VIRTUAL CLINIC

P20CAP2702 - MINI PROJECT REPORT

Submitted by

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Register No: 23MCA013

in partial fulfilment for the award of the degree

of

MASTER OF COMPUTER APPLICATIONS

in

COMPUTER APPLICATIONS

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Chennai)

June 2024

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Chennai)

COIMBATORE -641 049

Department of Computer Applications

MINI PROJECT WORK

June 2024

This is to certify that the project entitled

Virtual Clinic

is the bonafide record of project work done by

Franklin Immanuel N 23MCA013

of MCA (Computer Applications) during the year 2023-2025.

_____ _____

Project Guide **Head of the Department**

DECLARATION

I affirm that the project work titled **Virtual Clinic** being submitted in partial fulfilment for the award of Master of Computer Application is the original work carried out by me. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.

(Signature of the Candidate)

ABSTRACT

This project entitled "**Virtual Clinic**" is a cross platform web application developed using HTML, CSS, React, NodeJs and BlockChain,MongoDb Database. "Insightful Health Diagnosis Analyzer" revolutionizes healthcare analysis by seamlessly integrating web technologies with robust database management. Healthcare professionals can extract actionable insights from monthly and annual records through dynamic analysis and visualization, enhancing patient outcomes and medical decision-making.The virtual clinic aims to bridge the gap between patients and healthcare providers, ensuring timely access to high-quality care regardless of geographic location.This project endeavors to develop a comprehensive virtual clinic platform that seamlessly integrates telemedicine, remote monitoring, and digital health records.

Technology Used For:

Web App:

Frontend: HTML, CSS, React

Backend: NodeJs

IDE: Visual Studio Code

PROJECT DESCRIPTION

MODULE DESCRIPTION

- **LOGIN**
- **ADMIN PANEL**
- **DOCTOR PANEL**
- **PATIENT PANEL**
- **MEDICAL PANEL**

LOGIN MODULE

- Admin can login from the home page into the admin panel.
- Doctor can login from the home page into the Doctor's dashboard.
- Patient can login from the home page into the Patient dashboard.
- Medical Care can login from the home page into the Medical dashboard.

ADMIN PANEL

- Admin Can add the doctor and monitor the Appointments and maintain the records.

DOCTOR PANEL

- Doctor Appoint the patient and proceed medicines.\

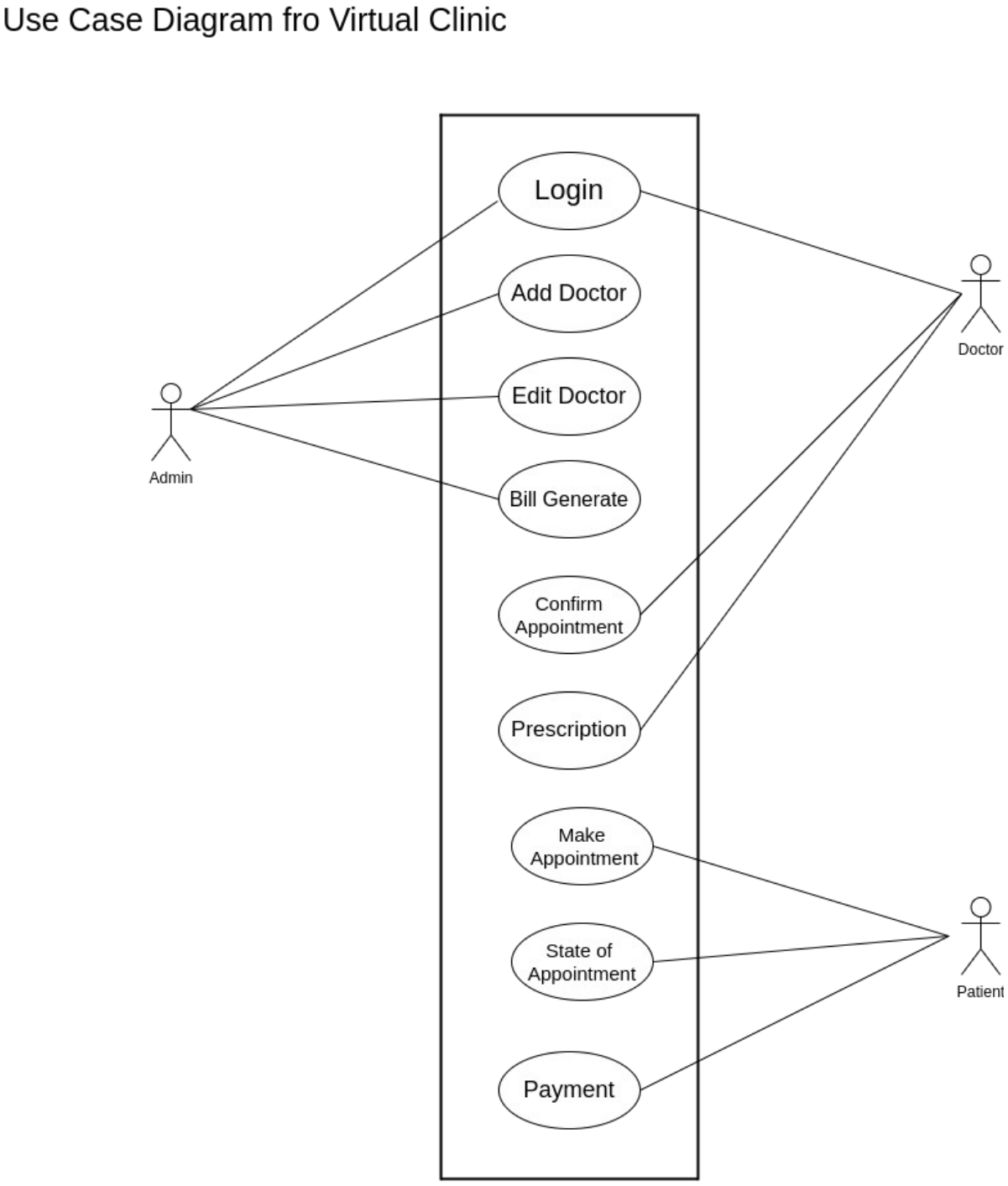
PATIENT PANEL

- Patient Select the doctor and fix the appointment.

MEDICAL PANEL

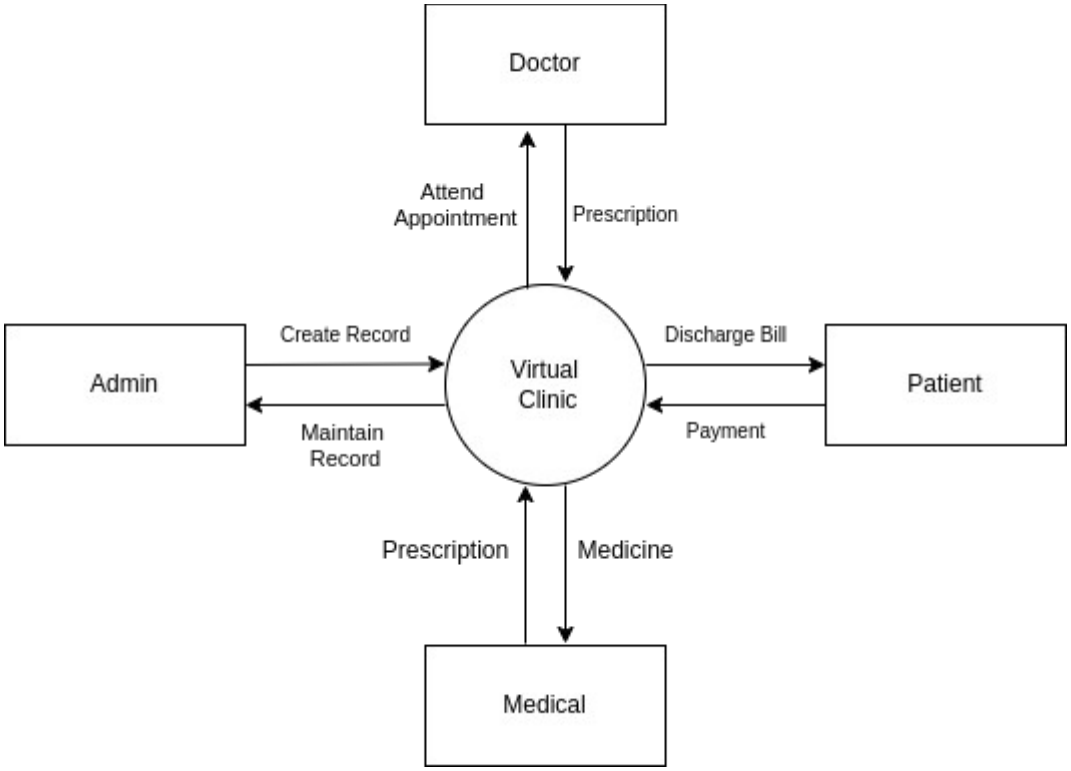
- Medical gives a medicine for the patient.

USE CASE DIAGRAM:

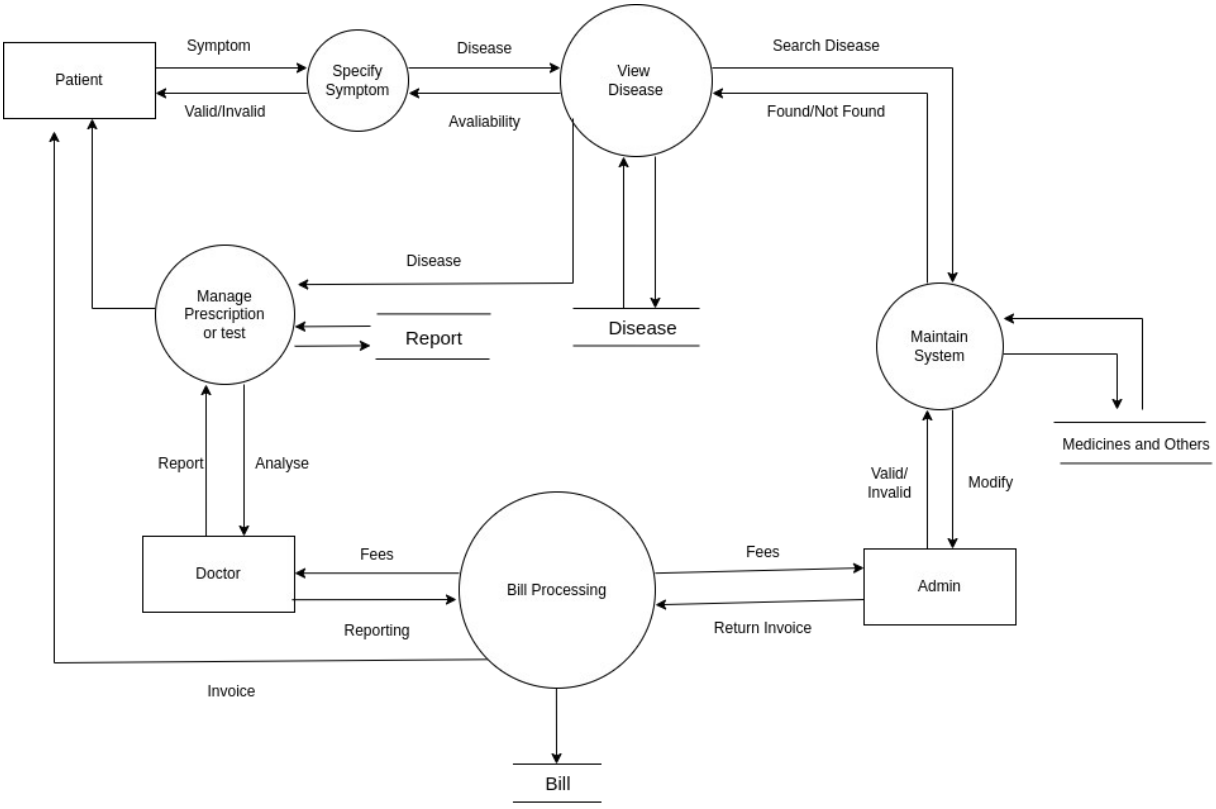


DATAFLOW DIAGRAM

LEVEL 0:



Level 1:



DATABASE DESIGN

TABLE NAME : Doctor Table

- TABLE DESCRIPTION : Details of the Doctor information
- PRIMARY KEY : doc_id

SNo	Field Name	Data Type	Size	Description
1	Doc_id	int	30	Unique identifier for the Doctor
2	Email	varchar	50	Email of the Doctor
3	Password	varchar	30	Password for the email

TABLE NAME : Patient Table

- TABLE DESCRIPTION : Details of the Patient information
- PRIMARY KEY : doc_id

SNo	Field Name	Data Type	Size	Description
1	pat_id	int	30	Unique identifier for the Patient
2	email	varchar	50	Email-address of the Patient
3	password	varchar	30	Password for the Patient
4	Disease	varchar	50	Patient Problem

TABLE NAME : Medical Table

• TABLE DESCRIPTION : Details of the Medical information

• PRIMARY KEY : med_id

SNo	Field Name	Data Type	Size	Description
1	med_id	int	30	Unique identifier for the Medical
2	email	varchar	50	Email-address of the Medical
3	password	varchar	30	Password for the Mdical

TABLE NAME : Medical Table

• TABLE DESCRIPTION : Details of the Medical information

• PRIMARY KEY : med_id

SNo	Field Name	Data Type	Size	Description
1	med_id	int	30	Unique identifier for the Medical
2	email	varchar	50	Email-address of the Medical
3	password	varchar	30	Password for the Mdical

FORM DESIGN

SCREENSHOT

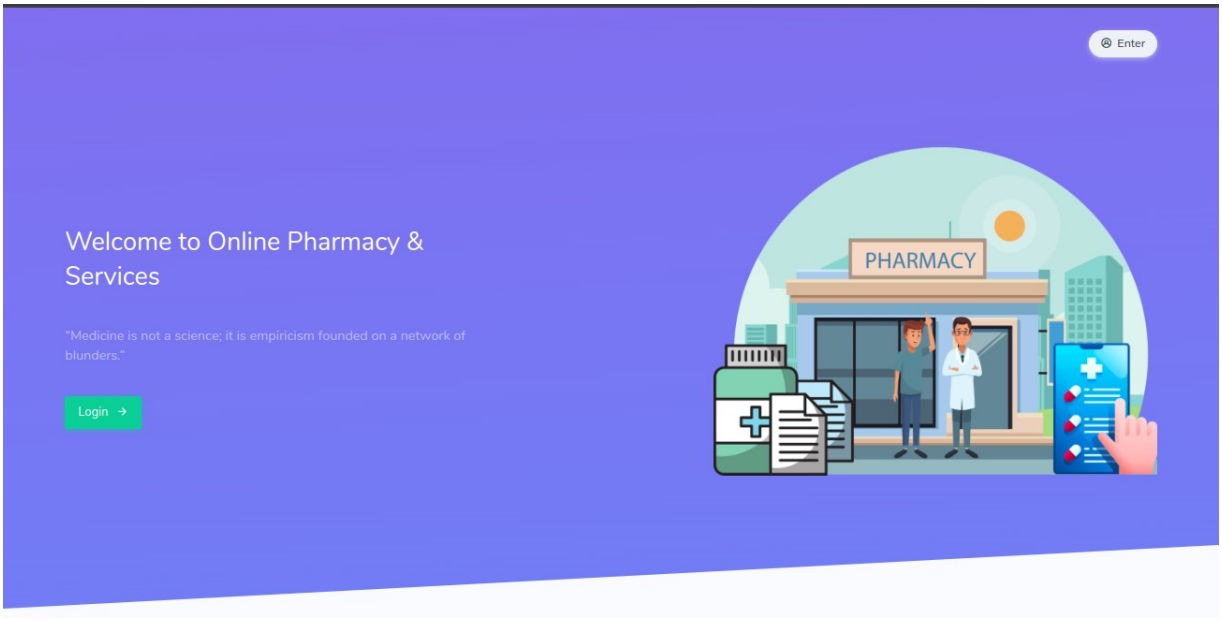


Fig 1 Home Page

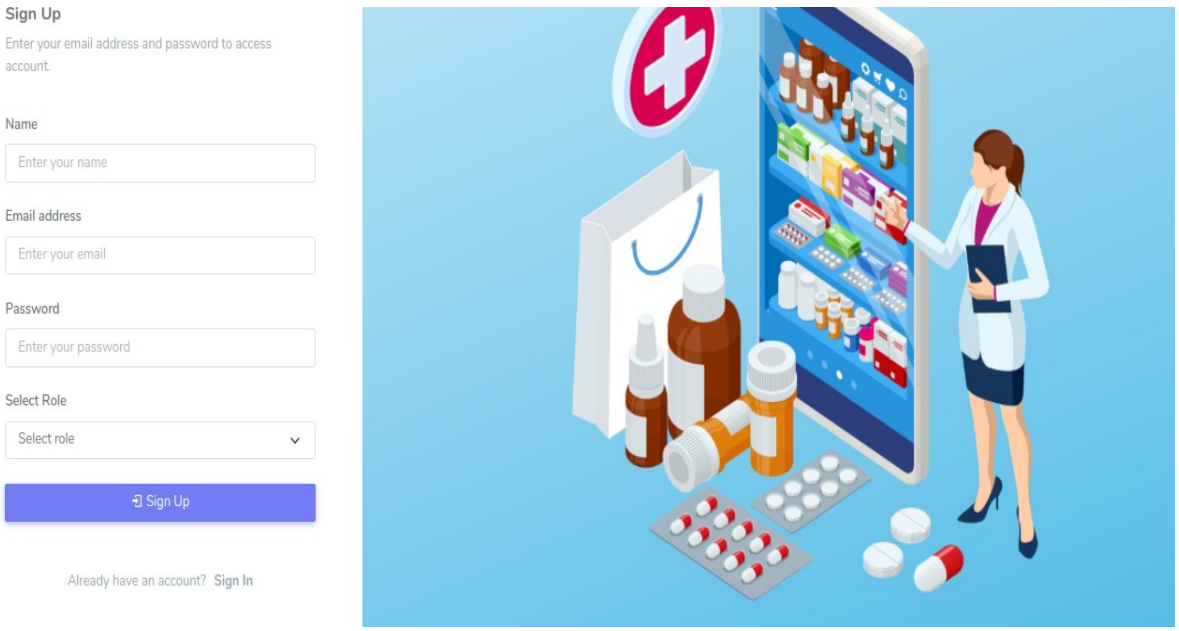


Fig 3 Registration page

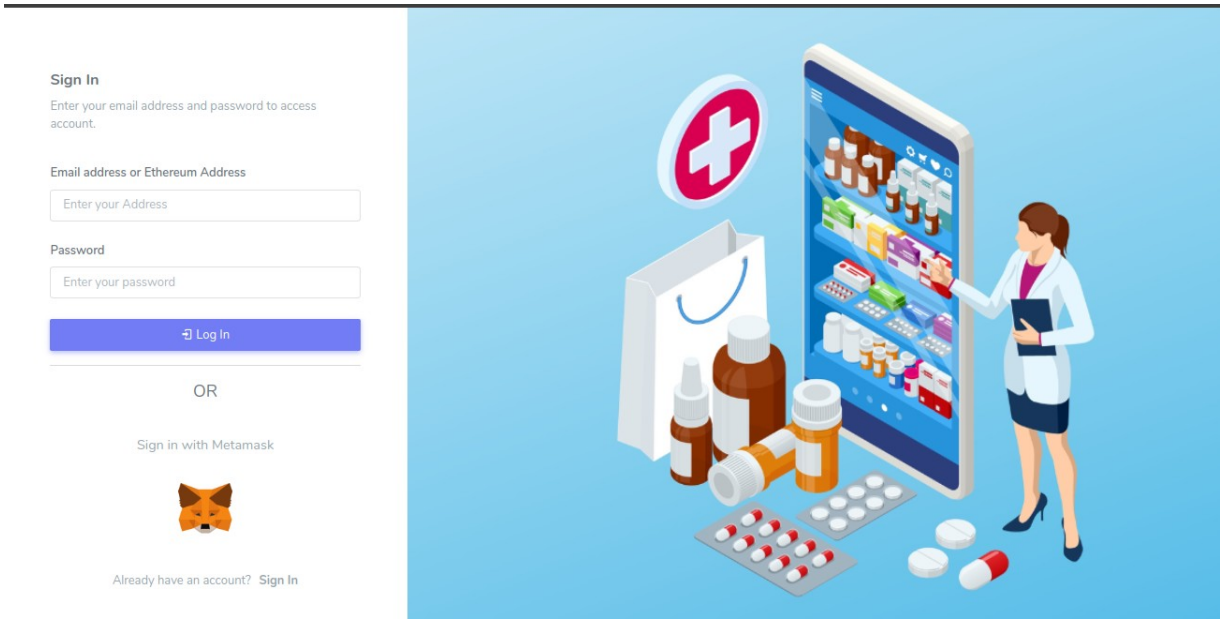


Fig 4 Admin Registration Page

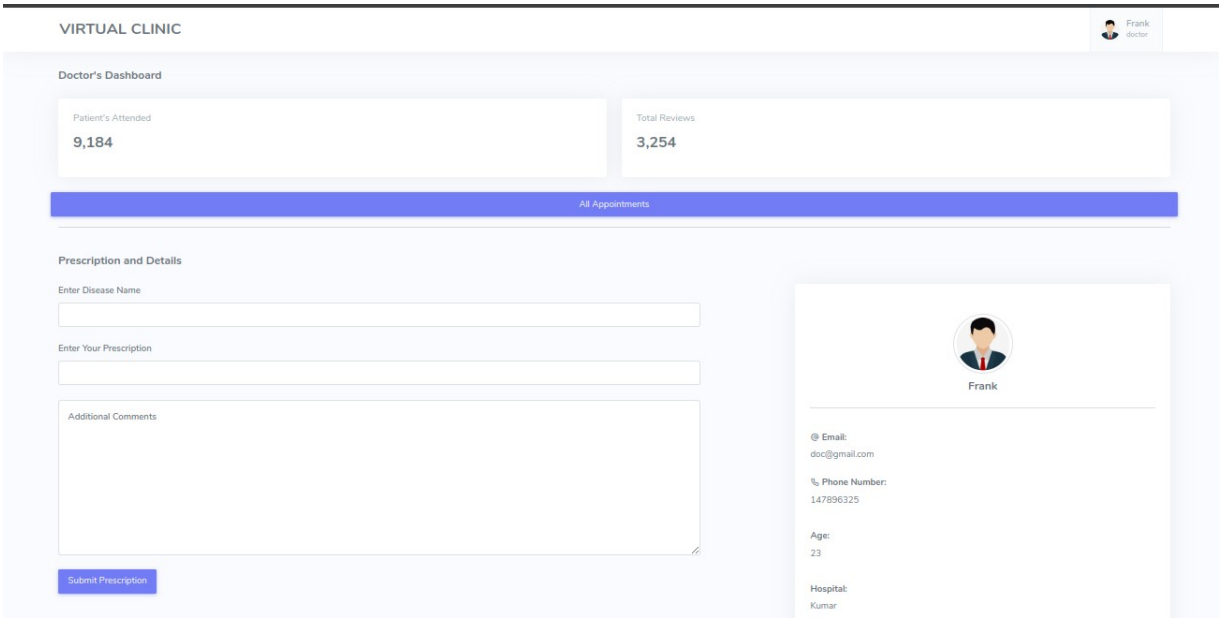
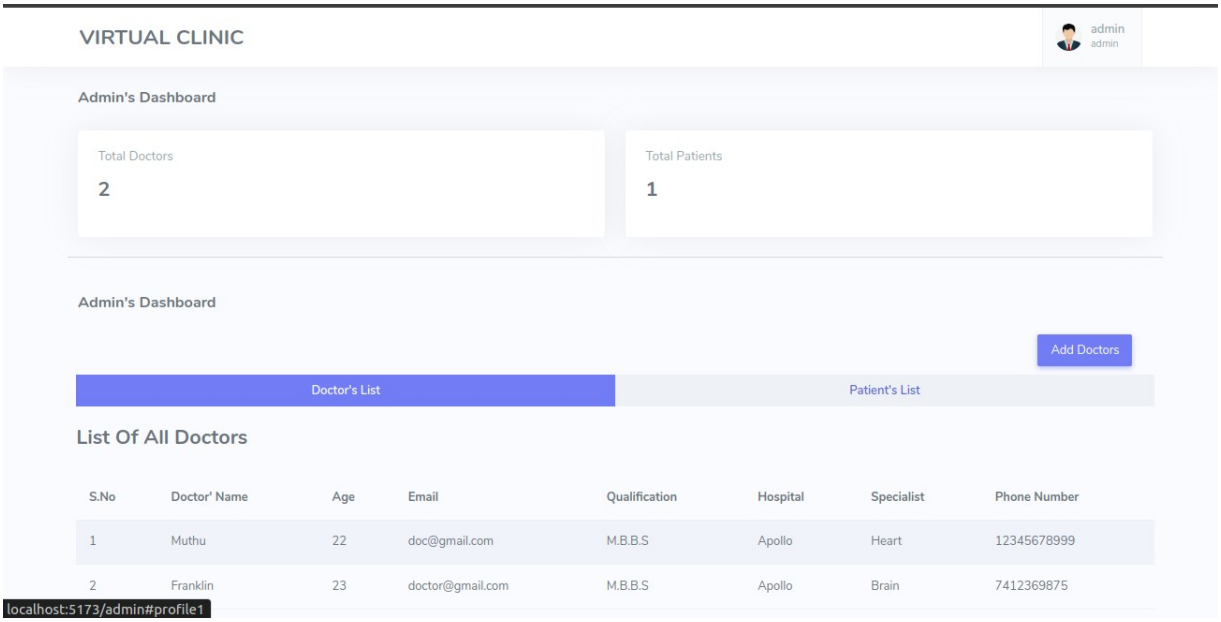
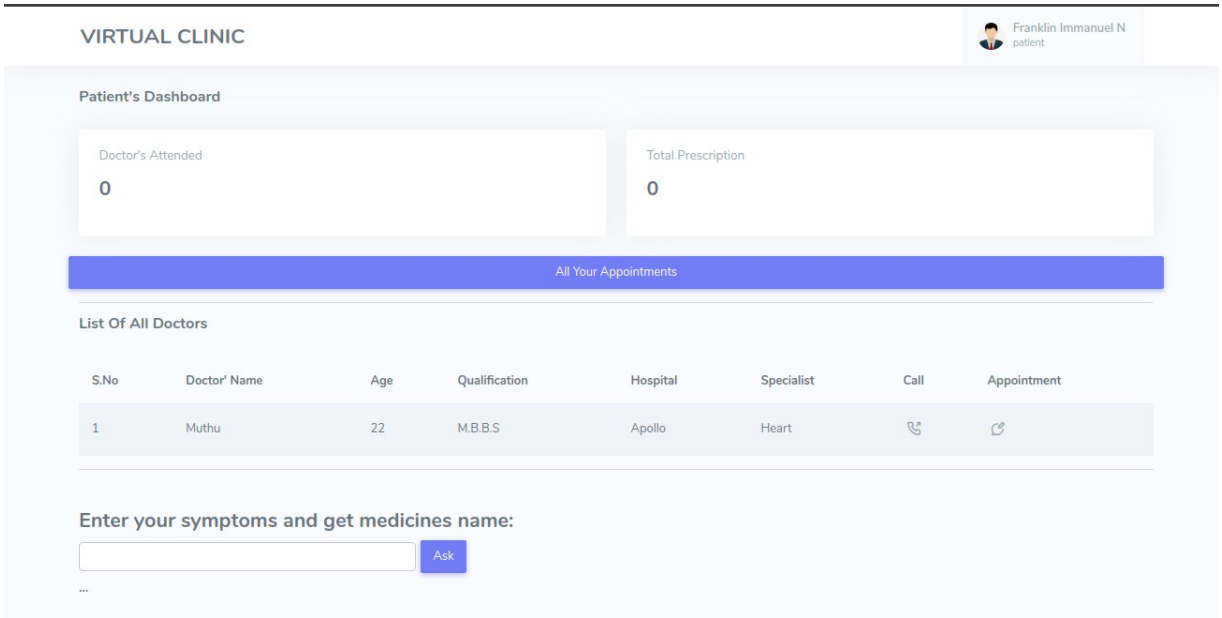


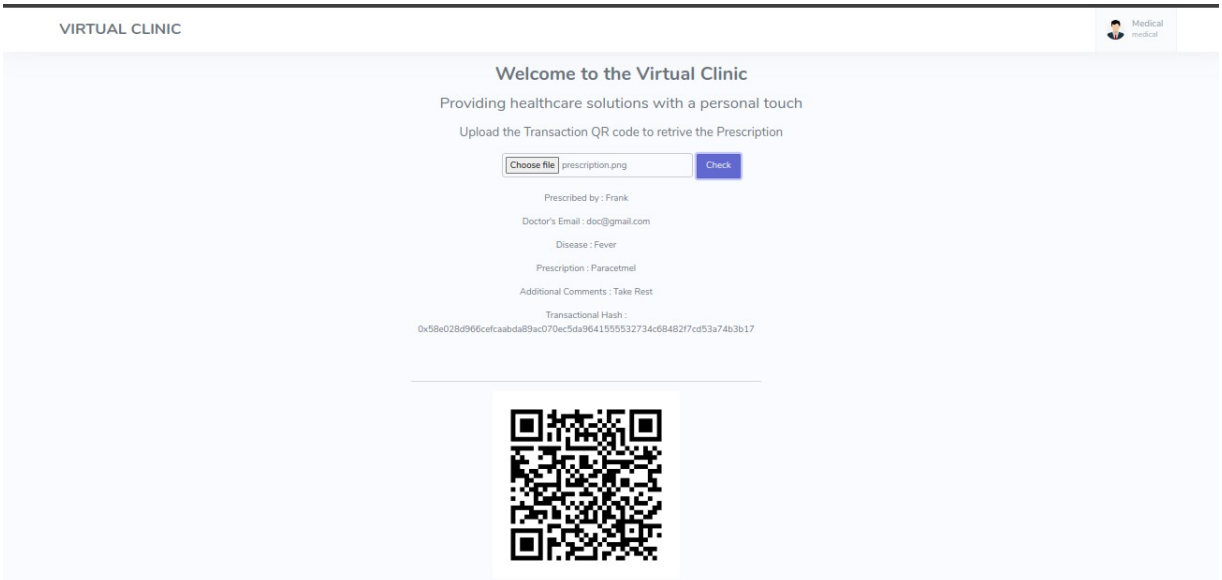
Fig 5: Doctor's Page



Admin Page



Patient Page



TESTING

PERFORMANCE TESTING

Each and every component of the "**Virtual Clinic**" web application went through each stage of the approached methodology. It was identified that each unit behaved differently as a single entity and differently when it was integrated with other units in respect of speed. The test environment of the application plays a crucial role on its performance. Moreover the technical specifications of the platform where the application is installed plays a major role.

SYSTEM TESTING

In system testing, integration testing passed components such as report issues, adding project, user registration, custom fields, and tags are taken as input. The system elements are tested. The environment and behaviour of the system and its elements is tested here. The administrator system fulfils the objective in efficient manner. The administrator deals the processes with less expectation of system resources and user friendly with the help of software which takes care of the system resources.

REGRESSION TESTING

Whenever a change in a software application is made, it is quite possible that other areas within the application have been affected by this change. Regression testing is performed to verify that a fixed bug hasn't resulted in another functionality or business rule violation. The intent of regression testing is to ensure that a change, such as a bug fix should not result in another fault being uncovered in the application. Our application **"Virtual Clinic**" is tested properly then and there whenever the bugs are being fixed, to ensure that it doesn't affect other modules.

UNIT TESTING

Unit testing is a level of software testing where individual units/components of software are tested. It is necessary to test each module by giving them different kind of inputs. This ensures the stability and consistency of the application.

TEST CASE ID	TEST DESCRIPTION	EXPECTED RESULT	ACTUAL RESULT	RESULT
T1	Login Check name and password	If name and password fields are correct	Redirect to Administrator login page	PASS
		If name and password fields are incorrect	Error message should be displayed	FAIL
TC002	Book Appointments	If internet connection is strong and the doctor is available	Appointment booked	PASS
		If non internet connection or adding and booking Doctor is unavailable	Appointment didn't booked	FAIL
TC003	Video Call	If internet connection is strong	Video call	Pass
		If non internet connection	No Video Call	Fail
TC004	Real Time Chatting	If internet connection is strong and Video Call is on going	Chatting	Pass

		If non internet connection	No Chatting	Fail

CONCLUSION AND FUTURE ENHANCEMENT

CONCLUSION

This Project is a user-friendly system, which is very easy and convenient to use. The system is complete in the sense that it is operational, and it is tested by Adding Doctors and Book Appointments in proper order. But there is always a scope for improvement and enhancement. During the development of this, coding standards are followed for easy maintainability and extensibility.

FUTURE ENCHANCEMENT

In the future the system will have the following enhancements,

- Develop dedicated mobile applications for iOS and Android platforms to provide patients and healthcare professionals with convenient access to clinic services on their smartphones and tablets.
- Implement AI-powered decision support systems to assist healthcare providers in diagnosing conditions, recommending treatment plans, and identifying potential drug interactions or adverse reactions based on patient data and medical knowledge.
- Provide support for multiple languages and ensure accessibility compliance to accommodate diverse patient populations and individuals with disabilities, improving inclusivity and usability of the virtual clinic platform.
- Enhance the patient portal with personalized health dashboards, self-service appointment scheduling, prescription refill requests, access to lab results and medical records, educational resources, and secure messaging functionality.