



MediConnect: Hospital Patient Medical Records Management Web-App

Suchitha Y M
2019IISE0168
Dept. of ISE
Presidency
University
Bangalore-64 India

Poornima N
2019IISE0122
Dept. of ISE
Presidency
University
Bangalore-64 India

Madhurya C
2019IISE0088
Dept. of ISE
Presidency
University
Bangalore – 64 India

Tharun Gowda H J
2019IISE0181
Dept. of ISE
Presidency
University
Bangalore– 64 India

Dhanyatha R
2019IISE0045
Dept. of ISE
Presidency University
Bangalore– 64 India

Ms. Dhanya D
Associate Professor
School of CSE
Presidency University
Bangalore – 64 India

Mr. Amarnath J L
Associate Professor
School of CSE
Presidency University
Bangalore – 64 India

Date of Submission: 11-05-2023

Date of Acceptance: 23-05-2023

ABSTRACT

In this paper, the proposed plan is a smart appointment booking system that allows patients or any user to book a doctor's appointment online in a simple and convenient manner. This is a web-based application that solves the problem of maintaining and arranging appointments depending on the user's preferences or requirements. It can be time-consuming for the compounder or specialist to manually schedule appointments for users according to their availability. As a result, this project provides an efficient solution in which the user may examine available booking slots and select the ideal date and time. The already reserved area will be labelled yellow and will be unavailable to others for the duration of the reservation. The algorithm also calculates a doctor's monthly earnings. The doctor only needs to feed the system on a regular basis with daily earnings, and the system will automatically compile a report of total earnings at the close of the month. The goal is to automate its current manual process with the use of computerised equipment and a complete software, meeting their specifications, so that their vital data and information can be saved for a longer length of time with easy access and manipulation of the same. Essentially, the project defines how to manage for high performance and better customer service.

Keywords: Web-app, Python, Django, Angular JS, HTML, CSS

I. INTRODUCTION

The Patient and Medical Records information initiative, aimed to allow healthcare professionals such as physicians and nurses employed by hospitals access to the medical records of patients virtually on any mobile device. ICTs have the potential for enhancing health in all nations by improving availability of medical knowledge and making medical facilities more

efficient. Apps for mobile devices (apps) and related technologies can also increase service quality while lowering costs [1]. This web application supports the virtualization and consolidation of patient information, thereby enhancing the accessibility, accuracy, and trustworthiness of medical data across a medical facility or healthcare organisation. The major goal



of this web app is to streamline healthcare professionals' workflow by guaranteeing that patient information is accessible, easily searchable, and quickly retrievable when needed. It provides an easy-to-use platform for physicians to provide, update, and retrieve patient information, such as private information, health information, laboratory findings, evaluations, therapies, and medications. The web-app changes patient medical record management by providing healthcare workers with

a safe and efficient platform for storing, accessing, and updating patient information. It boosts care quality, increases workflow efficiency, and encourages improved communication among healthcare professionals. However, following these steps should provide you with an excellent foundation for constructing such a system in the languages Python, Django, AngularJS, HTML, and CSS [2].

II. OBJECTIVES

(a) The main goal is to move away from medical documentation on paper and towards digital records maintained in a centralised database. This allows for easy access, effective management, and a reduction in the need for physical storage. (b) Enhancing the web app's goal is to give healthcare personnel rapid access to medical information about patients from anywhere in the medical centre or even remotely. This allows for speedier decision-making, greater care coordination, and improved patient outcomes [3]. (c) The web app contributes to the accuracy and consistency of medical records by reducing the manual entry of information and adding data validation tests. This decreases the possibility of errors and guarantees that healthcare professionals have access to accurate information. (d) The web app aims to streamline and automate administrative processes such as scheduling appointments, managing

medications, and testing facility integration. This increases the productivity of healthcare professionals, allowing them to concentrate more on providing care to patients. (e) The online tool enables smooth collaboration and communication across healthcare teams. It enables several authorised individuals to access and edit patient records at the same time, facilitating efficient communication and information sharing. (f) A critical goal is to put strong security mechanisms in place to secure patient data. To ensure safety and comply with data privacy requirements, the web app should feature authentication systems, controls on access, and encryption techniques. (g) The web app should be able to integrate with additional hospital systems such as billing, pharmacy, and laboratory systems. This enables smooth data transmission, avoids duplicate data entry, and enhances overall workflow efficiency [4].

III. LITERATURE REVIEW

The reference paper's, describe a collaboration system for doctor-patient communication. It has an outstanding administration with many nodes via which patients and healthcare providers interact. The medical centre's server nodes are easily accessible to the patients. Patients are able to discuss their symptoms with the doctors here. Physicians are able to list and follow their geographically distributed patients and offer necessary diagnoses [5]. Proposing a new system that allows people to quickly make appointments online and doctors to view and manage them. Patients arrange appointments online based on the doctor's availability and their time constraints. Doctors, on

the other hand, can either increase or decrease their working hours based on the number of patients who arrive that day. Furthermore, the probable time of arrival for those in need is calculated and communicated to the recorded number. Scalability and adaptability should be considered when designing the web app [6]. It should be able to handle an increasing amount of individual patient data, enable future upgrades, and adapt to changing healthcare legislation and standards. Patients can use the web app to view their own medical records, make appointments, obtain prescription refills, and contact healthcare providers. This enables people to take an active role in their journey with health care [7].



IV. EXISTING SYSTEM

An electronic health record system could be the current structure for a hospital patient healthcare information web app. EHR systems are commonly used in healthcare organisations to electronically manage and maintain patient medical records. These technologies lay the groundwork for efficiently acquiring, storing, and recovering patient health information. The system saves patient demographic data such as age, gender, name, contact information, and insurance information. To keep detailed medical records on patients, including previous diagnoses, operations, allergies, medications, immunisations, and the medical history of relatives [8]. The system enables healthcare personnel to record clinical notes such as notes on progress, consultation notes, and summary discharges, resulting in a comprehensive record of all interactions with patients. Interface with information systems in laboratories to capture and show lab test results such as laboratory tests, neuroimaging reports, pathological results, and

other types of diagnostic procedures. To aid the management of medication by capturing prescribed medications, dosing guidelines, medication allergies, and maintaining medication records, including renewals and administration data [9]. Medical professionals can order tests, treatments, and prescriptions straight from the system. The outcomes are received and kept electronically for convenient access and reference. These systems frequently contain decision support features, such as interactions alerts, medical recommendations, and reminders, to aid medical personnel in making knowledgeable choices during patient care. The system enables healthcare providers to set up and handle patient appointments, assess their availability, and send reminders for meetings to patients. Limitations of Existing System: (a) Unresponsive, (b) High Maintenance, (c) Time Consuming, Expensive, (d) Inaccurate, (e) Slow server, (f) Insecure systems [10].

V. PROPOSED SYSTEM

The proposed system is divided into two separate panels: doctors and patients. Users must first download and install the software on their mobile devices. Once installed, this programme will remain on the device until the individual deletes or uninstalls it. For the first time, the patient must sign up for the application. The patient will be assigned a password and user name upon registration. The patient may use this password and user name to log into the application each time he needs it. After checking in, the patient must select the filtration type. The process of purification is done in two ways: by area and by specialty. The list of doctors will be presented when you select the filter type. The patient can view the profile of any doctor he or she chooses. In addition, the patient can examine the doctor's calendar and make an appointment at his leisure. The patient will then submit an appointment request. The doctor can accept or decline the appointment. The database will be updated, and the patient will receive a confirmation message. Patients are going to get an alert two hours before the appointment as an added benefit of this approach. This will come in handy if the patient has a habit of forgetting appointments. Direct waiting time is the amount of time it takes for a patient to wait from the time they are scheduled to receive the service. The doctor wishes

to exert some control over the craziness that is the number of patient consultations in an entire day and the combination of consultations on any particular day. These factors can affect their salary and their level of job satisfaction. The hospital wishes to make the best use of its resources (personnel and equipment). As a result, the hospital does not want the medical professional to have a long cycle of "wasted time." The suggested idea is an intelligent consultation booking system that allows customers or any user to easily book a doctor's appointment online. This is a web-based application that solves the problem of maintaining and arranging appointments depending on the user's preferences or expectations. Manually scheduling appointments for users based on their availability can be time-consuming for the compounder or doctor. As a result, this project provides an effective solution in which customers may examine available booking slots and select the ideal date and time. The already-reserved spot will be highlighted in yellow. Powerful data report generation is one of the proposed system's features. (a) Data edition is a fairly dependable technique, (b) Mistakes and faults are easily identified and corrected, (c) The user interface is really effective and appealing, (d) It is a system that saves time. (e)



It is simple to add and delete information, (f) The system is accessible to all users.

VI. RESULT

The hospital's or healthcare organisation's patient medical information management A web app is a complete system designed to handle and preserve patient medical information within an institution or healthcare organisation. The web app, built with Firebase as its backend architecture, provides a safe and accessible platform for processing patient data. It provides a variety of advantages and benefits to improve accessibility, expedite operations, and boost patient care. During this creation of web-app the components created are: (a) Homepage, (b) Aboutpage, (c) Services page, (d) Gallery, (e) Admin login page, (f) Staff login page, (g) User login page, (h) Hospital login page, (i) New user page, (j) Contact page, (k) Admin main page, (l) Admin hospital page, (m) Admin staff page, (n) View user, (o) View staff, (p) View hospitals, (q) View reports these are the components of the website. The backend technology for the Healthcare Patients Medical Records Monitoring Web-App is Firebase, which provides instantaneous storage capacities, private authentication, and dependable hosting. The web app guarantees data integrity, expansion, and easy communication among many stakeholders by utilising Firebase's functionalities. This comprehensive web app attempts to digitise and centralise patient medical records, improving

healthcare providers' accessibility and efficiency. It increases data accuracy, streamlines procedures, and allows healthcare teams to collaborate and communicate more effectively. To secure sensitive patient information, the web app emphasises data security and privacy by providing authentication procedures, controls on access, and encryption techniques. The web app promotes smooth data sharing and reduces redundant data entry by integrating with current systems such as billing, pharmacy, and laboratory systems. It also strengthens patients with features like private medical records access, setting up appointments, prescription requests, and interacting with healthcare providers, boosting patient participation and empowerment. The web app's scalable and adaptable design allows it to accept an increasing amount of information about patients, support future upgrades, and adapt to changing healthcare legislation and standards. The use of Firebase as a backend architecture assures the web app's operations are reliable, fast, and scalable. Overall, the Healthcare Organisation's Patient Medical Data Information Web-App based on Firebase provides a full solution to organising patient data, increasing healthcare delivery, and improving patient experience inside a medical facility or healthcare organisation. Here are some views of webpage.

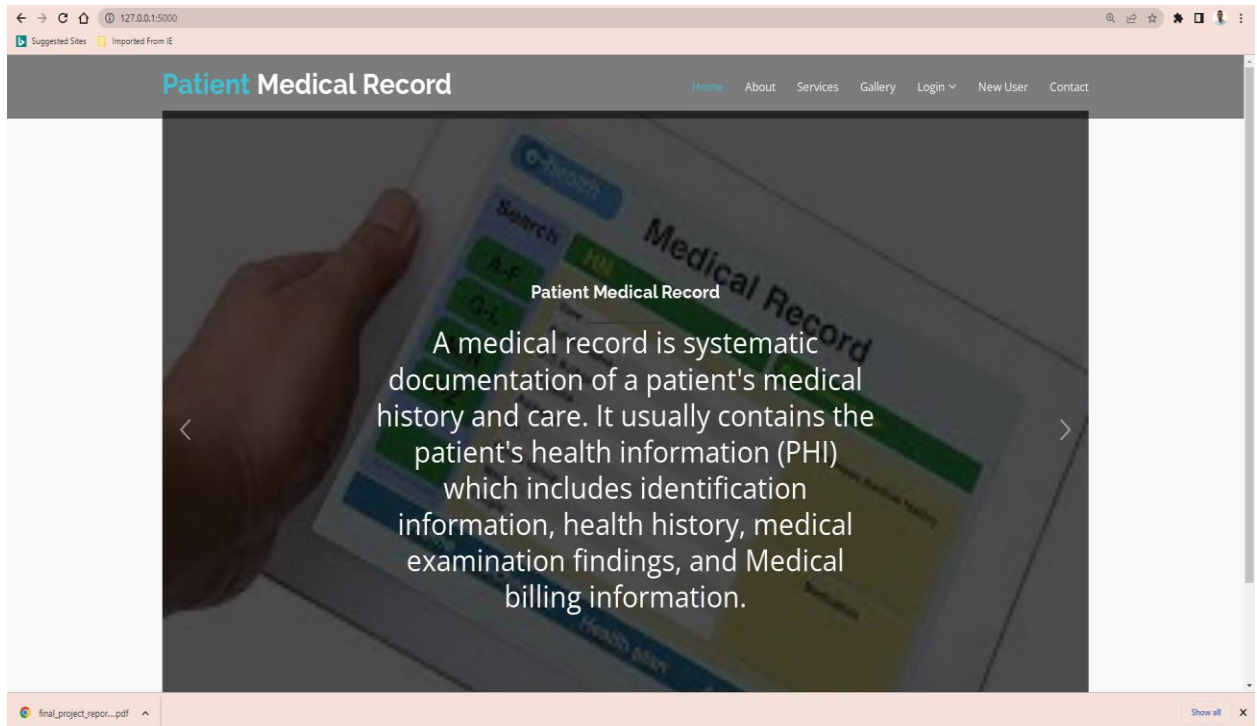


Fig.6.1 Index page

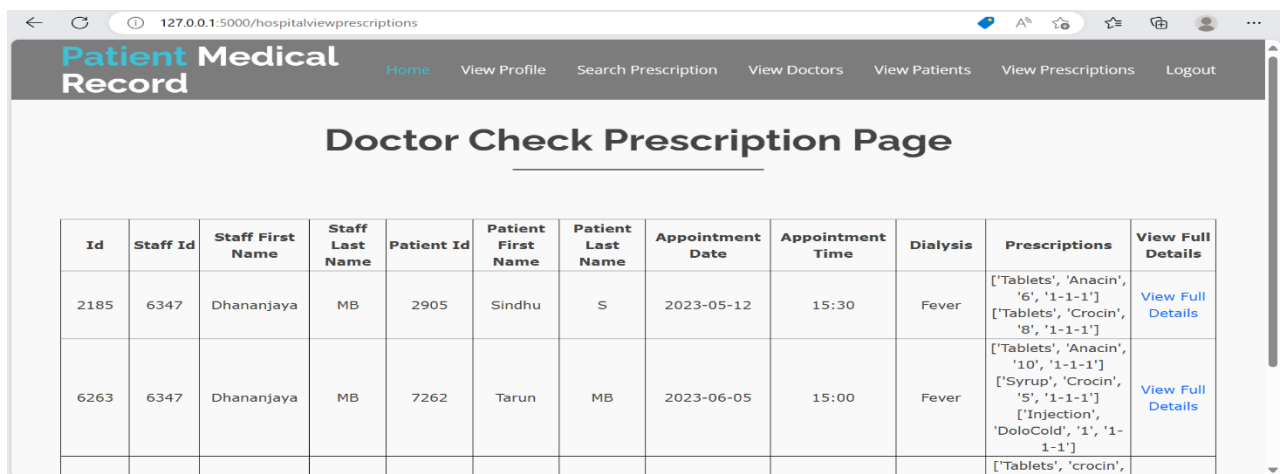


Fig.6.2 Prescription page



User Id	First Name	Last Name	EmailId	Phone Number	Address	Aadhar Number	Aadhar Card
2905	Sindhu	S	sindhu@gmail.com	9886239083	# 110 Kurubarahalli JC Nagar 18th Main	22222222222	
4845	Dhanyatha	R	dhanyatha123@gmail.com	123456789	jalahalli	33333333333	
5361	sneha	s	sneha@gmail.com	8888888888	# 546	33333333333	
7262	Dhananjaya	MB	dhanu@gmail.com	9886239083	# 110 Kurubarahalli JC Nagar 18th Main	11111111111	
8988	Madhurya	m	madhurya@gmail.com	9886239083	# 110 Kurubarahalli JC Nagar 18th Main	44444444444	

Fig.6.3 User's Page

VII. CONCLUSION

The Patient Healthcare Record Management project will benefit both the client and the service provider because it can be accessed by anybody via the web application, saving the consumer time. The hospital can handle more patients because the seat reservation is booked as soon as the customer books the seat. The proposed approach has the ability to attract patients while also improving the efficiency of patient prescription maintenance. Web-based technologies have developed into a significant tool for medical knowledge transfer, including the portability and accessibility of patient data. Gaining a lot of knowledge from utilising the four technologies, and suppose its capable of using them in the future for projects or work. Generally aware of how to address specific difficulties and how to investigate these challenges, such as database retrieval or time management. Recognising that by being persistent, organised, and patient, it can successfully overcome obstacles and attain goals. While working alone on particular tasks is important and required, it is also important to seek counsel or assistance from superiors or coworkers who can shed light on the problem or provide a different viewpoint. The Hospital Patient Medical Data Information Web-App, which uses Firebase as its backend architecture, provides a stable and cost-effective solution for maintaining patient medical data inside a medical facility or healthcare

organisation. The web app provides various benefits by digitising and centralising records, including greater availability, improved data accuracy, quicker procedures, and effective cooperation among healthcare teams. The web-app's extensive range of features, which include user login pages, an admin dashboard, and numerous administrative sections, enables straightforward access and control over many parts of the system. The integration of Firebase offers a safe and scalable backend, delivering real-time database capabilities, dependable hosting, and authentication procedures to protect medical data and comply with data privacy standards. Because of its flexibility and scalability, the web app is adaptable to future additions, allowing for a growing amount of patient data as well as evolving healthcare rules and standards. The web app assures stability, performance, and scalability by employing Firebase as the backend system in order to facilitate the system's seamless functioning. The Hospital Patient Medical Information Web-App, built on Firebase, allows for enhanced management of patient information, better healthcare delivery, and an overall better patient experience inside a hospital or medical organisation. It is a cutting-edge technology for digitising and optimising medical record management that benefits both healthcare professionals and patients.



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