Sushruta Samhita – A Web-Based Application

SAHIL SAKHAHARI DATE[1], SIDDHARTH AJITKUMAR BORA[2], UTKARSH SANJAY MAGAR[3],
SNEHAL DEEPAK KADAM[4], PROF. HRUSHIKESH JOSHI[5]

[1, 2, 3, 4, 5] *SCTR'S Pune Institute of Computer Technology, Pune*

Abstract- Sushruta-Samhita is a web-based platform developed in order to bridge the gap between doctor and patient. This platform provides great help when disease/patient's medical condition is not that severe. The objective is to build user friendly web application including a dashboard for patient and one for doctor. Also, to make the doctor-to-patient and patient-to-doctor communication as smooth as possible and to ease the search process for patients. Sushruta-Samhita is a full stack web app and the database can be used to train and test the ML model and thereby make a platform which can suggest the perfect doctor based on the symptoms. As a result of this platform the travel time for patients as well as doctors can be reduced by high rate and the patient would be able to find the perfect matched doctor determined by three priorities that is symptoms, specialization, and rating.

Indexed Terms- Online Appointment System (OAS), Healthcare, Scheduling, Automation Tools, WebApp, Doctor-Patient Communication

I. INTRODUCTION

Developed nations around the world are familiar with the online appointment booking system. It is a healthcare system that allows users to book doctor appointments over the internet using a web browser. Online medical appointment booking is becoming more and more popular due to its quickness and ease of use for customers. Life is getting busier to get in-person appointments and maintain proper health care. For this purpose, people need more time to go to the hospital and make an appointment. The main idea of this work is to bring ease and comfort to the patient in making appointment with the doctor and solve the problems in the process of booking that appointment. In an online appointment, the user goes to the website, chooses the date and time, makes an appointment with the doctor and all the data is kept by the database. The proposed project is an intelligent appointment scheduling system. The goal of this project is to create a doctor patient treatment management system that will help doctors in their work and also help patients to book doctor appointments and view medical progress. The system allows doctors to manage their booking slots online. Also, majority of times the appointment can be scheduled online on the 'Google Meet Platform'. The meet links would be Auto-Generated and send to doctor as well as patients also the schedules that will minimize the majority task of the doctor and thereby have a smooth communication between the doctor and patient.

Patients are allowed to book empty slots online and those slots are reserved in their name. The system manages the appointment data for multiple doctors for multiple date and times. Each time a user visits a doctor his/her medical entry is stored in the database by doctor. Next time when a user logs in he may view his/her entire medical history when needed. At the same time a doctor may view patient's past medical records while the patients visit him.

Online medical consultation allows the dissemination of specialized knowledge to the medical community through cutting-edge networks, journals, emergency medical advice during epidemics or crises among others. This is known for specialties like Gynecology and Dermatology, while other specialties like Mental Health, Pediatrics, Otolaryngology, Ophthalmology and Gastroenterology are all well known.

The "whiteboard" is an additional tool provided by this system, and this chart helps the physician to analyze and better visualize the actual disease and pain area. This whiteboard has all the body parts on the left side and the doctor can drag and drop the part and it also contains different colored pencils and erasers, each where the doctor can explain the conversation Artistically.

Motivation

- During COVID crisis and even after it the communication between a doctor and a patient is not smooth. There was a high need to maintain this communication. Also, the high queues in front of hospitals and clinics increases the risk of contagious diseases as well as the efficiency and waiting time of person rises.
- Selection of Doctor also is a big challenge, especially in cases where the patient is new to the city., So there was a need of highly efficient a correct doctor suggesting platform. Machine learning and Artificial intelligence have made it very convenient to design such product.
- Most of the times the symptoms are not that severe where the hospital visit is necessary and this travel time and energy can be saved by making this meet virtual. Thus, this project uses the platform of google-meet for such appointments
- A web-based platform to increase reach of doctors and the convenience of the patient. Thereby newly created hospitals and the doctors can get a good response to their hospitals
- On an average around 400-500 A3 sized papers are used in hospital on daily basis, which is very unhealthy for environment and this problem can be solved by maintaining records of patients in the virtual database
- Web-Apps with personalized white-boards are highly helpful and are not available in market. Thus, a full- fledged white board with a tool of paints and drag-able images of respective body part was a huge requirement of market.

Scope

- A full stack web app can be made and the database can be used to train and test the ML model and thereby make a platform which can suggest the perfect doctor based on the symptoms
- The prescription can be automated and can be ordered on one click and delivered to the patient
- Communication can be more enhanced by adding a white board with canva which will help doctors to explain the things in more visual manner

II. LITERATURE SURVEY

Digvijay et.al [1] Hospital administrators have developed software that is easy for users to understand, simple and quick to implement. This includes the collection of patient data and physician data. The system stores all data and retrieves it when needed. The hospital management system can be accessed with a username and password that administrator's access. Your data is secure and you need a hospital management system to store patient information, doctor information, staff, and more. So, this project will make your work easier and save you a lot of time.

Shafaq Malik et al. [2] When you want to see a doctor, you want to wait until the doctor is available before making an appointment. Became. The mobile application accepts appointments by saving a record of the appointment linked to the calendar. Users receive notifications based on preset times before appointments. This application is simple and user friendly. Here, administrators manage doctor and patient data.

IrinSherly. S et.al [3] online appointment and scheduling system is used where the patient has direct access to her website or her web application and is able to connect with a physician through an online software system. Patients can book an appointment at a time that is convenient for them. Patients can choose and book a cheap doctor. Online appointment and scheduling systems help save time for patients, doctors, and her office staff. Instead of going to the hospital, you can do it easily by using your computer to make an appointment. It can be frustrating for the patient. The advent of online booking systems has provided access to timeless and efficient medical services. With this smart application you can get emergency doctor appointments. Here people can choose doctors and nearby hospitals. This booking is easy to get on your mobile phone and save your time with this smart application.

Godphrey G. Kyambille and Khamisi Kalegele [5] Appointment scheduling systems are time mobile applications are used. A mobile-based application enables 24-hour on-call for convenient patient scheduling. Patience can be achieved within a certain

amount of time to see a doctor instead of waiting longer. is wasting.

Adebayo Peter Idowu et .al [6] many patients will loss the doctor appointments and it waste patient time. Today, in this modern and leading society, you can get a doctor's appointment through an online appointment system. With this application, you can choose your own doctor. This application allows you to get details about doctors and hospitals. This allows patients to manage their own appointments. The schedule will be announced by SMS/E- MAIL. This type of feature reduces wasted appointments. In an emergency, you can easily make an appointment. Saves patient and doctor time.

Nazia S. and her EktaSarda [7] show that an online appointment system is one that allows patients to easily access her website and make an appointment. In this way, the patient can provide the doctor with additional information upon arrival, giving the doctor time to prepare the necessary information.

III. PROPOSED METHODOLOGY

In this project Patient first have to register himself with the register page thereafter as to visit the login page into the login page account login and if you already have the account has to directly login once he logs into the account the patient will get the page where he can add up all the symptoms and his personal details which includes name phone number address and various other information's there after the patient has to select the symptoms and once you select the same time he get the popup window where you can select the kind of doctor he want the machine learning model will pick the best doctors based on his symptoms and the doctor would be suggested and once the patient select the doctor appointment get scheduled the request is sent to the doctor and once the request is sent to the doctor whenever a doctor has to schedule an appointment he can schedule it and once the schedule is fixed out mail will be sent to both patients and doctor about the schedule and a meeting link into it and on the time of the appointment the patient and doctor has to join the meeting link and their the process begins once the meeting doctor will get the popup window and we can resize the doctor and have a prescription this prescription would be sent via mail to the patient. During the appointment there is an extra advantage to this platform that is a white board where the doctor can easily explain the symptoms are the problems in the organ of the patient via the white board we created Into the White what the extra functionalities are the doctor can pick up any image or drag and drop into the whiteboard and use the pencil of various colors and even the eraser to explain in-depth what actually the problem is that the patient can visualize and analyze his actual problem and why he is facing it. Below is the diagrams based on them.

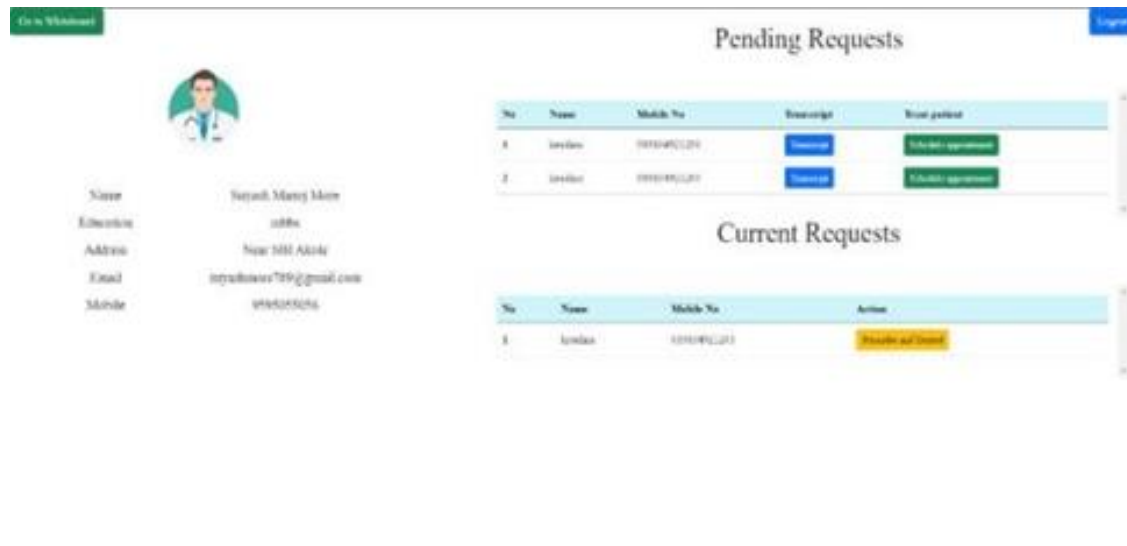
Fig: Patient Dashboard

Fig: Doctor Dashboard

Fig: Doctor Dashboard
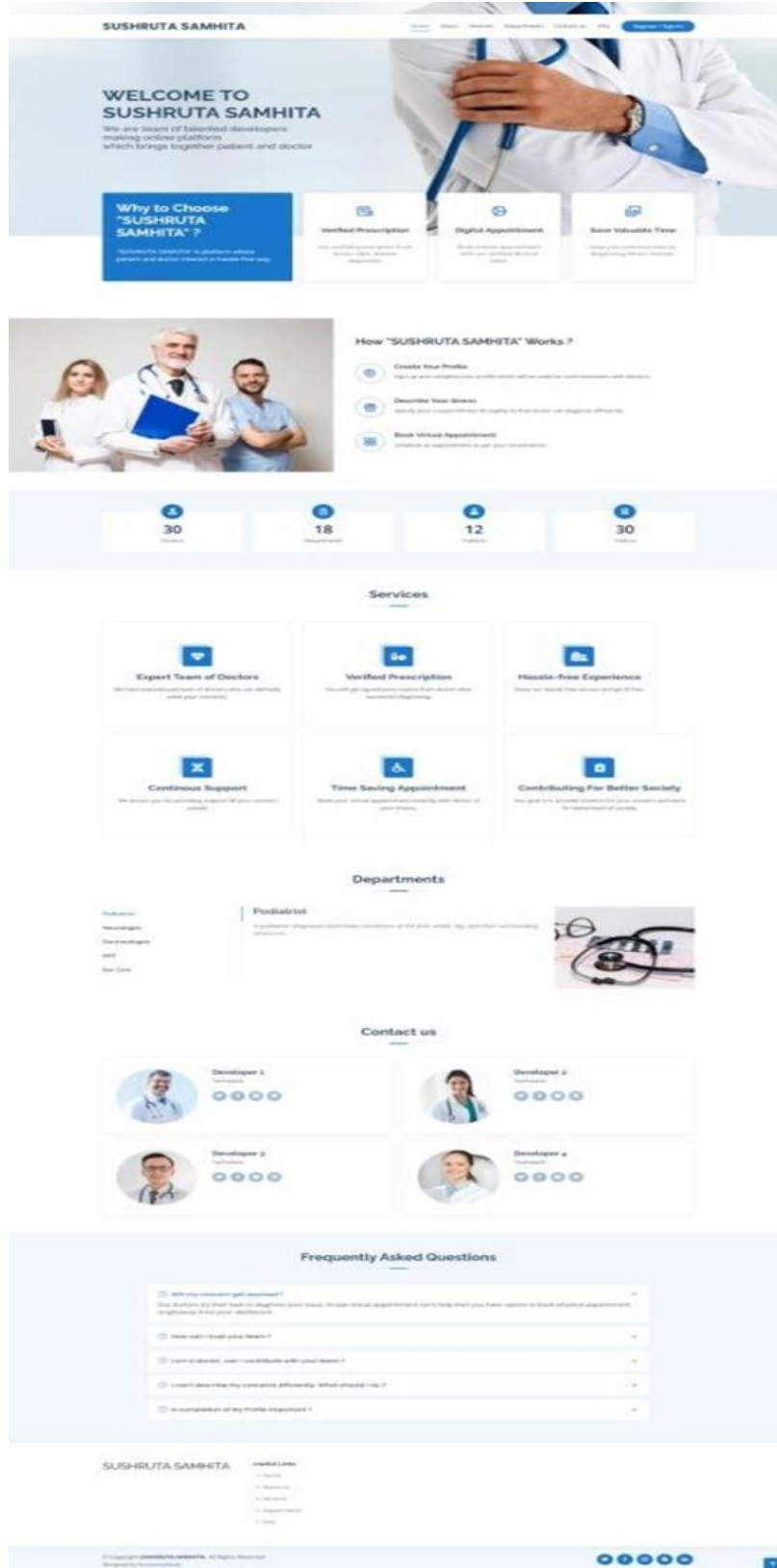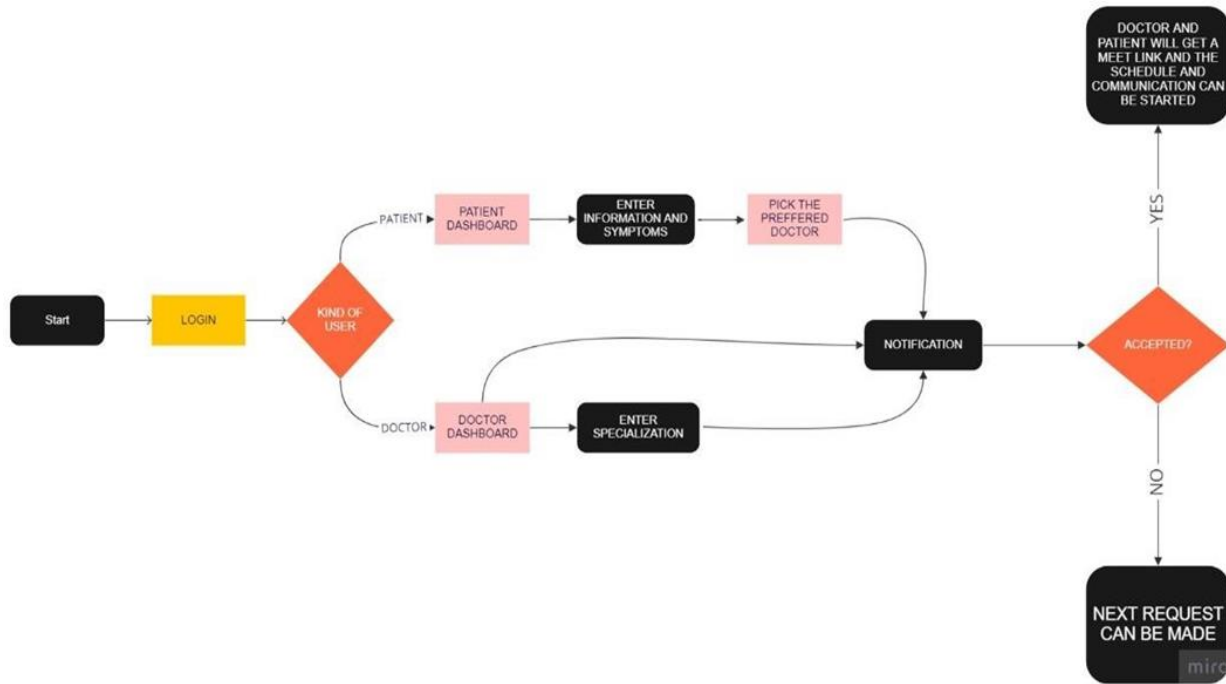
Fig: White Board

Fig: Home Page

System Architecture

CONCLUSION

Our clinic has introduced an online medical appointment system, so there is no need to physically go to the hospital and you can make an appointment in a few minutes. We know that time is money and people struggle with a variety of health issues on a daily basis, so our system makes it super quick and easy to book a doctor's appointment. This is the main advantage. Even physical handling of previous recordings has become difficult these days, so no data is lost with online projects. Online appointment systems can be a very good technology for consumers to see a doctor, make an appointment and obtain a prescription if needed.

REFERENCES

[1] Digvijay H. Gadhari,Yadnyesh P. Kadam,Prof. Parineeta Suman,"Hospital Management System" ,IJREAM, Vol-01, Issue 11, FEB 2016.

[2] Shafaq Malik,Nargis Bibi,Sehrish Khan,Razia Sultana, Sadaf Abdul Rauf,"Mr.Doc: A Doctor Appointment Application System". International Journal of Computer Science and Information Security, 14(12):452-460 • December 2016.

[3] Irin Sherly. S, Mahalakshmi. A, Menaka. D, Sujatha. R," Online Appointment Reservation and Scheduling for Healthcare- A Detailed Study", International Journal of Innovative Research in Computer and Communication Engineering, Vol. 4, Issue 2, February 2016.

[4] Maryam Tufail,"Online Polyclinic Appointment and Database Management System ", Master's thesis 43 pages, appendices 1 page, August 2018.

[5] Godphrey G. Kyambille, Khamisi Kalegele, "Enhancing Patient Appointments Scheduling that Uses Mobile Technology", IJCSIS, Vol. 13, No. 11, November 2015.

[6] Adebayo Peter Idowu, Olajide Olusegun Adeosun, and Kehinde Oladipo Williams, "Dependable Online Appointment Booking System for Nhis Outpatient inNigerian Teaching Hospitals" IJCSIT Vol 6, No 4, August 2014.

[7] Nazia S, EktaSarda," Online Appointment Scheduling System for Hospitals–An Analytical Study", IJIET, Vol. 4 Issue 1 August 2014