

Project Documentation

FitFlex: Your Personal Fitness Companion

1.Introduction

- **Project Title :** FitFlex : Your personal Fitness Companion
- **Team ID:** NM2025TMID47844
- **Team Size:** 4
- **Team Leader:**
 - Atchaya S(atchayaselvam444@gmail.com)
- **Team Members:**
 - Kaviya P(kaviyapachiyappan681@gmail.com)
 - Sivasakthi V(sivasakthi79142@gmail.com)
 - Swetha A (swetha.01092007@gmail.com)

2. Project Overview and Background

- Fit Flex: Your Personal Fitness Companion is a digital solution designed to assist individuals in
- maintaining their physical health and fitness goals through personalized tracking, guidance, and motivation.
- In today's busy lifestyle, many struggle to balance work, diet, and exercise routines. Fit Flex bridges this
- gap by providing a user-friendly platform to monitor fitness progress, set achievable goals, and receive
- real-time insights.
- The project integrates modern technologies and intuitive interfaces to encourage consistent exercise,
- healthy eating habits, and overall wellness management. It caters to people of all ages looking for a
- smart and reliable fitness companion.
- This backend supports a fitness companion app focused on personalized workout plans, exercise tracking,
- and progress monitoring. It aims to help users achieve fitness goals through custom plans and user data management.

3. Project Objectives

- To develop a personalized fitness companion application that encourages users to maintain regular
- fitness habits.
- To provide diet and workout tracking features tailored to individual needs.
- To enhance user motivation through progress tracking and performance insights.
- To design an easy-to-use platform accessible on multiple devices.
- To incorporate a data-driven approach for recommending workouts and dietary plans

4. Architecture & Tech Stack

- **Backend Framework:** Node.js (commonly used for scalability and performance in such projects)
- **Database:** MongoDB or a similar NoSQL database for flexible storage of workout data, user profiles, and progress
- **API:** RESTful APIs to enable communication between frontend (app) and backend services for data exchange and user authentication
- **Authentication:** JWT (JSON Web Tokens) for secure user login and session management

5. Project Demo

Before starting to work on this project, let's see the demo.

Demo link:

<https://drive.google.com/file/d/1xbzVoqxeJRNvsh0FWv5D16EOANfwZ8U8/view?usp=sharing>

Use the code in:

https://drive.google.com/drive/folders/14f9eBQ5W7VrLdPhP2W6PzOU_HCy8UMex?usp=sharing

Folder Structure (Example)

```
text
/src
  /controllers    # Handle HTTP requests
  /models         # Database schema definitions
  /routes         # API route definitions
  /middlewares    # Authentication, logging, error handling
  /utils          # Helper functions and constants
/config.js       # Environment configurations
server.js        # Entry point to start the server
API Documentation (Sample Endpoints)
POST /api/auth/register - User registration
```

POST /api/auth/login - User login and token issue

GET /api/workouts - Retrieve all workouts

POST /api/workouts - Create a new workout plan

GET /api/progress/:userId - Get user's progress data

Testing

Use Jest or Mocha for backend unit and integration testing

Test API endpoints using tools like Postman or automated test scripts

7. Roles and Responsibilities of Team Members

i. Atchaya S (Team Leader):

Oversees project progress, manages task allocation, ensures timely completion, and coordinates between team members. Leads the development direction and supervises documentation.

ii. Kaviya P (Team Member):

Responsible for front-end development, designing user interfaces, and ensuring visual appeal and usability of the application.

iii. Sivasakthi V (Team Member):

Works on back-end development, database management, and server-side integration ensuring seamless connectivity between modules.

iv. swetha A (Team Member):

Takes charge of research, testing, and quality assurance. Validates the functionality of features and ensures the application meets user expectations.

8. Work Distribution Among Team Members

Atchaya S: Project management, core module development, final integration.

Kaviya P: UI/UX designing, mobile app interface creation.

Sivasakthi V: Server-side scripting, back-end database and API development.

Swetha A: Application testing, bug fixing, and research documentation.

9. Project Timeline And Milestones

- Week 1-2: Project planning, requirement gathering, and initial research.
- Week 3-4: Design of user interface and system architecture.
- week 5-6: Development of core features (workout and diet tracking).
- Week 7: Integration of front-end and back-end systems.
- week 8: Testing and debugging.
- Week 9: Final review, user feedback, and optimization.
- Week 10: Submission of final deliverables and demonstration.

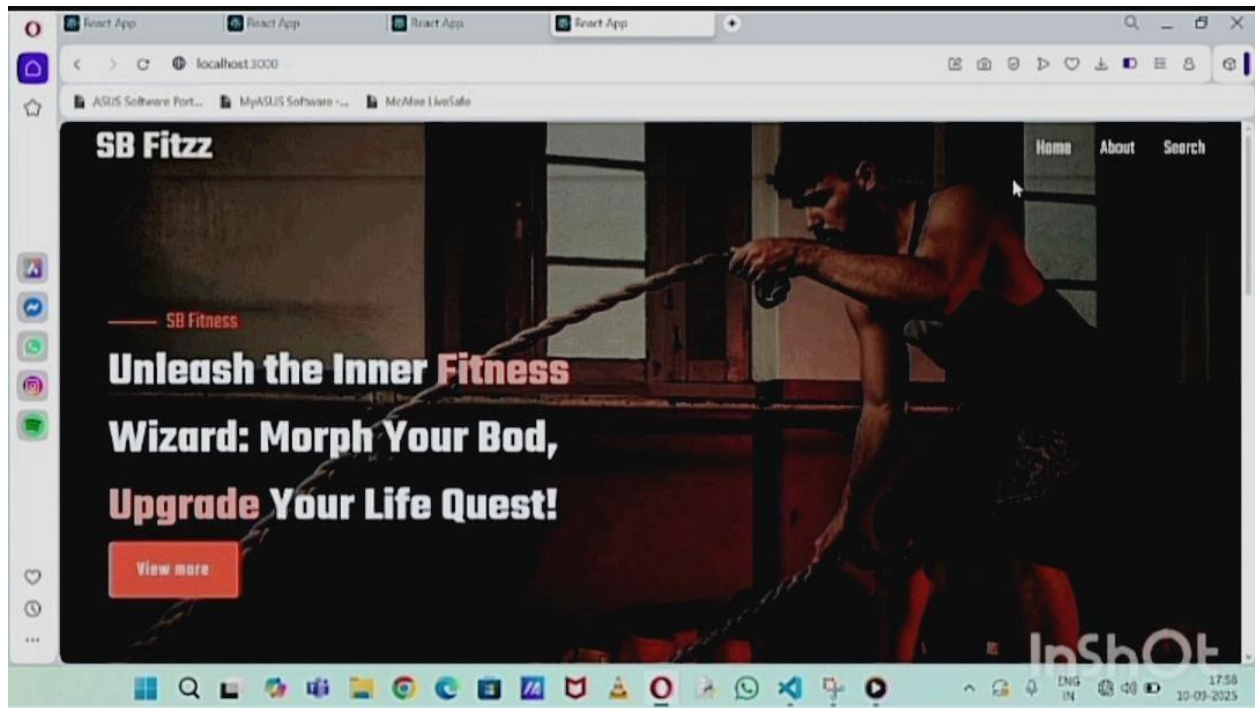
10. Expected Results And Deliverables

- A fully functional fitness companion application that supports workout and diet tracking.
- Project documentation including system design, testing reports, and user manuals.
- A video demonstration showcasing key features of the application.
- Deployment-ready software package with instructions for installation and usage.

11. Communication and Collaboration Plan

- Weekly Team Meetings: To track progress and resolve challenges.
- Communication Channels: WhatsApp group for quick updates, Google Meet/Zoom for virtual discussions.
- Collaboration Tools: GitHub for code management, Google Drive for documentation sharing, Trello for task tracking.
- Progress Reporting: Weekly task reports to monitor deadlines and responsibilities.

12. Screenshots or Demo



13. Conclusion

- FitFlex is designed to be a comprehensive personal fitness companion that enhances motivation, improves health
- outcomes, and provides an engaging user experience. With efficient teamwork, clear objectives, and structured timelines,
- the project aims to deliver a high-quality solution that helps users incorporate fitness seamlessly into their daily routine.
- Test API endpoints using tools like Postman or automated test scripts