# 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

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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](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://drive.google.com/file/d/14\_JmosXIa4lx1pb2eMHHwiPV9GjQIxOD/view?usp=sharing

# 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.