

Project Documentation

1. Project Title

FitFlex: Your Personal Fitness Companion

2. Introduction

FitFlex is a web-based fitness companion application designed to help users track their fitness goals, follow workout plans, and maintain a healthier lifestyle. It combines user-friendly interfaces with backend services to provide seamless experiences.

3. Project Overview

Purpose: To assist users in managing fitness routines, workout schedules, and personal progress.

Key Features:

- User authentication and profile management
- Fitness goal setting
- Workout tracking and history
- Nutrition and diet recommendations
- Dashboard for progress visualization
- Admin panel for content and user management

4. System Architecture

Frontend: React.js (Bootstrap + Material UI)

Backend: Node.js with Express.js

Database: MongoDB

Authentication: JWT-based secure login

5. Setup Instructions

Prerequisites:

- Node.js (LTS version)
- MongoDB
- Git
- Visual Studio Code

Installation Steps:

1. Clone repository: `git clone`
2. Install client dependencies: `cd client && npm install`
3. Install server dependencies: `cd ../server && npm install`
4. Start the application:
 - Frontend: `cd client && npm start`
 - Backend: `cd server && npm start`
5. Open in browser: `http://localhost:3000`

6. Folder Structure

FitFlex/

- client/ # React frontend
- ■ components/
- ■ pages/
- server/ # Node.js backend
- ■ routes/
- ■ models/
- ■ controllers/
- README.md

7. API Documentation

User:

- POST /api/user/register → Register new user
- POST /api/user/login → User login

Projects/Workouts:

- POST /api/projects/create → Create workout plan
- GET /api/projects/:id → Get workout details

Applications:

- POST /api/apply → Apply for challenge

Chats/Community:

- POST /api/chat/send
- GET /api/chat/:userId

8. User Interface

- Landing Page
- User Dashboard (fitness stats, progress)
- Workout/Project Details Page
- Admin Panel

9. Testing

- Manual testing at key milestones
- Tools: Postman, Chrome DevTools

10. Future Enhancements

- AI-based workout recommendations
- Wearable device integration (Fitbit, Apple Watch)
- Community forum for fitness discussions
- Gamification (rewards, streaks)