**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

| Date | 30 August 2025 |
| --- | --- |
| Team ID | LTVIP2025TMID60971 |
| Project Name | DocSpot: Seamless Appointment Booking for Health |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

The **DocSpot platform** is designed with a **scalable 3-tier architecture** that includes:

* **Presentation Layer (Frontend):** Patient and doctor interfaces for booking, managing appointments, and accessing telehealth.
* **Business Logic (Backend):** Appointment scheduling, notifications, and telehealth integrations.
* **Data Storage Layer:** Secure storage of patient, doctor, and medical data, ensuring healthcare compliance (HIPAA/GDPR)

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

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1 | **User Interface** | Web & Mobile interfaces for patients and doctors | React.js, React Native, HTML, CSS, Tailwind CSS |
| 2 | **Application Logic-1** | Appointment booking, rescheduling, cancellation, reminders | Node.js, Express.js |
| 3 | **Application Logic-2** | Doctor dashboards, patient profiles, telehealth integration, admin panel | Node.js, React.js |
| 4 | **Database** | Stores patient data, doctor profiles, appointments, feedback | MongoDB / PostgreSQL |

**Table-2: Application Characteristics**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1 | **Open-Source Frameworks** | Frontend & backend frameworks for scalability | React.js, Node.js, Tailwind CSS, Bootstrap |
| 2 | **Scalable Architecture** | 3-tier design with RESTful & GraphQL APIs | MVC, Microservices |
| 3 | **Healthcare Compliance** | Ensures secure handling of medical records | HIPAA/GDPR standards |
| 4 | **Real-time Communication** | Enables instant chat, notifications & video consults | WebSockets, WebRTC |

**References:**

[**React.js Documentation**](https://react.dev/)

[**Node js Best Practice**](https://nodejs.org/en/learn/getting-started/introduction-to-nodejs)

[**JSON Web Server Referance**](https://www.npmjs.com/package/json-server)