Project Documentation  
  
 Project Title  
  
\*\*FitFlex – Your Personal Fitness Companion\*\*  
  
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### 1. Introduction  
  
\* \*\*Project Title:\*\* FitFlex – Your Personal Fitness Companion  
  
\* \*\*Team Leader:Alsiriya A

Team Member:Abirami K

Team Member:Anusiya P

Team Member:Abirami P

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 2. Project Overview  
  
\* \*\*Purpose:\*\*  
  FitFlex is a fitness companion application designed to help users achieve their health goals by offering personalized workout plans, nutrition tracking, progress monitoring, and real-time guidance.  
  
\* \*\*Features:\*\*  
  
  \* Personalized workout and diet plans  
  \* Progress tracking with charts and analytics  
  \* Virtual trainer with AI-based recommendations  
  \* In-app chat and community support  
  \* Feedback and review system  
  \* Admin control panel for managing users and content  
  
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 3. Architecture  
  
\* \*\*Frontend:\*\* React.js with Bootstrap and Material UI  
\* \*\*Backend:\*\* Node.js and Express.js for server logic and APIs  
\* \*\*Database:\*\* MongoDB for storing user data, workout logs, diet plans, and community interactions  
  
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### 4. Setup Instructions  
  
\* \*\*Prerequisites:\*\*  
  
  \* Node.js  
  \* MongoDB  
  \* Git  
  \* React.js  
  \* Express.js  
  \* Mongoose  
  \* Visual Studio Code  
  
\* \*\*Installation Steps:\*\*  
  
  ```bash  
  # Clone the repository  
  git clone <https://github.com/yourusername/fitflex.git>    
  
  # Install client dependencies  
  cd client  
  npm install    
  
  # Install server dependencies  
  cd ../server  
  npm install    
  ```  
  
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 5. Folder Structure  
  
```  
FitFlex/  
|-- client/             # React frontend  
|   |-- components/  
|   |-- pages/  
|  
|-- server/             # Node.js backend  
|   |-- routes/  
|   |-- models/  
|   |-- controllers/  
```  
  
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### 6. Running the Application  
  
\* \*\*Frontend:\*\*  
  
  ```bash  
  cd client  
  npm start  
  ```  
  
\* \*\*Backend:\*\*  
  
  ```bash  
  cd server  
  npm start  
  ```  
  
\* \*\*Access:\*\* Visit `http://localhost:3000`  
  
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### 7. API Documentation  
  
\* \*\*User:\*\*  
  
  \* `POST /api/user/register`  
  \* `POST /api/user/login`  
  
\* \*\*Workouts:\*\*  
  
  \* `POST /api/workouts/create`  
  \* `GET /api/workouts/:id`  
  
\* \*\*Nutrition:\*\*  
  
  \* `POST /api/nutrition/add`  
  \* `GET /api/nutrition/:userId`  
  
\* \*\*Chats & Community:\*\*  
  
  \* `POST /api/chat/send`  
  \* `GET /api/chat/:userId`  
  
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### 8. Authentication  
  
\* JWT-based authentication for secure login  
\* Middleware to protect user dashboards and private routes  
  
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 9. User Interface  
  
\* Landing Page (App introduction and sign-up/login)  
\* User Dashboard (workout and diet tracking)  
\* Community Panel (chat, forums, and support)  
\* Admin Panel (user and content management)  
\* Progress Details Page (graphs and insights)  
  
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### 10. Testing  
  
\* Manual testing after each milestone  
\* Tools: Postman, Chrome Dev Tools, MongoDB Compass  
  
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 12. Known Issues  
  
 No issues  
  
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 13. Future Enhancements  
  
\* Integration with wearable fitness trackers (Fitbit, Apple Watch, etc.)  
\* AI-powered meal suggestions  
\* Video-based virtual trainer  
\* Offline mode with data sync  
\* Gamification features like challenges and badges  
  
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\*\*End of Documentation\*\*