Project Documentation

1. Introduction
Project Title: FitFlex: Your Personal Fitness Companion
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2. Project Overview
Purpose:

FitFlex is a personal fitness companion app that helps users track workouts, set fitness goals, monitor progress, and maintain a healthy lifestyle.
Features:

- Personalized workout and diet plans

- Progress tracking with analytics

- Real-time notifications and reminders

- Community and support system

- Admin panel for managing users and content

3. Architecture
• Frontend: React.js with Bootstrap and Material UI

• Backend: Node.js and Express.js (server logic & API endpoints)

• Database: MongoDB (stores user profiles, workout data, goals, progress reports)

4. Setup Instructions
Prerequisites:

-Node.js

-MongoDB

-Git

-React.js

-Express.js

-Mongoose

-Visual Studio Code
Installation Steps:

Clone the repository git clone <repo-url>

```
# 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:

-POST /api/user/register

-POST /api/user/login

• Workouts:

POST /api/workouts/create

GET /api/workouts/:id

• Progress:

POST /api/progress/update

GET /api/progress/:userId

• Community:

POST /api/community/post

GET /api/community/:id

8. Authentication
• JWT-based authentication for secure login

• Middleware to protect private routes

9. User Interface

• Landing Page

• User Dashboard

• Admin Panel

• Workout & Diet Plan Page

• Progress Tracking Page

10. Testing

• Method: Manual testing during milestones

• Tools: Postman, Chrome DevTools

11. Screenshots or Demo

(Add relevant screenshots or demo video link here)

12. Known Issues

[List current issues/bugs if any]

13. Future Enhancements

• AI-powered personalized fitness recommendations

• Integration with wearable devices (smartwatch, fitness band)

- Voice-enabled virtual fitness coach

- Offline mode for workout tracking