**Project Design Phase**

**Problem – Solution Fit Template**

|  |  |
| --- | --- |
| Date | 6 March 2025 |
| Team ID | SWTID1741243418148473 |
| Project Name | FitFlex |
| Team Leader | FAMITHA S B |
| Team Member 1 | HARINI M |
| Team Member 2 | VARSHINI VR |
| Team Member 3 | JANANI M S |
| Team Member 4 | SATHVIKA E |
| Maximum Marks | 2 Marks |

**Problem – Solution Fit Overview:**

The **Problem-Solution Fit** ensures that the identified problem aligns with the needs of users and that the proposed solution effectively addresses it. This concept helps developers, marketers, and business strategists validate the **necessity and effectiveness** of their solution before further development.

**Purpose:**

* Address the **lack of a structured and interactive fitness guidance platform** for users who seek customized exercises based on body parts or equipment.
* Provide an intuitive and engaging experience for users to **discover exercises quickly** without the need for manual research.
* Offer seamless navigation and **real-time data retrieval** from **ExerciseDB API** to enhance user experience.
* Improve accessibility and engagement through an **interactive UI, responsive design, and well-structured data flow**.

### **Problem Statement:**

Many users struggle to find **relevant and structured exercise information** online, leading to frustration and inconsistency in their fitness journey. Most available platforms either require paid memberships or provide unstructured exercise listings without filtering options based on equipment or body parts.

### **Solution:**

* A **React.js-based Fitness Web Application** that provides users with an easy-to-navigate interface to explore exercises by **body parts and equipment**.
* Integration with **ExerciseDB API** ensures users get **up-to-date and detailed exercise information** with images and descriptions.
* **Axios-powered API requests** ensure smooth data retrieval with minimal delays.
* **Categorization and search functionalities** improve accessibility and user engagement.
* A scalable and **responsive UI design** ensures seamless experience across different devices.

**Project Design Phase**

**Proposed Solution Template**

|  |  |
| --- | --- |
| Date | 6 March 2025 |
| Team ID | SWTID1741243418148473 |
| Project Name | FitFlex |
| Team Leader | FAMITHA S B |
| Team Member 1 | HARINI M |
| Team Member 2 | VARSHINI VR |
| Team Member 3 | JANANI M S |
| Team Member 4 | SATHVIKA E |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Many users struggle to find structured, easy-to-follow workout plans tailored to their needs (body parts, available equipment). Existing resources are either scattered, unstructured, or behind paywalls. |
|  | Idea / Solution description | A React.js-based fitness web application that allows users to discover exercises categorized by body parts and equipment. The application integrates with ExerciseDB API to provide real-time workout information, images, and descriptions. |
|  | Novelty / Uniqueness | Free and structured access to categorized workouts. |

**Project Design Phase**

**Solution Architecture**

|  |  |
| --- | --- |
| Date | 6 March 2025 |
| Team ID | SWTID1741243418148473 |
| Project Name | FitFlex |
| Team Leader | FAMITHA S B |
| Team Member 1 | HARINI M |
| Team Member 2 | VARSHINI VR |
| Team Member 3 | JANANI M S |
| Team Member 4 | SATHVIKA E |
| Maximum Marks | 4 Marks |

**Solution Architecture:**

The solution architecture for the Fitness Web Application ensures a scalable, efficient, and user-friendly platform for discovering and accessing exercise routines based on body parts and equipment.

**Goals of the Solution Architecture:**

* Identify the Best Tech Solution: Utilize modern front-end frameworks and APIs to provide a seamless fitness discovery experience.
* Define Structure & Characteristics: Ensure modular, scalable, and maintainable software architecture for future enhancements.
* Outline Features & Development Phases: Clearly structure project milestones for effective development and deployment.
* Establish Specifications for Development & Delivery: Provide well-defined guidelines for the system's architecture, API integration, and data flow.

