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SMART PATIENT INFORMATION SYSTEM

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Abstract: It is a centralized system for patient medical report sharing. Basic concept of this project is sharing information among multiple hospitals. In existing System we can't share patient information from one hospital to another. This application solves these all drawbacks of existing system.
Keywords - QR-code, Cardiology

Introduction

To make these transactions even secured, a mechanism of QR-Code is provided for the patient. The data registered are stored in the database. At the time of registration, the user name, password (auto generated) is sent to the patient's e-mail.

When the patient books a doctor (say if cardiology) the doctor can view only the respected detail's history. i.e. the patient's previous cardiac prescriptions and details. Rest of the details on other consultations of the patient are hidden. Thus keeping the details secured.

To the labs too only the tests prescribed and the doctor name is viewed, other prescriptions are hidden. The QR-Code of the patients is scanned by the doctor or concerned lab to get only the respective details in their device. They can update the results which will be automatically saved to patient's profile. This is how patient's profile is shared securely.

Module Description:

Our Proposed system have mainly 6 modules:

1. CENTRALIZED ADMIN
2. PATIENT
3. HOSPITAL
4. HOSPITAL RECEPTION
5. DOCTOR
6. LAB

CENTRALIZED ADMIN

- Add hospital
- View hospital details
- Remove hospital details

HOSPITAL

- View Patient
- Generate unique admission card

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- Add doctors
- Add receptionist
- Add new test name
- Approve doctors leave
- Add lab technicians

HOSPITAL RECEPTION

- Register and Add patient details
- View and approve booking
- Check doctors leave
- View Patient

PATIENT

- View medical information
- View Prescriptions
- View Test Results
- View hospital details
- Update Profile
- Book Doctor
- View Booking Details

DOCTOR

- View Bookings
- View Patient Medical profile and Summary
- View Patient Test Results
- View Patient Prescriptions
- Approve Consulting Time
- Apply For leave
- Prescribe Lab test

LAB

- View Tests
- Update Results

STUDY ABOUT THE SYSTEM

EXISTING SYSTEM:

Today there exists many of such system but most of them are not effective as per the assumption. Many of such systems indicate the trouble in the main objective of the system which is to book a doctor. Apart from this the doctor cannot view patient's previous medical history. Patient needs to carry manual prescriptions which may be lost.

Another drawback possible to be quoted is that the existing system can't inform the patient about doctor's leave on the booked day (if so)

PROPOSED SYSTEM:

The proposed system is expected to overcome all these drawbacks. It is more concerned about sharing patient's medical history among multiple hospitals.

Only the registered and verified authorities can use the system. The Admin registers and approves the hospitals. The Admin has the only power to remove a hospital from the system along with which all the associated entities with that hospital will be removed.

It is the hospital which adds Doctors, Receptionist, Lab technicians and new Lab tests. It can view the registered patient's basic information. It is prime authority which approves doctor's leave. (It is designed so, as to mention a digitalized record about doctor and his activities – how many patients have registered under him, his working time, sign-in and sign-out time, leaves applied, etc.). It can also view the lab test available in the concerned hospital.

The reception is the one who registers patient for the first time in the hospital. It is designed so for improved security. The reception can view the patient booked on a particular day, check for concerned doctor's leave and inform the patient (e-mail) about the leave of the doctor.

The patient is the user. He/she can book the doctor, they can view their own profile, update it, view prescription and lab test given by the doctor and view the hospitals register. They can also cancel the booking. A token number will be provided to them at the time of booking which is auto generated.

The lab technician can view the tests prescribed by the doctor and can only updates the results of test. He can also view the list of test available in the concerned hospital. The labs which functions in association with the hospital can be registered by the hospital. External labs can register themselves through the app but it needs to

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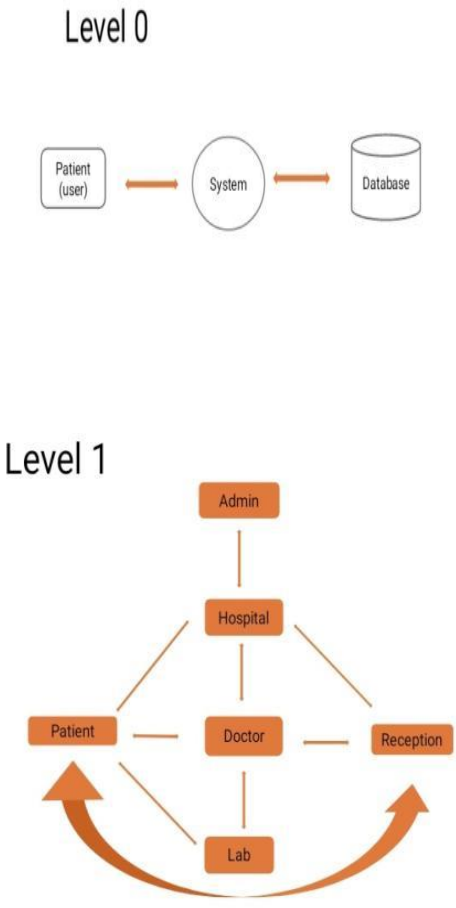
be verified by the respected hospital authorities and approved. Only after approval can it function with the system.

To make these transactions even secured, a mechanism of QR-Code is provided for the patient. The data registered are stored in the database. At the time of registration, the user name, password (auto generated) is sent to the patient's e-mail.
When the patient books a doctor (say if cardiology) the doctor can view only the respected detail's history. i.e. the patient's previous cardiac prescriptions and details. Rest of the details on other consultations of the patient are hidden. Thus keeping the details secured.
To the labs too only the tests prescribed and the doctor name is viewed, other prescriptions are hidden. The QR-Code of the patients is scanned by the doctor or concerned lab to get only the respective details in their device. They can update the results which will be automatically saved to patient's profile. This is how patient's profile is shared securely.

SYSTEM DESIGN
DATA FLOW DIAGRAM (DFD) - Smart Patient Info



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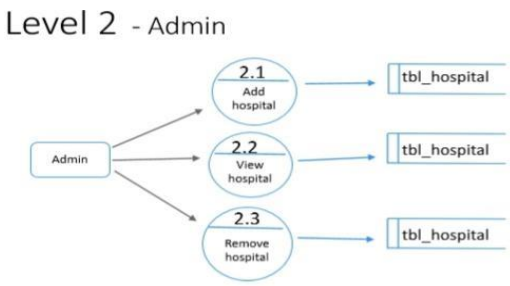

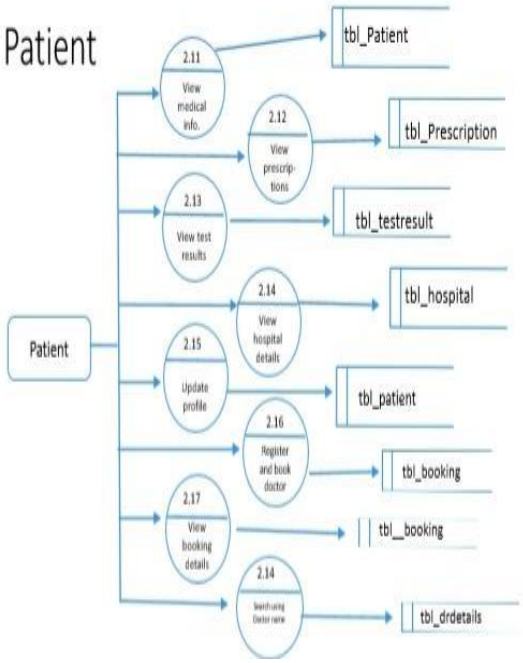

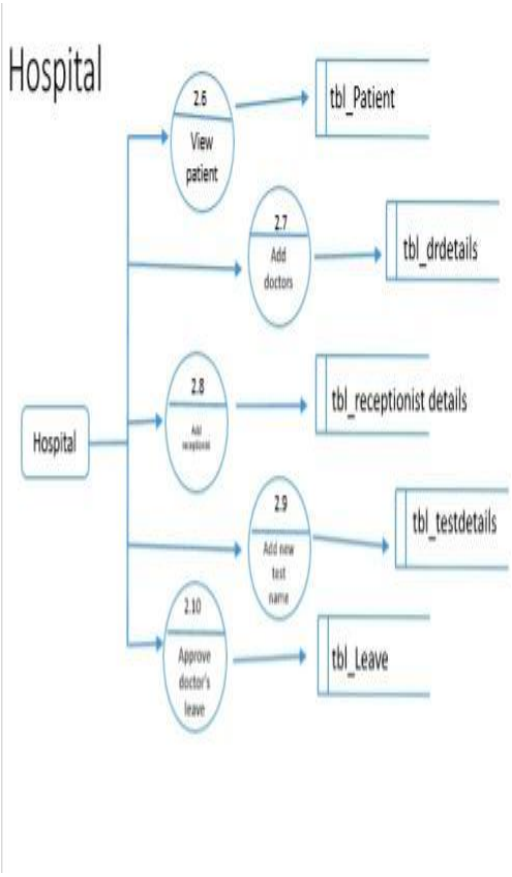

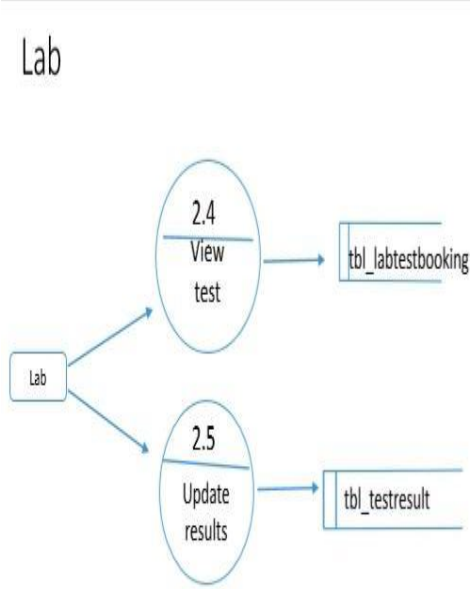

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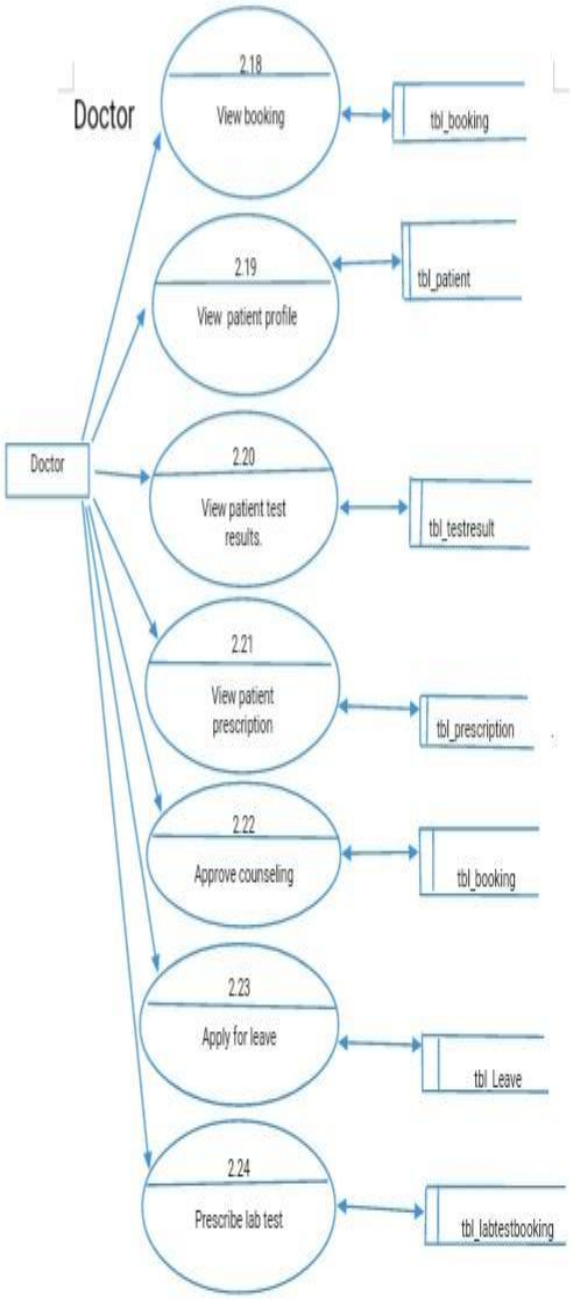

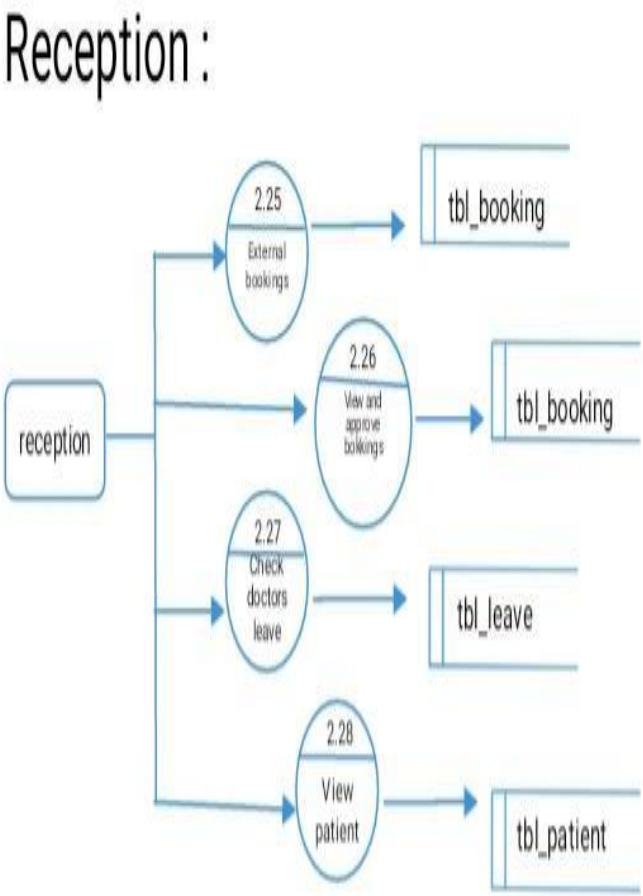

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SYSTEM IMPLMENTATION

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently. It involves careful planning, investigation of the current and its constraints on implementation, design of methods to achieve the change over, an evaluation, of change over methods. Apart from planning major task of preparing the implementation is education are training of users. The more complex system being implemented, the more involved will be the system analysis and the design effort required just for implementation. An implementation coordinating committee based on policies of individual organization as being appointed.

The implementation process beings with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, the discussions made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system. The implementation is the final and important phase. The most critical stage in achieving a successful new system and in giving the users confidence that the new system will work and be effective. The system can be implemented only after through testing is done and if it found to working according to the specification. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain type of transactions while using the new system. At the beginning of the development phase a preliminary implementation plan is created to schedule and manage the many different activities that must be integrated in to plan. The implementation plan is updated throughout the development phase, culminating in a changeover plan for the operation phase. The major elements of implementation plan are test plan training plan, equipment installation plan and a conversion plan.

Experimental Results

Main Form Design:

Registered Hospitals Viewed

View Hospital List

Hosid	Name	Address	Contact Number	Status
HOSD01	Sai	thrissur	9895741859	Remove
HOSD02	ASWINI	KUTTAYANI	8975461235	Remove
HOSD03	Mather	Thrissur	8565E34634	Remove
HOSD04	west fort	west fort jn, thrissur	2343456565	Remove

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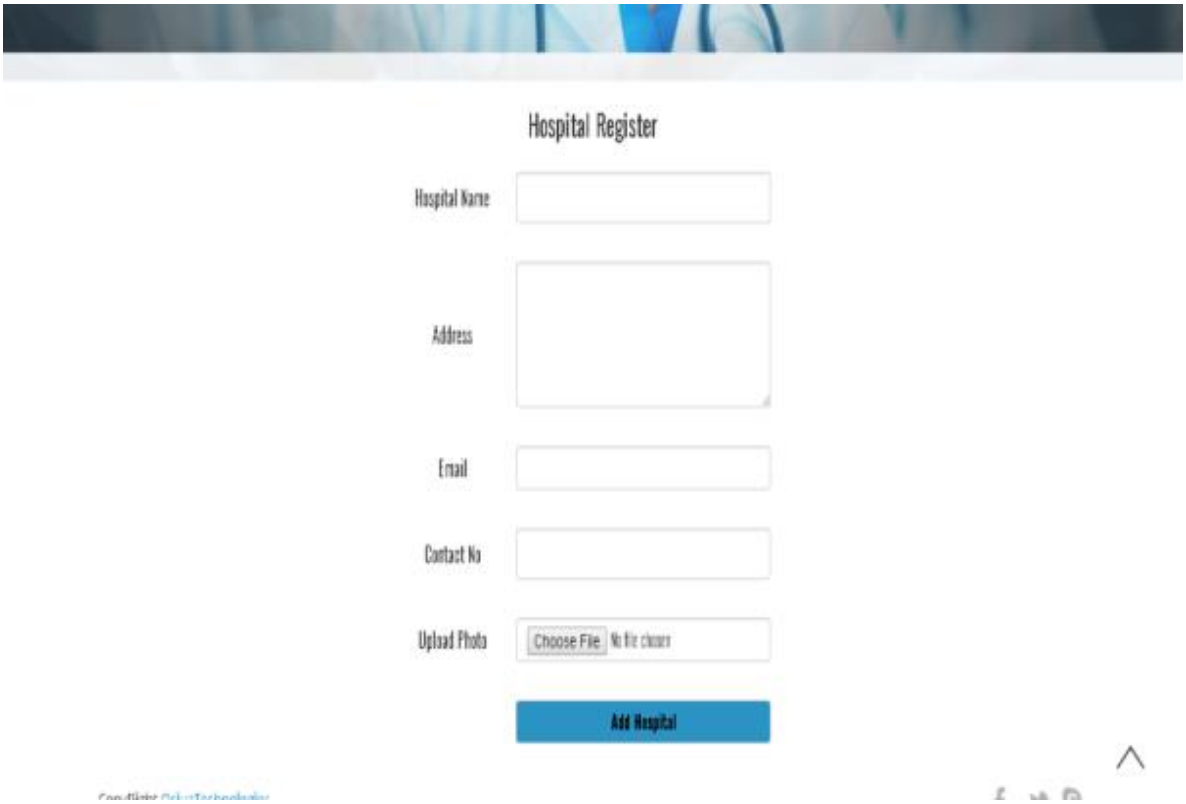
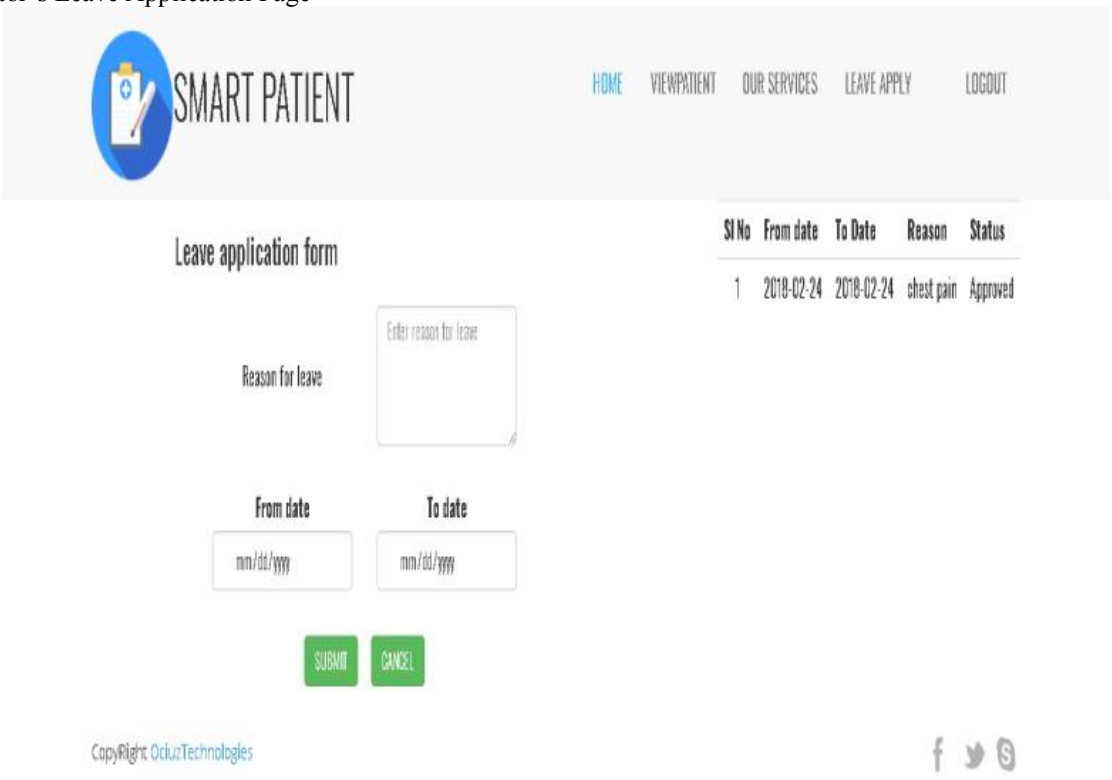
Hospital Registration Page



Doctor's Leave Application Page



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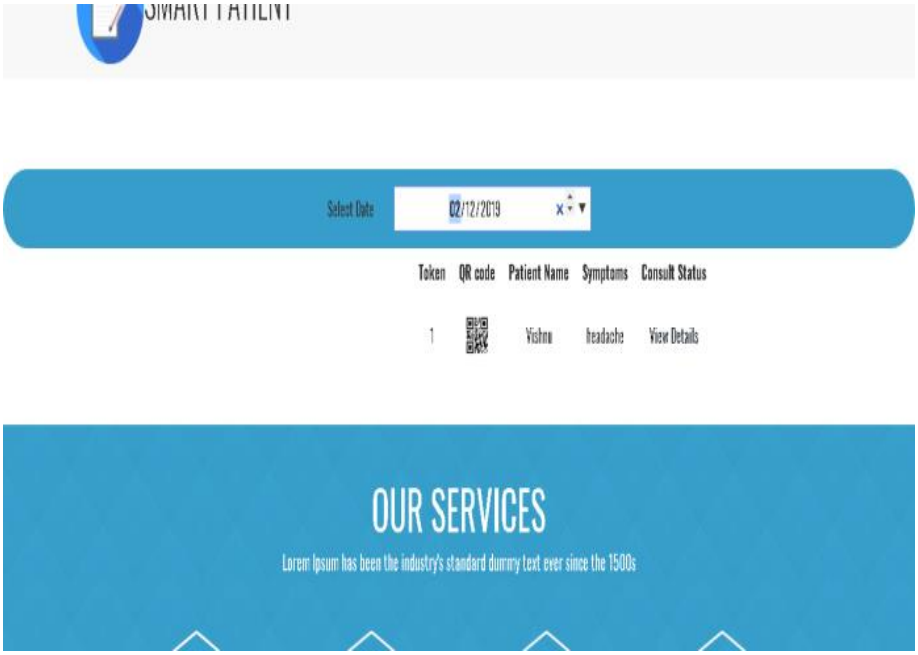
Doctor viewing Patient booked



Lab Test Registration page

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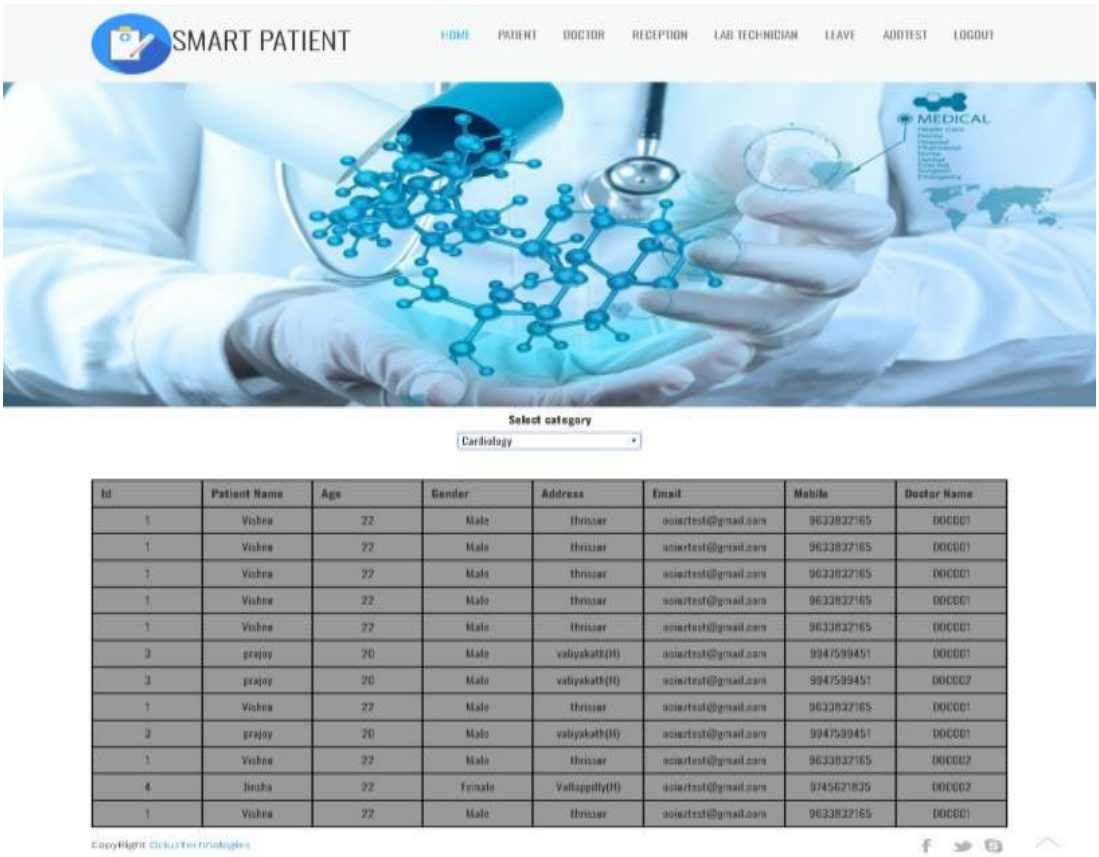
Doctor Registration

Hospital - Viewing Patients Registered There



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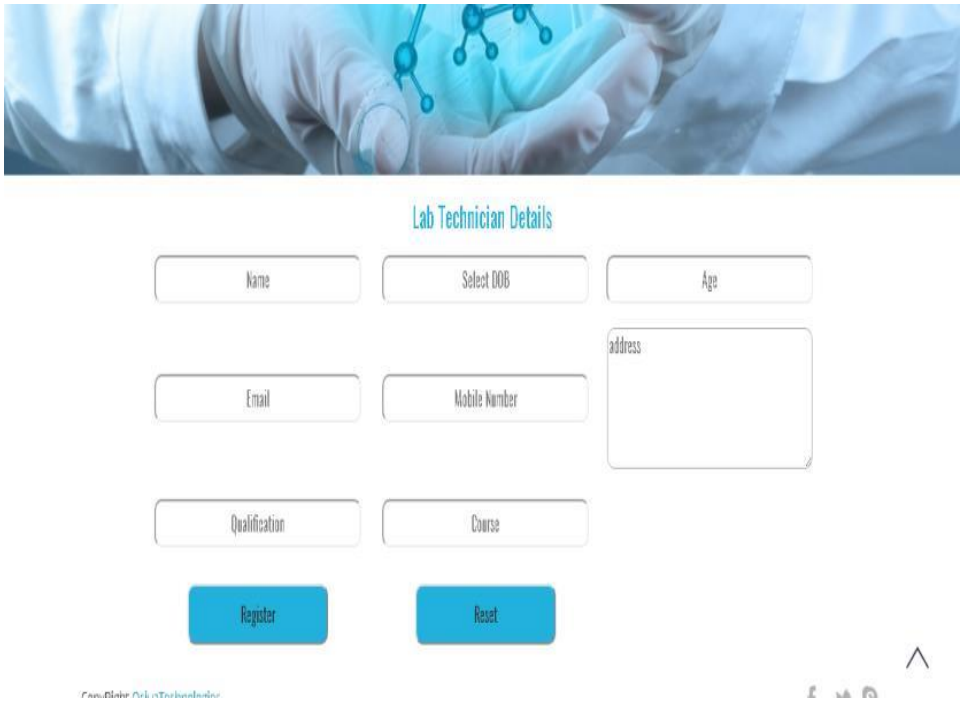
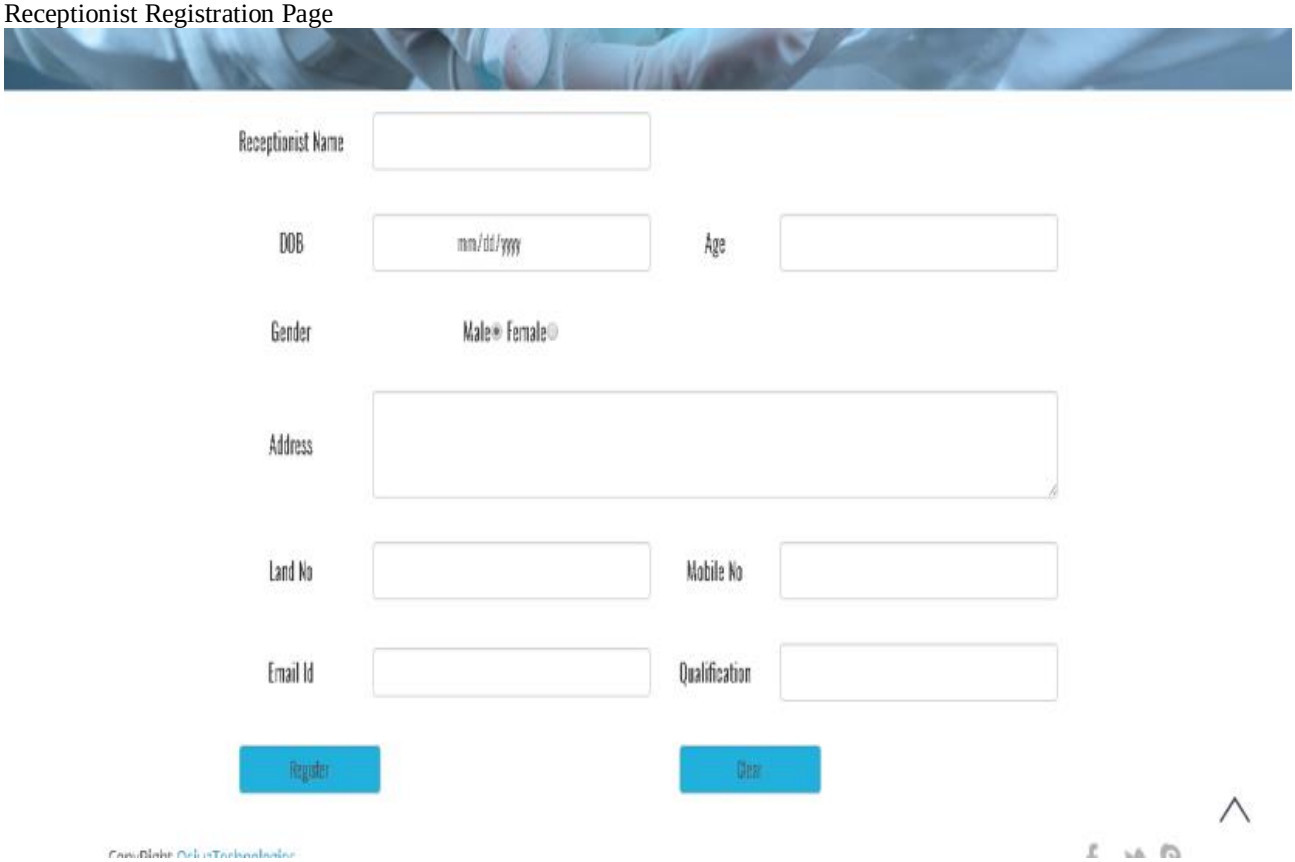
Lab Technician Registration Page



Receptionist Registration Page



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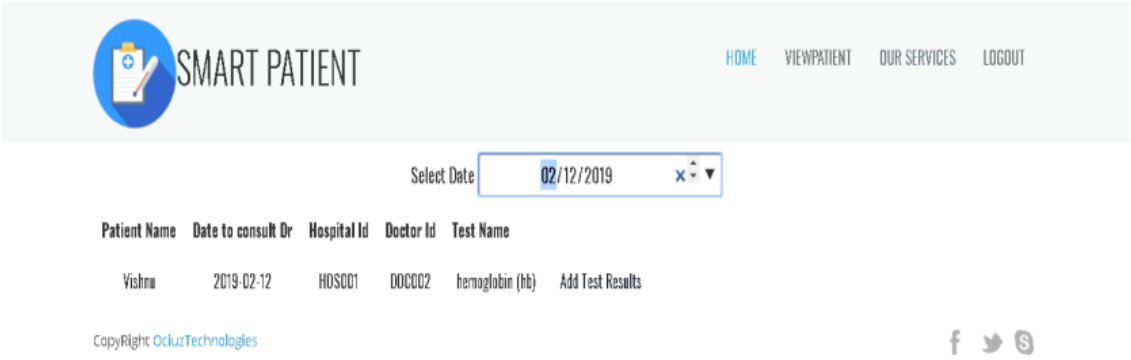
Lab Viewing Patient Prescribed For Test



Patient Booking A Doctor

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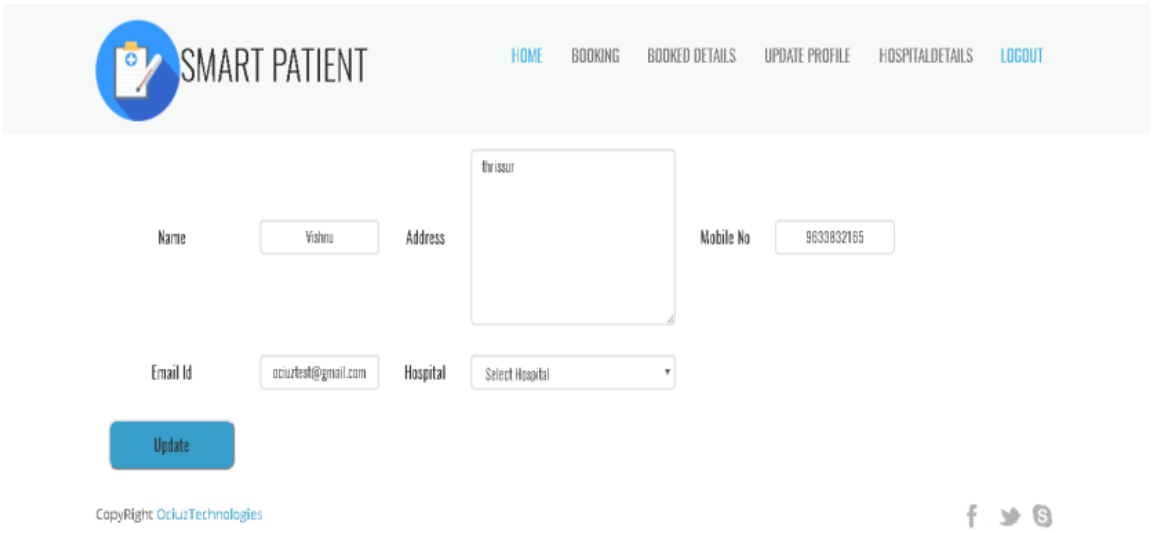
Patient can edit their profile



Receptionist Registering a Patient

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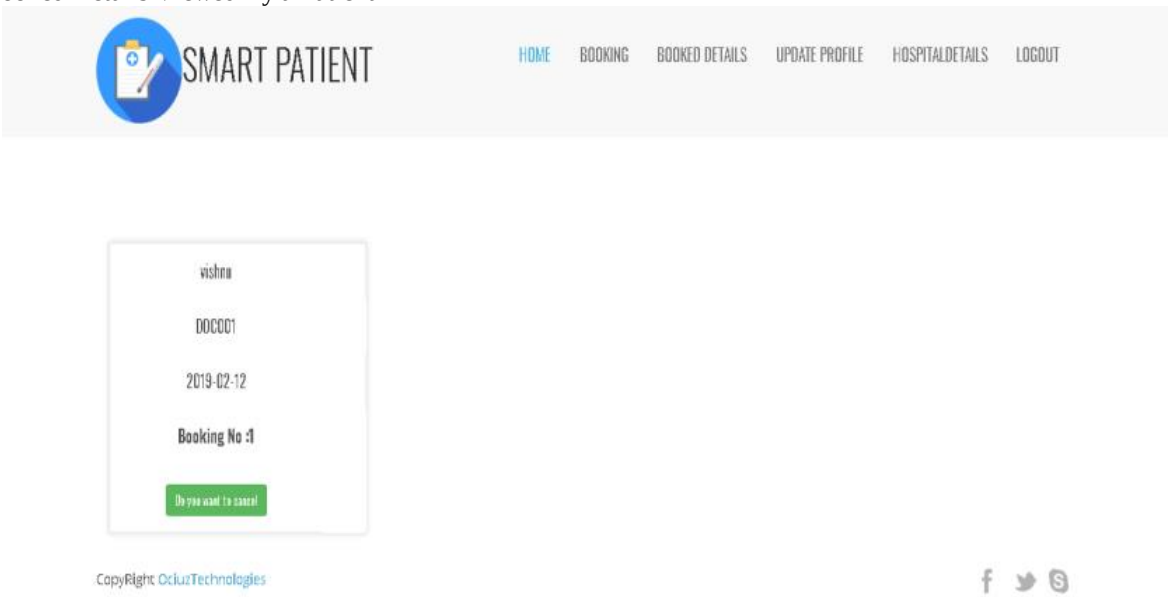
Booked Details Viewed By a Patient



Doctor's leave viewed by Receptionist

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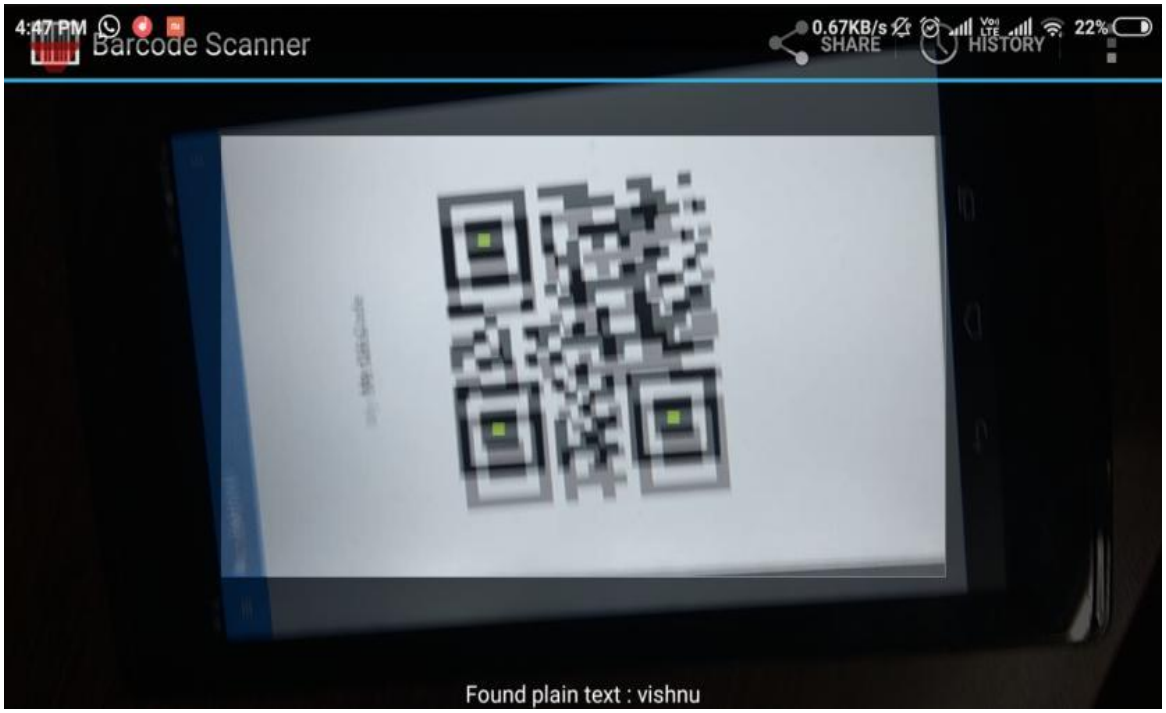
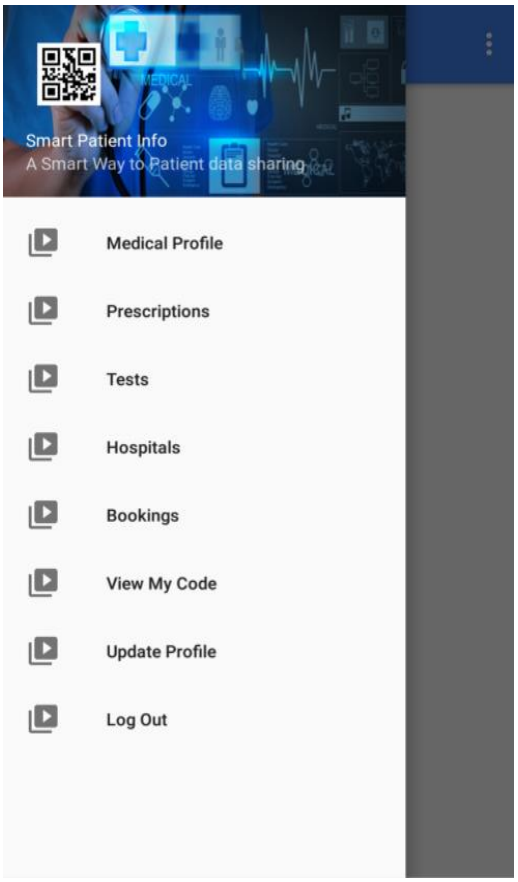
Scanning QR Code of Patient



Patient Page:
Patient's Home Page



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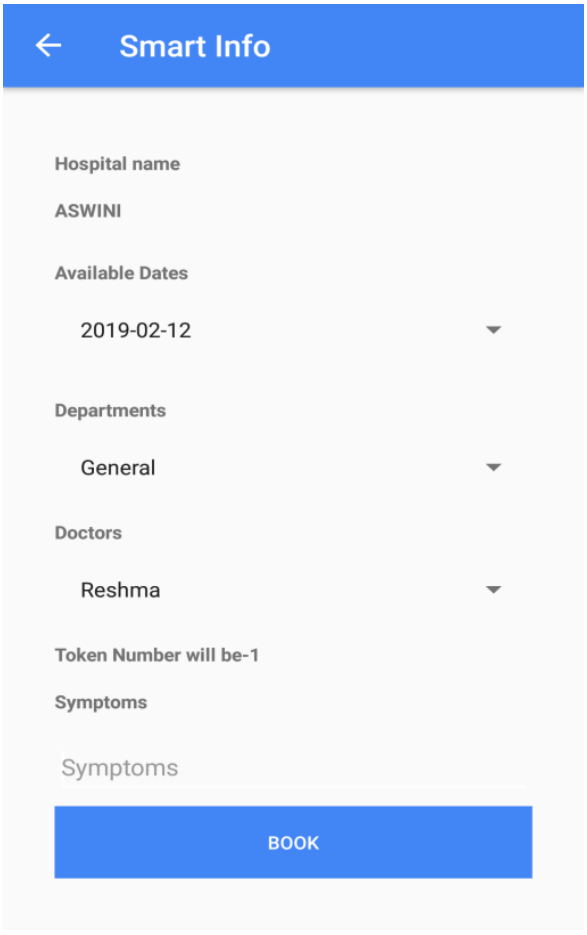
Patient's QR Code

Booking Page



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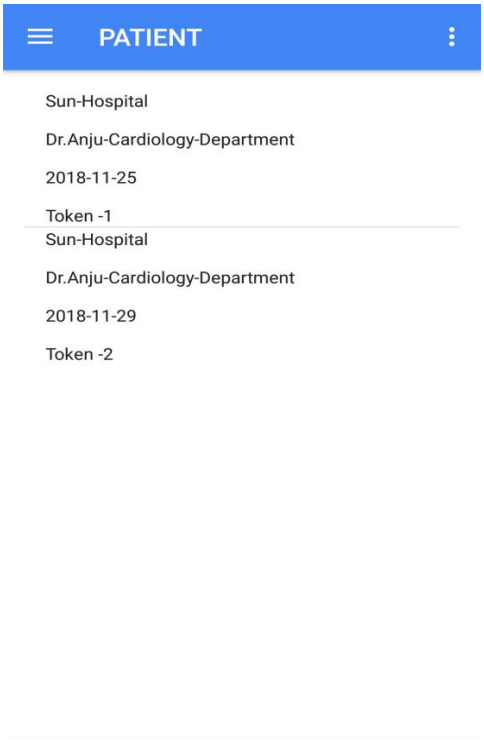
Booked Details



Viewing registered Hospitals

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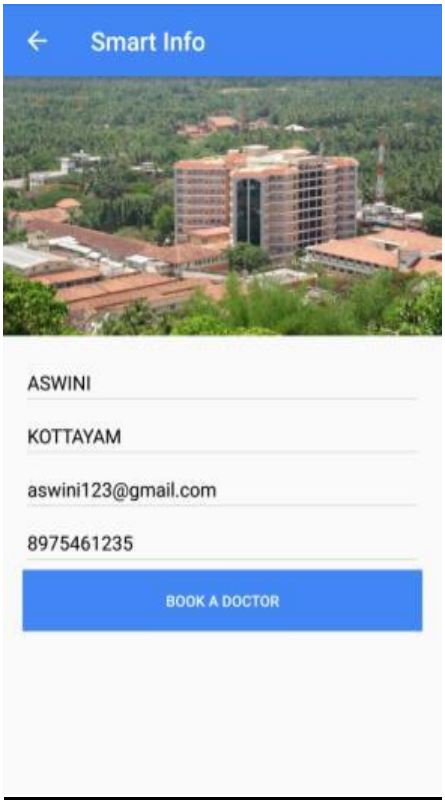
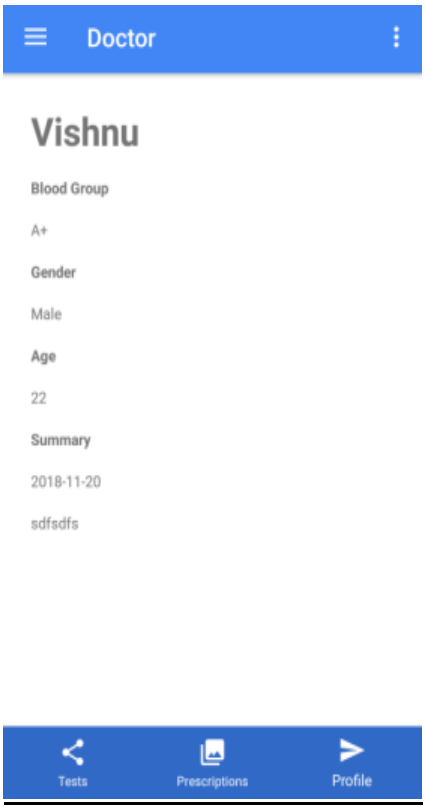
Viewing details of a Hospital



Doctor Page:
Patient Details viewed by the Doctor



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Prescriptions Viewed

Lab Test Page:

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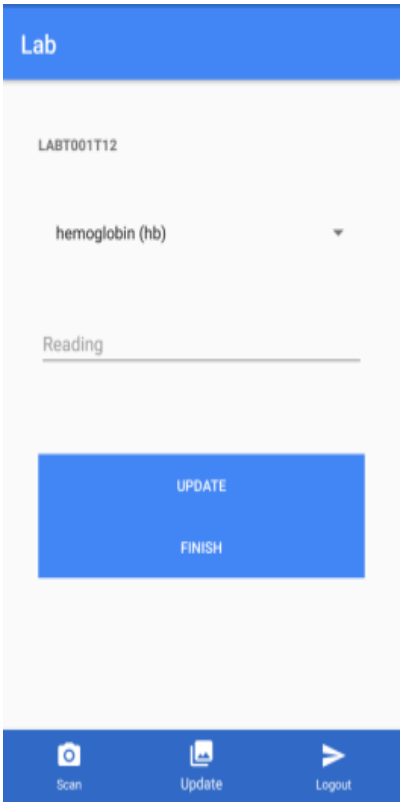
Lab test update page



CONCLUSION

The SMART PATIENT INFO is designed coherently to help the Patients and Doctors to view and edit the prescriptions and the medical history through Mobile and Website. The concept is to generalize Medical data recording in Digital form so that it can be accessed at ease from a mobile device. The system is equipped with high-level security using QR-Code scanning method to access the stored data.
The main advantage of recording and storing data in digital form is the flexibility and efficiency when accessing that data.
Also, data stored in the digital form can be shared among many entities, which helps in time as it is much faster. Both the website and the individual mobile application is very user-friendly to help easy communication with Admin or any other user, who is new to the Digital Environment.

SCOPE FOR FUTURE ENHANCEMENT

- Ambulance Booking from the Mobile app.
- Pharmacy trading
- Electronic- Payment(E-Payment)

BIBLIOGRAPHY

- Lynn Beighley, Head First SQL
- Roger Pressman, Software Engineering
- Michael Morrison, Head First Java Script Mark L.Murphy, Beginning Android 2
- Chris Haseman, Android Essential

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Websites
• www.wikipedia.com
• www.sourceforge.net
• www.javaranch.com
• www.w3schools.com
• www.webreference.com

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