**Requirement Gathering and Analysis Phase**

**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date |  |
| Team ID |  |
| Project Name | FitFlex: Your Personal Fitness Companion |
| Maximum Marks |  |

**Technical Architecture:**

The Deliverable shall include the information as per the table1 & table 2

**Table-1 : Components & Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | Frontend UI | User interface of the application, which includes all pages and components. | React.js, React Router, Bootstrap or Tailwind CSS |
|  | Navbar | Navigation bar for easy access to different sections of the app. | React.js, React Router |
|  | Hero Section | The first section users see, with a welcoming message and CTA buttons. | React.js, CSS (Custom or Bootstrap) |
|  | Search Functionality | Enables users to search for exercises and routines. | React.js, Axios |
|  | Categories Section | Displays a list of exercise categories that users can explore. | React.js, Axios, Bootstrap or Tailwind CSS |
|  | |  | | --- | |  |  |  | | --- | | Exercise Page | | Displays detailed exercise instructions, images, and videos. | React.js, YouTube API, Axios |
|  | Footer | Contains links, copyright information, and other important details. | React.js, CSS |
|  | Exercise API Integration | Fetches exercise data from external fitness APIs. | Axios, RapidAPI |
|  | YouTube Video Integration | Fetches related videos for each exercise. | YouTube API, Axios |
|  | State Management | |  | | --- | |  |   Manages state across different components for smooth data flow. | React Context or Redux |
|  | Newsletter Subscription | Form to subscribe to the newsletter for updates. | React.js, Axios |
|  | Authentication (Optional) | Handles user login, registration, and session management. | Firebase Authentication or JWT |
|  | Responsive Design | Ensures the app is mobile-friendly and adjusts to different screen sizes. | Bootstrap or Tailwind CSS |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1. | Responsive Design | Ensures the app is fully functional and visually appealing on all screen sizes. | **Bootstrap**, **Tailwind CSS**, **CSS** |
|  | Scalability | Designed to handle growth in terms of users and new features over time. | **React.js**, **Redux**, **Node.js** |
|  | User-Friendly Interface | Simple, intuitive interface that makes it easy for users to navigate. | **React.js**, **CSS**, **Bootstrap** |
|  | Cross-Browser Compatibility | Ensures that the app works across various browsers (Chrome, Firefox, Safari). | **React.js**, **CSS**, **Bootstrap** |
|  | API Integration | Seamless integration with external APIs (for exercises, videos, etc.). | **Axios**, **RapidAPI**, **YouTube API** |
| 6. | Performance Optimization | Fast load times and smooth user interactions with minimal delays. | **React.js**, **Code Splitting**, **Lazy Loading** |
| 7. | Offline Support (Optional) | Basic offline functionality for users to access saved exercises. | **Service Workers**, **IndexedDB** |