Project documentation

Fitflex_ Your personal fitness companion.

1.Introduction

• **Project title:**

    Fitflex_your personal fitness companion.

• **Team ID:** NM2025TMID42365.

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2. Project overview:

Purpose

    FitFlex is a personal fitness companion that helps users achieve their

health goals by providing personalized workout plans, nutrition guidance,

progress tracking, and a supportive community.

Features

    • Personalized workout and nutrition plans

- Real-time activity and progress tracking

- Secure chat system with fitness coaches

- Feedback and review system for trainers and programs

- Admin control panel for managing users, trainers, and content

2. Architecture

- Frontend: React.js with Bootstrap and Material UI

- Backend: Node.js and Express.js managing server logic and API endpoints

- Database: MongoDB stores user data, workout routines, nutrition logs, progress

reports, and chat messages

3. Setup Instructions

Prerequisites

- Node.js

- MongoDB

- Git

- React.js

- Express.js

- Mongoose

- Visual Studio Code

Installation Steps

```
# Clone the repository

git clone

# Install client dependencies

cd client

npm install

# Install server dependencies

# Install server dependencies

cd ../server

npm install
```

4. Folder Structure

```
FitFlex/

|-- client/      # React frontend

|   |-- components/

|   |-- pages/

|-- server/      # Node.js backend

|   |-- routes/

|   |-- models/

|   |-- controllers/
```

5. Running the Application

Frontend:

```
cd client
```

npm start

Backend:

cd server

npm start

Access: Visit http://localhost:3000

6. API Documentation

- **User:**

    o /api/user/register

    o /api/user/login

- **Workouts:**

    o /api/workouts/create

    o /api/workouts/:id

- **Nutrition:**

    o /api/nutrition/log

- **Progress:**

    o /api/progress/:userId

- **Chats:**

    o /api/chat/send

    o /api/chat/:userId

7. Authentication

- JWT-based authentication for secure login

• Middleware protects private routes

8. User Interface

• Landing Page

• User Dashboard (fitness progress, plans)

• Coach Dashboard

• Admin Panel

• Workout & Nutrition Details Page

9. Testing

• Manual testing during milestones

• Tools: Postman, Chrome Dev Tools

10. Future Enhancements

• AI-powered workout recommendations

• Integration with wearable devices (Fitbit, Apple Watch, etc.)

• Gamification features (badges, challenges, leaderboards)

• Video tutorials with step-by-step workouts