

Project documentation

Fitflex_ Your personal fitness companion.

1.Introduction

- **Project title:** Fitflex_your personal fitness companion.
- **Team ID:** NM2025TMID42355.
- **Team leader:** Moganasankari.S & moganasankari8@gmail.com
- **Team members:**
 - 1.Pavithra.M & pavithra43845@gmail.com
 - 2.Manimegalai.S & manimegalaisakthvel54@gmail.com
 - 3.Poornima.S & poorni0033@gmail.com

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
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:**
 - /api/user/register
 - /api/user/login
- **Workouts:**
 - /api/workouts/create
 - /api/workouts/:id
- **Nutrition:**
 - /api/nutrition/log
- **Progress:**
 - /api/progress/:userId
- **Chats:**
 - /api/chat/send
 - /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. Screenshots or Demo

(To be added)

11. Known Issues

(To be added as identified)

12. 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