

Introduction

FitFlex is a modern fitness and wellness application designed to help users track workouts, monitor nutrition, and maintain a healthier lifestyle. It provides personalized recommendations, progress tracking, and a user-friendly interface that encourages consistency in fitness goals.

Project Overview

Project Name: FitFlex

Team ID: FF-2025

Team Members: Project Manager, Frontend Developer, Backend Developer, QA Engineer

Technology Stack: React.js, Node.js, Express.js, MongoDB, Redux Toolkit, TailwindCSS, Jest

Key Features: User authentication, workout & diet tracking, progress analytics, dark mode, favorites, responsive UI

Architecture

Frontend: React.js (UI components, Redux, API calls)

Backend: Node.js + Express.js (RESTful API, JWT authentication)

Database: MongoDB (user data, progress tracking, favorites)

Architecture: Frontend <-> Backend API <-> Database

Setup Instructions

1. Clone repository: `git clone https://github.com/your-repo/fitflex-app.git`
2. Install dependencies: `npm install`
3. Setup environment variables in `.env` (MONGO_URI, JWT_SECRET)
4. Start backend: `npm run server`
5. Start frontend: `npm start`

Folder Structure

```
fitflex-app/  
  backend/  
    controllers/  
    models/  
    routes/  
    server.js  
  frontend/  
    src/components/  
    src/pages/  
    src/redux/  
    App.js  
  README.md
```

Running the Application

Run backend: npm run server
Run frontend: npm start
Open browser: http://localhost:3000

Component Documentation

Header: Navigation & logo
Dashboard: Summary of workouts, nutrition, progress
Workout Tracker: Log exercises
Nutrition Tracker: Log meals
Progress Charts: Data visualization
Profile: User details & settings

State Management

Redux Toolkit slices: userSlice, workoutSlice, nutritionSlice, uiSlice

User Interface

Clean, minimal design with TailwindCSS, dark/light mode, responsive layout, charts for analytics.

Styling

TailwindCSS, custom themes, responsive grid system.

Testing

Unit testing with Jest, integration with Supertest, future E2E with Cypress.

Demo Video Link

<https://example.com/demo-fitflex> (replace with actual link).

Known Issues

Limited offline support, no push notifications, chart optimizations needed.

Future Enhancements

AI-powered workout recommendations, social features, wearable integration, multilingual support, offline-first PWA.