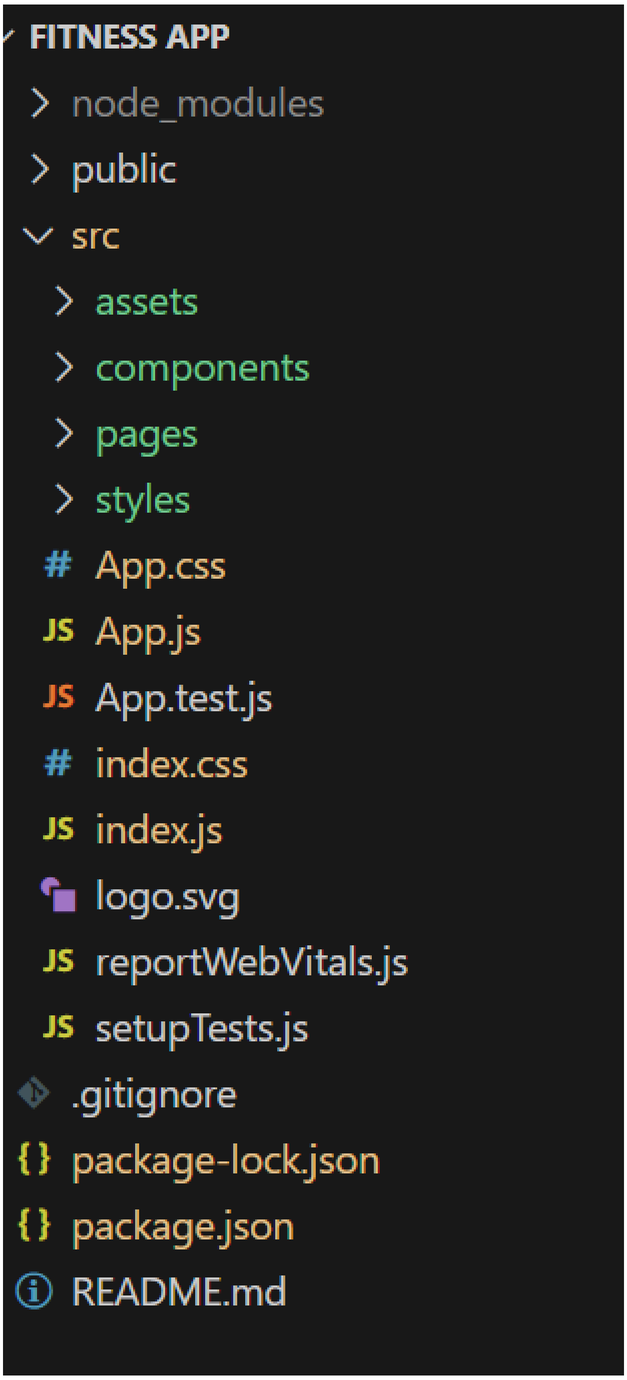
  • You should see the application's homepage, indicating that the installation and setup were successful.

### Environment Variables

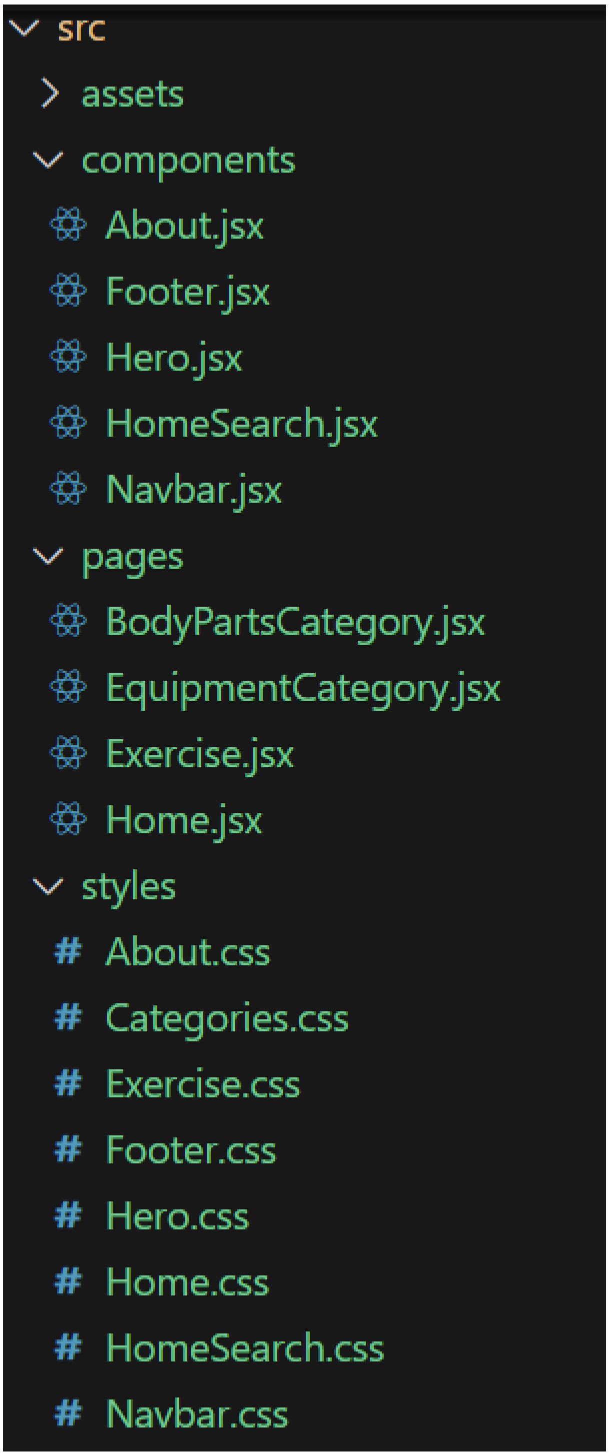
Create a `.env` file with:

```
REACT_APP_API_URL=<https://exercisedb.p.rapidapi.com/exercises/equipmentList
 >
REACT_APP_YOUTUBE_API_KEY=<33cf3a7616msh4c3b1e3204f24e2p1294b3jsne16a7323d732
>
```

## 5. Folder Structure



```
FITNESS APP
  > node_modules
  > public
  v 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
```



```
src
  assets
  components
    About.jsx
    Footer.jsx
    Hero.jsx
    HomeSearch.jsx
    Navbar.jsx
  pages
    BodyPartsCategory.jsx
    EquipmentCategory.jsx
    Exercise.jsx
    Home.jsx
  styles
    About.css
    Categories.css
    Exercise.css
    Footer.css
    Hero.css
    Home.css
    HomeSearch.css
    Navbar.css
```

# 6. Running the Application

- **Start development server:**
- `npm start`
- **Build for production:**
- `npm run build`
- **Run tests:**
- `npm test`

# 7. Component Documentation

## Key Components

- **Navbar.jsx** — Top navigation with app links.
- **Hero.jsx** — Intro section with video background.
- **HomeSearch.jsx** — Allows searching workouts.
- **Footer.jsx** — Contains links and copyright.
- **About.jsx** — App description section.

## Pages

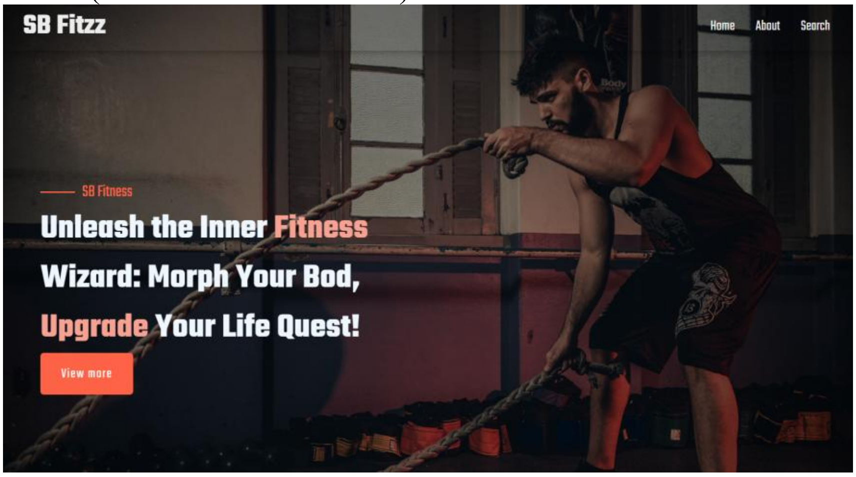
- **Home.jsx** — Displays Hero, About, and categories.
- **BodyPartsCategory.jsx** — Shows workouts filtered by body part.
- **EquipmentCategory.jsx** — Shows workouts filtered by equipment.
- **Exercise.jsx** — Displays instructions, exercise details, and YouTube videos.

# 8. State Management

- **Local State:**
  - Search queries stored in `HomeSearch`.
  - API data fetched and stored per-page.
- **Global State:** Not implemented — app uses component-level state.

# 9. User Interface

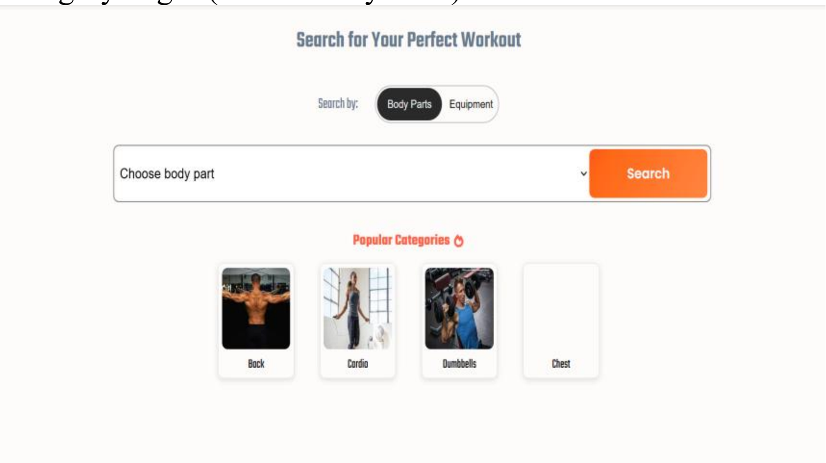
- **Pages include:**
  - Home (Hero + Search + About)



Unleash the Inner Fitness Wizard: Morph Your Bod, Upgrade Your Life Quest!

  - 
  - 
  - 
  -

- Category Pages (Exercises by filter)



Search for Your Perfect Workout

Search by: Body Parts Equipment

Choose body part ⌄ Search

Popular Categories

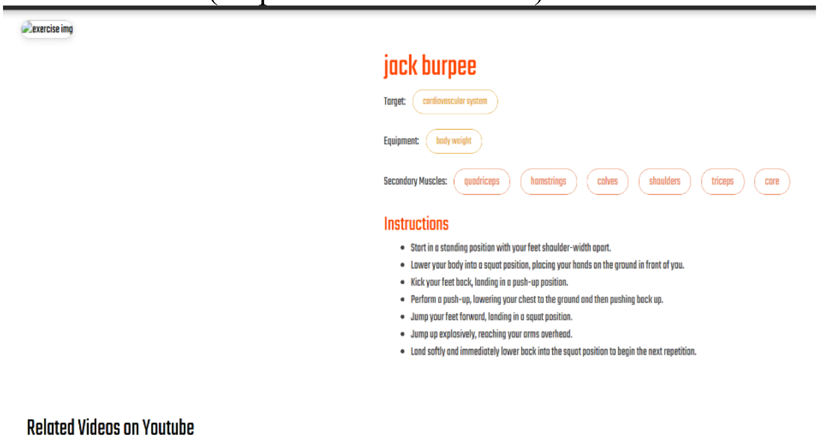
Back

Cardio

Dumbbells

Chest

- Exercise Detail (Steps + YouTube videos)



exercise img

jack burpee

Target: cardiovascular system

Equipment: body weight

Secondary Muscles: quadriceps hamstrings calves shoulders triceps core

Instructions

- Start in a standing position with your feet shoulder-width apart.
- Lower your body into a squat position, placing your hands on the ground in front of you.
- Kick your feet back, landing in a push-up position.
- Perform a push-up, lowering your chest to the ground and then pushing back up.
- Jump your feet forward, landing in a squat position.
- Jump up explosively, reaching your arms overhead.
- Land softly and immediately lower back into the squat position to begin the next repetition.

Related Videos on Youtube

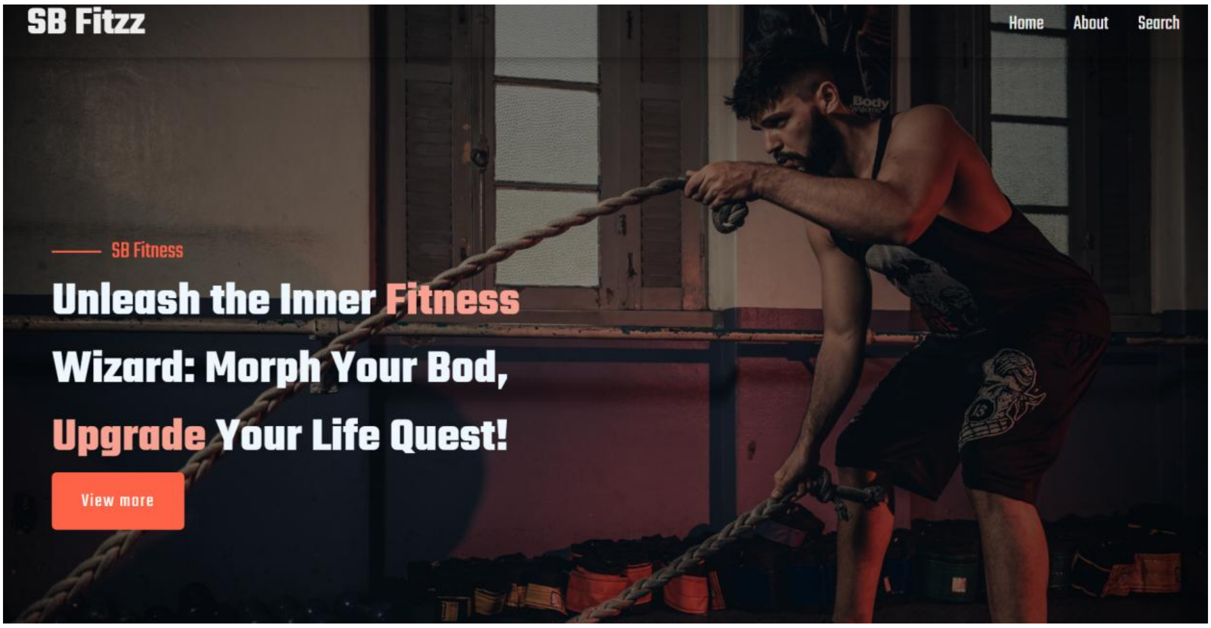
## 10. Styling

- **Frameworks Used:** Tailwind CSS / Bootstrap.
- **Custom CSS:** Stored in `src/styles/`.
- Each page/component has a dedicated CSS file for modularity.

## 11. Testing

- **Libraries Used:** Jest, React Testing Library.
- **Unit Tests:** Written in `App.test.js`.
- **Setup:** Configured with `setupTests.js`.

## 12. Screenshots / Demo

- **Demo Link:** https://drive.google.com/file/d/1mUEZRmCsz84WlFlsNe5cZjCSjzttT0_m/view?usp=sharing
- Screenshot:
- 

SB Fitness

Unleash the Inner Fitness Wizard: Morph Your Bod, Upgrade Your Life Quest!

## 13. Known Issues

- API rate-limit may cause some exercises not to load.
- YouTube API sometimes fails to fetch related videos.

## 14. Future Enhancements

- Add login and user profile.
- Save favorite workouts.
- Add workout progress tracking.
- Implement offline caching with service workers.
- Enhance animations and transitions.