Electronic Health Record System

Team members: Laxmi Niharika Epuri
                        Supriya Supugade
                        Soni Paghdar
University: International Institute for Information Technology, Bangalore
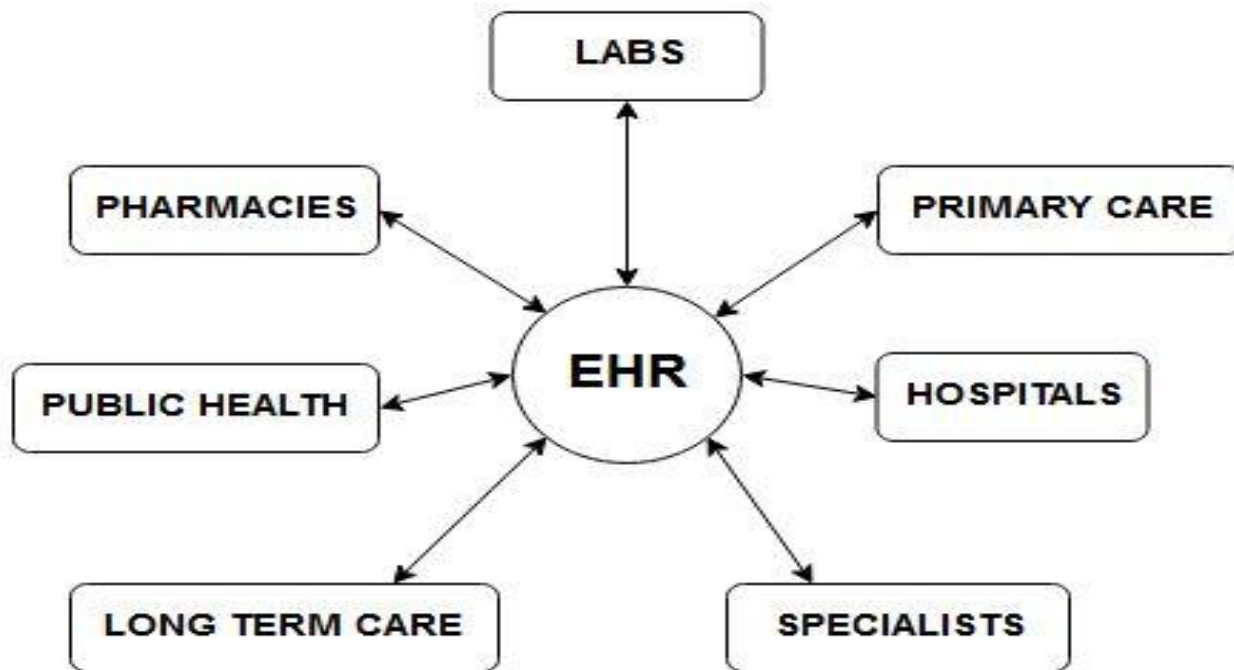Mentor : Mr. Aman Khan

Project Team Introduction

Laxmi Niharika Epuri, iMtech-2014

Supriya Supugade, Mtech-2017
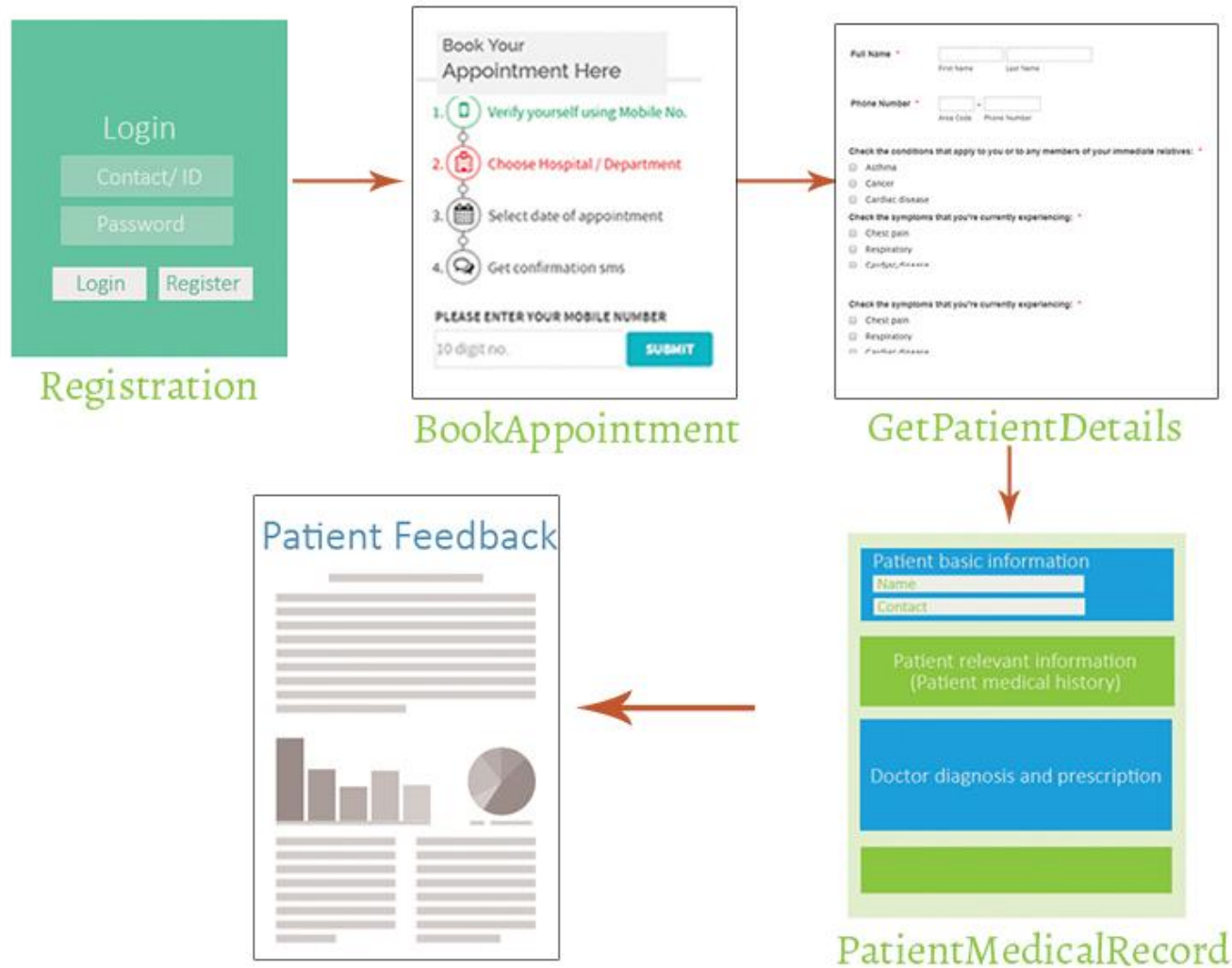Soni Paghdar, Mtech-2017

EHR

Problem Statement

→ An ambulatory, fast, patient-friendly solution that adapts to the needs of virtually huge size or type of practice and considers population health and clinical connectivity.

→ No bulky paper records to store, manage and retrieve.

→ Easier access to clinical data.

→ The ability to establish and maintain effective clinical workflows.

→ The opportunity to interact seamlessly with affiliated hospitals, clinics, labs and pharmacies.

Modules

➔ Patient registration

➔ Appointment

➔ E-prescription

➔ Patient History Storage

➔ Feedback

❏ Partitioned into android version(mobile application) and desktop version(web application) for the ease of users.
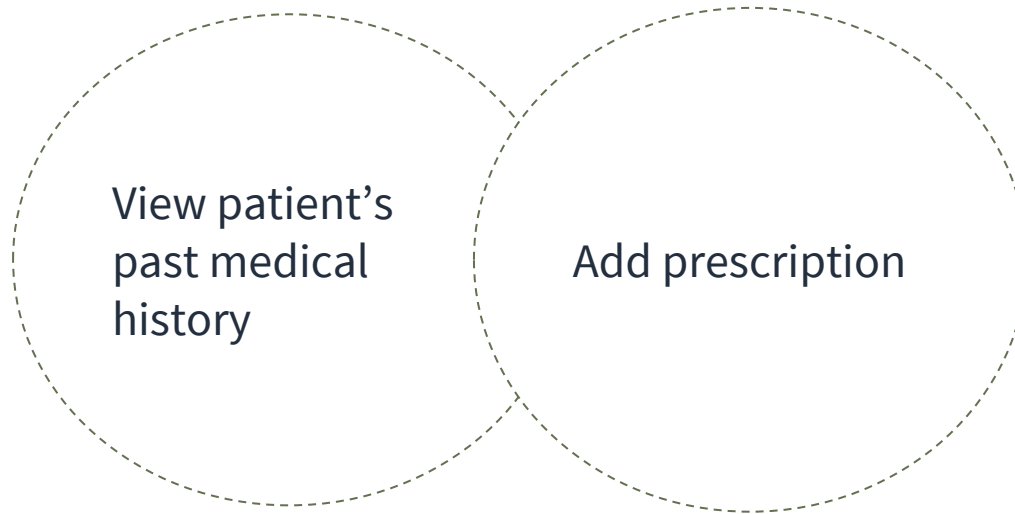
Solution

Registration

Book Your Appointment Here

1. Verify yourself using Mobile No.
2. Choose Hospital / Department
3. Select date of appointment
4. Get confirmation sms

PLEASE ENTER YOUR MOBILE NUMBER

10 digit no.   SUBMIT

BookAppointment

Full Name *
First Name   Last Name

Phone Number *
Area Code - Phone Number

Check the conditions that apply to you or to any members of your immediate relatives: *
☐ Asthma
☐ Cancer
☐ Cardiac disease
Check the symptoms that you're currently experiencing: *
☐ Chest pain
☐ Respiratory
☐ Cardiac disease

Check the symptoms that you're currently experiencing: *
☐ Chest pain
☐ Respiratory
☐ Cardiac disease

GetPatientDetails

Patient Feedback

Patient basic information
Name
Contact

Patient relevant information
(Patient medical history)

Doctor diagnosis and prescription

PatientMedicalRecord

Demo

1. EHR Web Application

    https://www.youtube.com/watch?v=_Gt5VNm_p4o

2. EHR Mobile Application

    https://www.youtube.com/watch?v=NEsYM4OzGKk

1. Web application features

View patient's past medical history

Add prescription

2. Mobile application features

Patient registration

Book Appointment

view past, current, future appointments

View Medical history (includes progress reports)

Set Medical reminders

Provide Feedback
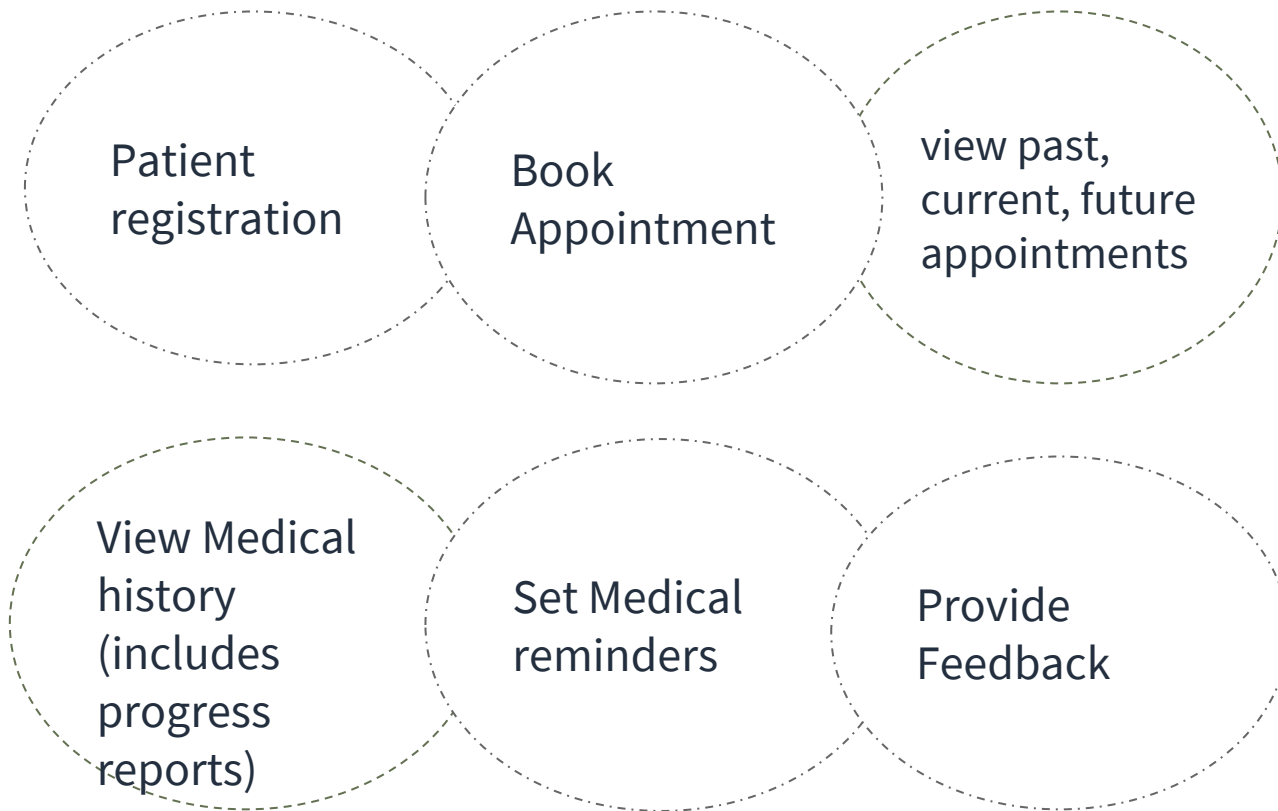
System Interaction flow
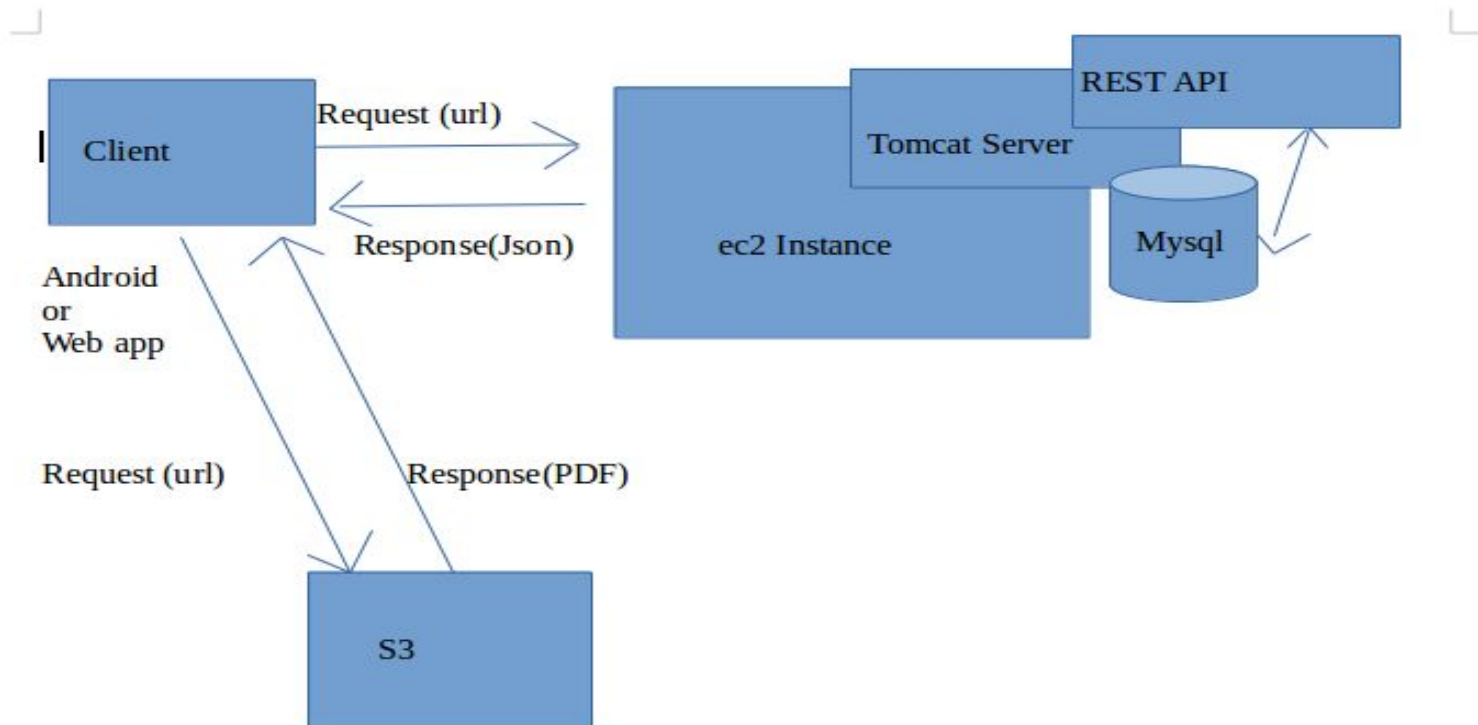
Technologies used

➔ Mobile Application: Android - Java

➔ Web Application: Java Servlets, JSPs, HTML

➔ Backend: Mysql and S3.

➔ API Testing: Postman

➔ Rest API - Java, Jersey

➔ Dependency control: Maven, Gradle

Technology Used

SQL :

➔ It's a main or supporting data store and transactional database.

➔ An RDBMS used to answer MANY SMALL FAST queries.

S3:

➔ It provides cloud storage for petabytes of data. Easily scalable.

➔ A key-based object store.

➔ If required data can be loaded from S3 to Redshift.

Why not this?

MongoDb:

➔ Mainly used to store tons of analytics data.

Redshift:

➔ It is a column store and column stores have much better I/O characteristics for analytical workloads, but are typically slower for transactional workloads.

➔ Redshift is designed and suited to crunch data and excels at doing that, i.e. running "big" or "heavy" queries against large datasets.

Allowed Usage

S3(per month)

➔ Limit: 5Gb
➔ Puts: 2000 requests
➔ Gets: 20,000 requests

EC2

➔ Currently 1GB memory. But can always be upgraded independent of the other technologies.

Learnings from the project

➔ Differentiating amongst various database solutions and deciding the best for our case.

➔ Learning how to create and work with REST services.

➔ Building an end to end system.

➔ Working in team and coping with deadlines.

Future scope

→ Chat with doctor from anyplace.

→ Get reminder notification for taking medications.

→ Use a medical database and check effectiveness of prescription based on symptoms.

→ Analysis of the symptoms and effectiveness of prescribed medication.

→ Analysis of relation between allergy and prescribed medicine.

→ Predicting the next visit based on current progress.

THANK YOU