PROJECT REPORT

VIRTUAL HOSPITAL

Altruist Technologies Private Limited

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ABSTRACT

The interaction between patients and doctors comes with many hurdles right from the booking of an appointment to the meeting. And in this era of COVID-19, it has become all the more important to shift this to a virtual setup. Living in the post-covid era, the need for this ever more - a place where you can get diagnosed and get help without stepping out of the comfort of your house. A solution is needed where the interaction between patients and doctors becomes convenient and more organized, keeping in mind the problems and hassles one has to face while using any medical facility via hospitals. This report describes the Virtual Hospital project undertaken at Altruist Technologies Private Limited.

INTRODUCTION

The following document is a report of the project undertaken as part of a summer internship. It involved building a web application called the Virtual Hospital using HTML, CSS, Bootstrap, JavaScript, Spring Boot and MySQL. The system is created for usage by two types of users – doctors and patients. There are separate functionalities for both, and some common to both of them. The report begins with a brief outline of the implemented system. Next, the methodology and the results of the project are described. Finally, a conclusion is provided.

TECHNOLOGIES USED

BRIEF OUTLINE OF IMPLEMENTED SYSTEM

Virtual Hospital is a web application built to include features like appointment booking, prescription generation with **email** notifications, a document repository, a **WebSocket** enabled helpdesk along with **WebRTC** for video calls etc.

COMMON FUNCTIONALITIES

An Account Details tab for updating user details like photograph, bio, password, contact, address etc.

A WebRTC enabled meeting option to join for appointments. This is a common place where doctors and patients meet virtually for their appointments. It has been created using websocket enabled webRTC

A websocket enabled Helpdesk - A virtual reception for all queries, which acts like a group chat system wherein people can interact with one another and solve each other's queries about the portal or doctors.

Blood Donation registrations – A place wherein all users can register for donating blood at a particular date and time.

PATIENT FUNCTIONALITIES

Doctor appointment booking – A basic function wherein a patient books an appointment on a particular date for a particular doctor specifying their symptoms at the same time.

They can check appointment history and cancel appointments

Patients can add vitals relevant to their medical history – vitals like blood pressure and sugar can be noted and uploaded.

View prescriptions generated by doctors – After the appointment is completed, and the doctor has given a prescription, the patients can view them.

Upload medical history to database for future use – Patients can use this feature as a repository for all their medical files, reports, scans etc.

Look at all the doctors available – Patients can look at all the doctors available for consultation.

In-house pharmacy to place orders for prescriptions generated by doctors – Patients just have to choose the prescription number and specify if they want any medicine to be omitted and place the order.

Email notifications regarding appointment bookings, prescription generations and pharmacy orders

DOCTOR FUNCTIONALITIES

Appointment management system – doctors can view their appointment history and change its status (pending, completed, prescription generated)

Online prescription creation system – Doctors can create prescriptions online and the portal forwards them over to patients.

A tab to view all patients, their recent appointments, and their vitals

PROJECT

Github Link

Virtual Hospital

HOME   DASHBOARD-P   LOGOUT

Welcome, **Vanshika Agrawal**

Your Patient ID is - **27**

Your Account All your account details	**Book an Appointment** Patients can book online appointments with a specific doctor and can get prescription afterwards.	**Appointment History** Check your past and upcoming appointments here
Join for an Appointment Join your doctor for an appointment here	**Vitals** Add your vitals here-blood sugar, bp	**Helpdesk** A virtual reception for all patient queries.
Check Records Patients can upload check all their past records, tests here.	**Doctors** Take a look at all the doctors available	**Pharmacy** Takes you to our very own pharmacy
SOS Talk to certfied therapists 24x7	**Blood Donation** Register for blood donation here	

Virtual Hospital

Welcome, **Derek Shepherd**

Your Doctor ID is – **25**

Your Account

All your account details

Patients Appointment History

Check your past and upcoming booked appointments with patients here.

Join for an Appointment

Join your patient for an appointment here

Helpdesk

A virtual reception for all queries.

Patients

Look at all your patients, their followups and history.

SOS

Talk to certfied therapists 24x7

Blood Donation

Register for blood donation here

CONCLUSION

In a nutshell, this internship has been an excellent and rewarding experience. I can conclude that there has been a lot I've learnt from my work at Altruist Technologies.

Needless to say, the technical aspects of the work I've done are not flawless and could be improved over time. As someone with no prior experience with SpringBoot whatsoever I believe my time spent in research and discovering it was well worth it and contributed to finding an acceptable solution to build a fully functional web service. Other than building the Virtual Hospital web application, I also worked with Angular as a frontend framework. Two main things that I've learned are the importance of time-management skills and self-motivation.