Project Documentation

Project Title

FitFlex : Your Personal Fitness Companion

1. Introduction

Project Title: FitFlex : Your Personal Fitness Companion

Team ID: NM2025TMID30477

Team Leader: MURUGAPANDI S – muruganmurugapandi91@gmail.com

Team Members:

- SARAN K – ransaran421@gmail.com
- DEVAA R – rdevaa500@gmail.com
- KUMARESAN D – kumaresandhanapal417@gmail.com

2. Project Overview

Purpose: FitFlex is a personal fitness companion application that helps users track workouts, monitor diet, and improve health through personalized plans.

Features:

- Workout tracking and progress monitoring
- Diet and nutrition management
- Personalized fitness recommendations
- Goal setting and achievement tracking
- Interactive dashboard with charts and reports

3. Architecture

- Frontend: React.js with Bootstrap/Material UI
- Backend: Node.js and Express.js
- Database: MongoDB (storing user fitness data, workout logs, and nutrition records)

4. Setup Instructions

- Prerequisites: Node.js, MongoDB, Git, React.js, Express.js, Visual Studio Code
- Clone the repository: git clone
- 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 via: http://localhost:3000

7. API Documentation

- User: /api/user/register, /api/user/login
- Workouts: /api/workouts/create, /api/workouts/:id
- Nutrition: /api/nutrition/log, /api/nutrition/:id
- Goals: /api/goals/create, /api/goals/:id

8. Authentication

JWT-based authentication ensures secure login and protects private routes.

9. User Interface

- Landing Page
- User Dashboard
- Workout & Nutrition Tracker
- Goal Tracking & Reports
- Admin Panel

10. Testing

- Manual testing during milestones

- Tools: Postman, Chrome Dev Tools

11. Screenshots or Demo

Screenshots or demo links can be added here.

12. Known Issues

Currently no critical issues reported. Minor bugs may appear in beta testing.

13. Future Enhancements

- Integration with smartwatches and fitness bands

- AI-based personalized fitness recommendations

- Community challenges and leaderboards

- Offline mode support