**Project Design Phase**

**Solution Architecture**

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| **Date** | 30-06-2025 |
| **Team ID** | LTVIP2025TMID53914 |
| **Project Name** | **DocSpot:** Seamless Appointment Booking for Health |
| **Maximum Marks** | 4 Marks |

**Solution Architecture**

DocSpot – Solution Architecture Overview

DocSpot provides a seamless system for booking healthcare appointments, connecting patients and healthcare providers through a structured, scalable platform.

**Architecture Components:**

**1. Users** o Patient: Books and manages appointments.

o Healthcare Provider: Views schedules, manages availability, and communicates with patients.

# 2. Presentation Layer

* Frontend: The user interface for patients and doctors to interact with the system.
* Backend API: Connects the frontend to the backend services and handles data processing.

1. **Authentication & Communication** o Handles user authentication, authorization, and real-time messaging (e.g., chat or notifications).

1. **Internal Database** o Stores initial user session data, login info, and temporary booking states.

# 5. Automation Module

* Processes appointment logic, scheduling rules, reminders, and background tasks.
* Connects the presentation layer to the main data storage.

# 6. Data Storage

o Central database where all appointment records, patient info, provider details, and transaction logs are stored securely.

# 7. DevOps Integration

* CI/CD (Continuous Integration / Continuous Deployment): Ensures faster and safer updates to the system.
* Cloud Deployment: Enables scalable, online access to the platform.

# 🌟 Benefits

* Quick and easy appointment scheduling.
* Real-time updates and communication.
* Secure data handling and user authentication.
* Scalable for growing users and providers.

**Example - Solution Architecture Diagram:**

