Team ID: NM2025TMID39225

**TEAM Size: 5** 

Team Leader: ROSHAN KUMAR S

Team member: KATHIRVAN

Team member: SATHISH KUMAR J

Team member: SANJAY R

Team member: HARIKRISHNA A

#### 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)

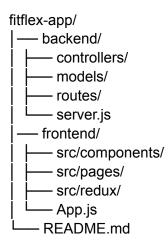
Backend: Node.js + Express.js (RESTful API, JWT authentication)
Database: MongoDB (user data, progress tracking, favorites)

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



## 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://drive.google.com/file/d/1z9748IFn8Vjew9JbEraEVflV5kp0chz5/view?usp=sharing

## **Known Issues**

Limited offline support, no push notifications, chart optimizations

### needed. Future Enhancements

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