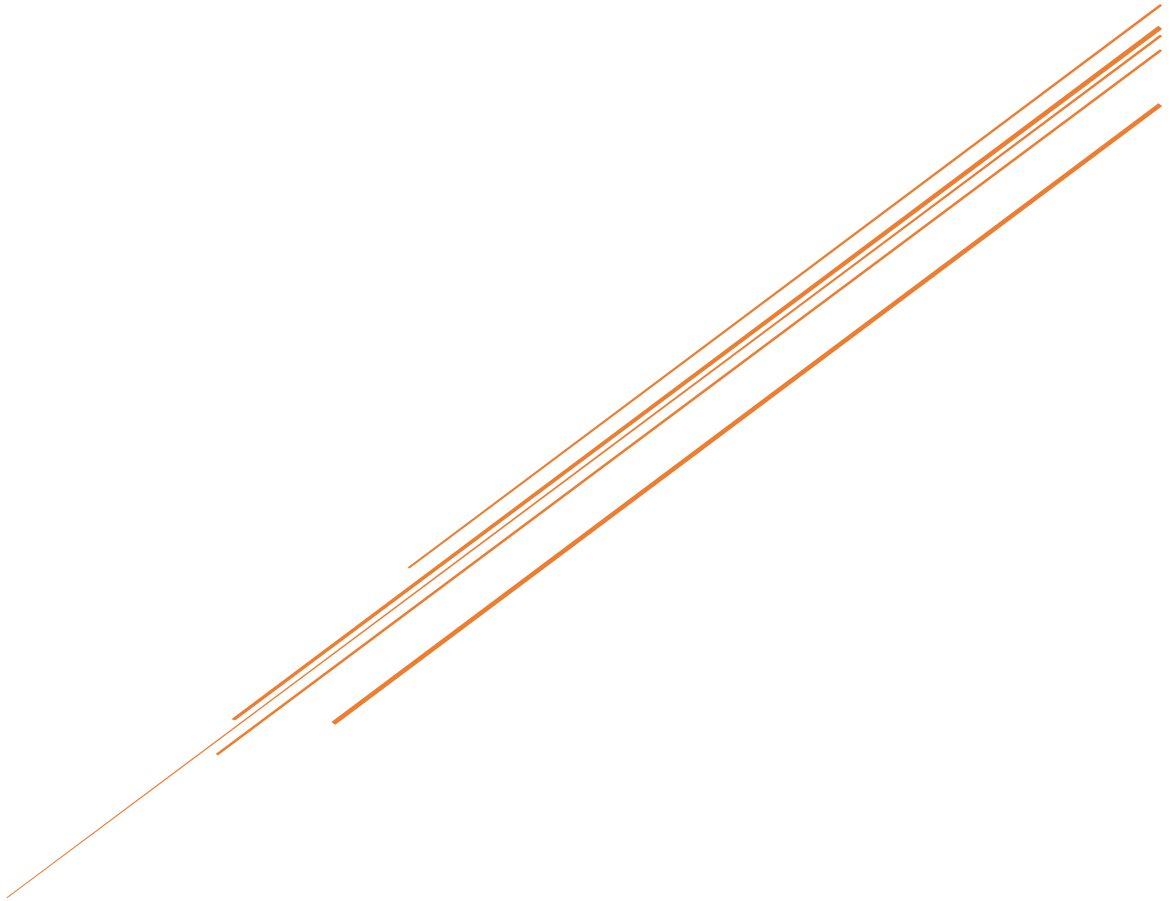


# ONLINE APPOINTMENT FOR HEALTHCARE CLINIC

Requirements Elicitation – Document Analysis



## 1. INTRODUCTION

As part of the business analysis for automating the manual healthcare appointment booking system, this phase focuses on **existing operational data analysis** derived from historical appointment records. The objective is to extract actionable insights, uncover latent patterns, and identify optimization opportunities that may not have been fully captured during the stakeholder interviews and questionnaire sessions.

The dataset under review comprises **weekly appointment data over a month**, with key fields such as **patient information**, **illness descriptions**, **doctor assignments**, **call timestamps**, **booking timestamps**, and **current appointment statuses**. The data has been cleansed and structured for time-based and categorical analysis. (The actual patient's name and contact are fabricated due to privacy)

While the QA sessions captured high-level functional requirements and challenges (e.g., manual inefficiencies, appointment tracking, and rescheduling needs), the data analysis reveals **additional behavioral and operational insights** that can shape system intelligence, workflow efficiency, and decision support features.

## 2. NEW OBSERVATIONS (NOT IDENTIFIED IN QA)

### 2.1. *Doctor Availability and Room Assignment Analysis*

2.1.1. The document contains explicit records of doctor availability, indicating specific time slots or days when each doctor is scheduled to be present at the facility.

2.1.2. The document also includes information regarding the designated consultation rooms assigned to each doctor.

2.1.3. This information can be used to track resource utilization and identify potential bottlenecks in room availability.

### 2.2. *Peak Call and Booking Times*

2.2.1. Identified high-traffic hours for appointment requests (e.g., mornings between 10 AM–12 PM).

2.2.2. Suggests a need for load balancing, queue prioritization, or chatbot automation during peak hours.

2.3. ***Appointment Lead Time***

2.3.1. Detected variable gaps between call date and appointment date.

2.3.2. Enables monitoring of wait time trends and could trigger alerts for long delays or urgent cases.

2.4. ***Status Pattern Trends***

2.4.1. High frequencies in rescheduled, cancelled, and no-show statuses in some time windows.

2.4.2. Useful for implementing automated reminders, follow-up mechanisms, or patient risk tagging.

2.5. ***Time Slot Utilization***

2.5.1. Certain time slots show over-concentration or under-utilization.

2.5.2. Enables dynamic slot management and capacity planning.

2.6. ***Repeat Patient Patterns (Future Data-Enabled Insight)***

2.6.1. While current data uses random names, future data with patient IDs can reveal:

2.6.2. Repeat visitor behavior

2.6.3. Cancellation patterns per patient

2.6.4. Doctor-switching trends

### 3. **CONCLUSION**

The analysis of the existing appointment data reveals several operational insights that go beyond the initial findings from stakeholder interviews and questionnaires. These insights offer a data-driven perspective on current appointment booking behaviors, inefficiencies, and opportunities for improvement within the manual system.

Key patterns such as peak call volumes, workload imbalances among doctors, variable booking lead times, and recurring status trends provide a strong foundation for designing a smarter, more efficient automated appointment system. These findings support enhancements like intelligent scheduling, automated reminders, dynamic availability handling, and advanced reporting dashboards.

Incorporating these observations into the system design will not only streamline internal workflows but also improve patient satisfaction, reduce manual overhead, and

provide better visibility into operational performance. This data-backed approach ensures that the future solution is both user-centered and performance-oriented.