

# **Clinic 24/7 – Doctor at Doorstep**

## **Problem Description**

### **1. Objective**

A Multi-speciality Hospital has created a vision to provide 24/7 Primary Care at Doorstep of Patients using a panel of high quality doctors. Further, the Hospital has decided to provide quality medicines vide authorized Pharmacies at the door-step at discounted prices as well as give door-step Laboratory services wherever possible vide specimen collection. The aim is to help elderly and infirm people as well as people who need regular monitoring services to get access to quality healthcare services at affordable prices at the Door-step. It is envisaged that preventive and regular monitoring services can reduce the hospital admissions and reduce the suffering in General.

As per Chairman' directive, the services have to be operationalized in a short span of 4 months within a budget of Rs. 50 Lakhs. Further, the system must be available round-the-clock with 10 mts outage per month and should be highly stable and reliable with very low maintenance costs.

### **2. High Level Requirements**

#### **2.1 Functional Features:**

- Doctor Database Maintenance – Doctors Registration details along with their qualifications (Add/ Modify/ Delete)

- Patient Database Maintenance – Patient Registration (Add/ Modify/ Delete) – Each patient will have a unique Patient-Id
- Chemist / Pharmacy Database Maintenance – Chemist/ Pharmacy registration – Pharmacy closest to patient location will be used to deliver medicines at discounted prices
- Labs Database Maintenance – Lab registration – Authorized labs closest to the patient location will be used to collect specimens and provide reports either online or in physical form
- Registered Patients shall have the facility to submit Consultation requests based on their symptoms, they will also have the ability to upload lab reports, if any. There will be 2 modes – New Consultation (paid), Follow-up Consultation based on Lab reports (free)
- Patient consultation requests shall be guided to the best suited doctor.
- Doctors shall view the Consultation requests and fills the prescription and lab tests required – Both prescription and lab test requests shall be forwarded to closest Pharmacies and Authorized labs
- Best suited Chemist sends medicine depending on the prescription.
- Best suited Labs shall arrange for specimen collection and provide reports to patients for uploading into the database

## **2.2 Non - Functional Features:**

The system should be able to scale to 100,000+ users concurrently and shall have a response time of less than 2 seconds. Further the system should have 99.99999%

Availability (10 mts outage per month on every 4 th Sunday night between 12:00 AM – 12:10 AM) and very high reliability and stability – Less than 1 High Severity Defect per month.

### **3. Users**

1. Registered Doctors
2. Receptionists
3. Patients
4. Chemist/ Pharmacies
5. Pathology labs

### **4. Databases:**

- Patient: patient\_id ; name ; mobile\_no ; dob ; sex ; address with Pincode; contact details – email
- Doctor: doctor\_id ; name ; mobile\_no ; sex ; field ; experience
- Chemist: Chemist\_id; Chemist\_name; Chemist\_address with Pincode;
- Lab: Lab\_id, Lab\_name; Lab\_address with Pincode;
- Patient Case History (if any) – Patient\_id; Consultation\_id, Doctor\_id; Consultation\_Date, Symptoms\* (Multi-line – upto 5 lines); Remarks
- Consultation Details – Patient\_id, doctor\_id; Consultation\_id; Prescription Details \* (Multi-line upto 10 items) – Medicine\_name; medicine\_num\_of\_times, medicine\_num\_of\_days; Lab\_details \* (Multi-line upto 5 items) – Lab\_test\_name; Lab\_test\_condition