Project Documentation

# 1. Introduction

• Project Title: FitFlex: Your Personal Fitness Companion

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# 2. Project Overview

• Purpose: FitFlex is a personalized fitness companion application that helps users track workouts, set health goals, monitor progress, and stay motivated with guided plans.

• Features:

– Personalized workout and diet recommendations

– Progress tracking with visual insights

– Secure user authentication

– Chatbot assistance for quick guidance

– Admin panel for user and content management

# 3. Architecture

• Frontend: React.js with Bootstrap and Material UI

• Backend: Node.js and Express.js for server logic and APIs

• Database: MongoDB for storing user profiles, workout data, and progress tracking

# 4. Setup Instructions

• Prerequisites: Node.js, MongoDB, Git, React.js, Express.js, Mongoose, 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: http://localhost:3000

# 7. API Documentation

• User:  
 – /api/user/register  
 – /api/user/login

• Workout Plans:  
 – /api/workouts/create  
 – /api/workouts/:id

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

# 8. Authentication

• JWT-based authentication for secure login  
• Middleware protects private routes

# 9. User Interface

• Landing Page  
• User Dashboard (Workout + Diet tracking)  
• Admin Panel  
• Progress Insights Page

# 10. Testing

• Manual testing during milestones  
• Tools: Postman, Chrome Dev Tools

# 11. Screenshots or Demo

(To be added after UI development)

# 12. Known Issues

(To be updated during testing)

# 13. Future Enhancements

• AI-powered workout recommendation system  
• Integration with wearable fitness devices  
• Gamification with challenges and leaderboards