

FITFLEX: Your Personal Fitness Companion

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Introduction

- In today's fast-paced world staying fit and healthy is more important than ever.
- YOUR PERSONAL FITNESS COMPANION is smart and user friendly platform designed to support your fitness journey anytime,anywhere.

Project Overview

- **PURPOSE:**The main purpose of your personal fitness companion is to help users maintain a healthy lifestyle by offering personalized fitness support.
- **FEATURE:**Workout tracking (daily,weekly, monthly progress) Nutrition logging (meals calories,macros) Personalized Workout&diet recommendations goal setting & reminder.

System Architecture

- Frontend: React.js with Bootstrap/material UI
- Backend: Node.js+Express.js
- Database: MongoDB
- User → Frontend → Backend → Database

Setup Instructions

PREREQUISITES:

- Node.js MongoDB GitReact.js
Express.js+MongoDB

Visual Studio Code Installation Steps:

#clone repositorygit clone<repo-link>

#Install client dependencies clientnpm install

#Install Server dependenciescd../servernpm
install

Folder Structure

- Fitness-App/
 - └─ client/ (React frontend)
 - └─ components/ (Node.js backend)
 - └─ routes/
 - └─ models/
 - └─ controllers/

Running the Application

- Frontend: `cd client → npm start`
- Backend: `cd server-npm start`
- Visit: `http://localhost:3000`

API Documentation

- /api/user/registerPOST → User Registration
- /api/user/loginWorkout:POST→ User Login
- /api/workouts/createGET → Add workouts
- /api/workouts/userIdNutrition:POST
- /api/nutrition/addGET
- /api/nutrition/:userIdProgress:GET
- /api/progress/userIdChats:POST
- /api/chat/sendGET
- /api/chat/userId

Authentication

- JWT-based login system
- Middleware for private routes
- Secure data access

User Interface (UI)

Login & Registration Simple form for new users to register and existing users to log in Supports email/password authentication (JWT-based). Dashboard Displays daily activity summary (workouts, nutrition, calories burned). Graphical representation of progress (charts/graphs) Workout Section Browse and start workouts (strength, cardio, yoga, etc.). Track sets, reps, duration, and calories. Save completed workouts for history tracking. Nutrition Section Log meals with calorie and macronutrient breakdown. View daily/weekly nutrition summary. Integration with food database (future enhancement).

Testing

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

Known Issues

- UI Responsiveness Some pages may not display properly on similar mobile screens.
- Workout Timer: Countdown timer may reset on page refresh.
- Nutrition Database: Limited food items available, requires manual entry for custom meals.
- Chat Assistant: Some times gives generic response instead of personalized advice.
- Progress Graphics: Large Datasets (months of history) may load slowly.
- Authentication: Token Expiry not always handled smoothly (requires re-login).

Future Enhancements

Mobile App Version: Dedicated Android/iOS app with push notifications. Wearable Integration: Sync with fitness trackers (Fitbit, Apple Watch, Garmin) Advanced AI Coaching: Personalized workout and meal recommendations using ML.Social Features: Friend connections, leaderboards, and group challenges. Gamification: Badges, streak tracking, and achievement rewards. Offline Mode: Allow workout/nutrition logging without internet (sync later). Expanded Database: Larger nutrition and workout libraries with regional foods. Voice Commands: Hands-free workout tracking and assistant interaction.

Thank You

- Questions?
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