FitFlex : Your Personal Fitness Companion.

1. Introduction

• Project Title: FitFlex – Your Personal Fitness Companion

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2. Project Overview

• Purpose:

FitFlex is designed to promote health and fitness through smart, personalized guidance. It provides customized workout plans, diet recommendations, and progress tracking to help users achieve their fitness goals despite busy lifestyles.

• Features:

– Personalized workout and diet plans

– Daily activity and progress tracking

– Goal setting and fitness reminders

– Community and motivational support system

– Integration with wearable devices (optional future scope)

3. Architecture

• Frontend: React.js with Tailwind CSS and Material UI

• Backend: Node.js and Express.js managing API endpoints

• Database: MongoDB for storing user profiles, fitness plans, and tracking data

4. Setup Instructions

• Prerequisites:

– Node.js

- MongoDB

- Git

- React.js

- Express.js

- Visual Studio Code

• Installation Steps:

```
# Clone the repository
git clone <repo-link>

# Install client dependencies
cd client
npm install

# Install server dependencies
cd ../server
npm install
```

5. Folder Structure

```
FitFlex/
|-- client/   # React frontend
|   |-- components/
|   |-- pages/
|
|-- server/   # Node.js backend
|   |-- routes/
|   |-- models/
|   |-- controllers/
```

6. Running the Application

• Frontend:
```
cd client
npm start
```

• Backend:
```
cd server
npm start
```

• Access: Visit http://localhost:3000

7. API Documentation

• User:

– /api/user/register
– /api/user/login

• Workout & Diet Plans:
– /api/plans/create
– /api/plans/:id

• Progress Tracking:
– /api/progress/update
– /api/progress/:userId

8. Authentication
• JWT-based authentication for secure login
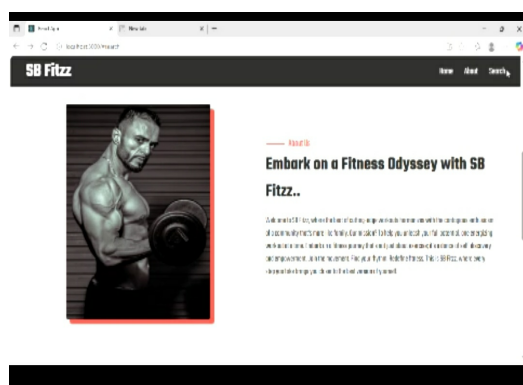
• Middleware for protecting private routes

9. User Interface
– Landing Page

– User Dashboard (Workout + Diet overview)

– Progress Tracking Page

– Goal Setting Page

– Admin Panel

10. Testing
• Methods: Manual + Automated Testing

• Tools: Postman, Jest, Chrome DevTools

11. Screenshots or Demo

12. Known Issues

• Limited to basic workout and diet plans in initial version

• Wearable integration under development

13. Future Enhancements

− AI-based smart recommendations

− Gamification & rewards for consistency

− Multi-language support

− Social features (friend challenges, group goals)