NAAN MUDHALVAN PROJECT
UNIVERSITY OF MADRAS

COLLEGE NAME: AGURCHAND MANMULL JAIN COLLEGE

COLLEGE CODE : 1301

SUBJECT: FRONTEND DEVELOPMENT WITH REACT.JS

TOPIC: FITFLEX(fitness app)

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Project Documentation

Introduction

Project Title: Fitflex

Team Members:

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Project Overview

Purpose

FitFlex is a web application designed to serve as a companion for fitness tracking devices. It provides users with real-time fitness data, workout progress, and health insights. The platform helps users monitor their activity levels, set fitness goals, and gain insights into their physical well-being.

Features

- eal-time activity tracking (steps, calories burned, heart rate, etc.)
- Personalized workout recommendations
- Goal setting and progress tracking
- Integration with popular fitness wearables
- Diet and nutrition insights
- Community and challenges for motivation
- Interactive data visualization for progress analysis
- Responsive design for accessibility on all devices

Architecture

Component Structure

```
FitFlex/
│── public/
│    ├── favicon.ico
│    ├── index.html
│    ├── logo192.png
│    ├── logo512.png
│    ├── manifest.json
│    ├── robots.txt
│
```

```
|── src/
|   |── assets/
|   |   ├── about-img.png
|   |   ├── bg_img.png
|   |   ├── bg_vid.mp4
|   |
|   |── 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
|   |
|   |── App.css
|   |── App.js
|   |── App.test.js
```

```
|   |── index.css
|   |── index.js
|   |── logo.svg
|   |── reportWebVitals.js
|   |── setupTests.js
|
|── .gitignore
|── README.md
|── package-lock.json
|── package.json
```

State Management

FitFlex utilizes Redux Toolkit for efficient state management, with slices for:

- User Fitness Data
- Workout Logs
- Health Insights
- Community Challenges

Routing

React Router is employed to handle navigation between different pages, ensuring a seamless user experience.

Setup Instructions

Prerequisites

- Node.js (version 14.x or higher)
- npm package manager

Installation

1. Clone the repository:
2. `git clone`
3. `https://github.com/Learnguy/FitnessApp-react-.git`
4. Navigate to the project directory:
5. `cd Fitness App-r_NaanMudhalvan`
6. Install dependencies:
7. `npm install`

Folder Structure

Client

src/

- **assets/ → Stores static media files like images and videos.**
- **components/ → Contains reusable UI components such as the Navbar, Footer, and Search.**
- **pages/ → Represents different views or pages of the application.**
- **styles/ → CSS files for styling various components.**
- **App.js → Main entry point for the React app.**
- **index.js → Renders the application into the DOM.**

Running the Application

- To start the application locally: npm start
- This will launch the application at http://localhost:3000.

Component Documentation

Key Components

- Navbar: Renders navigation links.
- Dashboard: Displays key fitness metrics.
- Workout Tracker: Allows users to log workouts.
- Health Insights: Provides analysis of health trends.
- Community: Engages users with challenges and discussions.
- Charts: Visualizes progress over time.

Reusable Components

- Fitness Card: Displays workout or health-related data.
- Button: Custom-styled button for various actions
- Search Bar: Enables searching for fitness activities or challenges.

State Management

Global State

- Used for data that needs to be shared across multiple components:
- User Profile: Stores user data like name, age, weight, and fitness goals.
- Workout Plans: Centralized storage for personalized fitness routines.
- Exercise Library: Maintains a list of available exercises categorized by type.
- Progress Tracking: Stores workout history and performance analytics.

Local State

- Used for UI-specific states within individual components.
- Search Input: Stores user input in the exercise search bar
- Form Data: Handles temporary inputs in registration or goal-setting forms
- Modal Visibility: Manages the opening and closing of pop-ups (e.g., work out details).
- Theme Selection: Toggles between light and dark mode for UI customization.

User Interface

Screenshots or GIFs showcasing different UI features, such as pages, forms, or interactions.

Styling

CSS Frameworks/Libraries

- The application uses Ant Design for consistent and responsive UI components.

Theming

- Custom theming is applied using Ant Design's theming capabilities to align with the application' branding.

Testing

Testing Strategy

- The project employs Jest and React Testing Library for unit and integration testing of components and Redux slices.

Code Coverage

- Code coverage is monitored using Jest's built-in coverage tools, aiming for comprehensive test
- **coverage across all modules.**

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Screenshots or Demo

Live Demo

https://drive.google.com/file/d/1hqwgKjpbc9rNbrY1q2doozPzx6JEMvfd/view ?usp=drivesdk

Screenshots

https://drive.google.com/drive/folders/1p7RAuqPaDiU0SKlj-F10F9s3MyYMApzV

Known Issues

- ntegration with some fitness trackers may be limited.
- API rate limits for third-party fitness data sources
- Performance issues with large datasets of activity logs.

Future Enhancements

- Dark mode toggle feature.
- AI-based workout recommendations.
- Real-time WebSocket updates for fitness stats.
- User authentication for personalized goal tracking.