Hospital Management System

-Ganesh K Nair, Lijin Benny, S S Saumya, Surya Merlin Jose

Department of Computer Application, Saintgits College Of Engineering(autonomous),Kottayam, Kerala India.

Abstract

Current web technology offers many online services in almost every domain. All major industries are restructuring and building digital fronts so that all major companies are moving closer to the growing digital marketplace. In today's world, information flows so quickly that redundant resources do not make a difference to the people or organizations that use them. Online connectivity is now vital to all well-organized and well-managed facilities. One of these domains is medicine, where it is necessary to digitize information quickly and efficiently. This document addresses this specific area and paves the way for creating software that contributes to a smooth transition from paperwork to electronic paper. This paper describes the idea of a web-based platform that eliminates the need for paper prescriptions in hospitals, proposes E-Medical Management to increase the efficiency of patient management, plans physician management, and enables universal access to patient data from anywhere.

Keywords: Hospital management system, Appointment booking, Lab tests.

1. Introduction

A hospital management system enables hospitals to manage all aspects of healthcare and ensure that procedures are completed efficiently and effectively. A hospital HMS becomes apparent when you look at its many facets. The database management system was first introduced in the 1960s and has evolved significantly since then, allowing it to integrate with the hospital's existing facilities, technology, and software. In the modern world, a patient can initiate the treatment process via her mobile device or app. As a result, healthcare providers and hospitals become involved in this process

As many industries look to the digital frontier, moving in that direction could be a big step for an old and necessary industry like hospitals. The currently available modules are efficient but not time limited. You can't use this system if every second matters. The system requires many features to be received online, such as patient records such as medical histories, and reports. The above data is accessible to physicians worldwide. Set up a database server to store all these details. All important information is updated and available online to doctors as soon as a patient is admitted to the hospital.

A patient ID can also be used to issue an online prescription for a specific patient directly at the pharmacy. Anyone who visits the site can register as a patient and will be given a unique patient ID that will be referenced in all future transactions. This project aims to develop a web-based application that streamlines the process of managing appointments and patient information for both patients and medical staff. The system aims to improve the patient experience by reducing waiting times, providing easy access to medical care, automating administrative tasks, and providing easy access to patient's medical history.

Additionally, the system aims to improve communication between patients, doctors, and lab technicians, and to provide a user-friendly interface and easy-to-use features. The ultimate goal is to create an efficient, effective and integrated hospital management system that can be enhanced for future use and improvements.

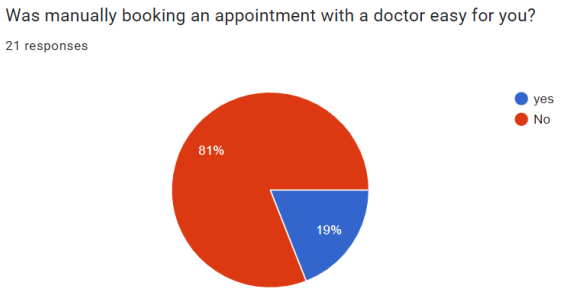
2. Literature Survey

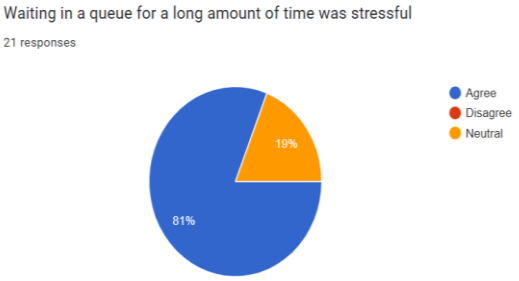
“Hospital management system using web technology (2020)” - This paper indicates that web-based technology offers many online services in almost every area.

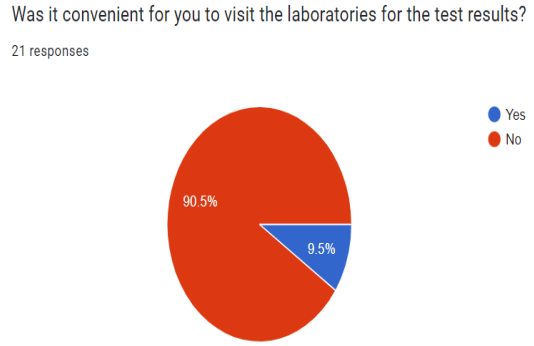
To get closer to the booming digital market, every major industry is converting and establishing digital fronts for all their major operations. With today's fast-paced information flow, redundant means are not beneficial to the individual or the organization using them. For all organizations that are well-organized and well-managed, online connectivity is a must. An idea is presented in the paper for a web-based platform that would eliminate the need for paper prescriptions in hospitals that practice EMedical Management, increasing patient management efficiency, facilitating doctor scheduling, and allowing universal access to patient data.

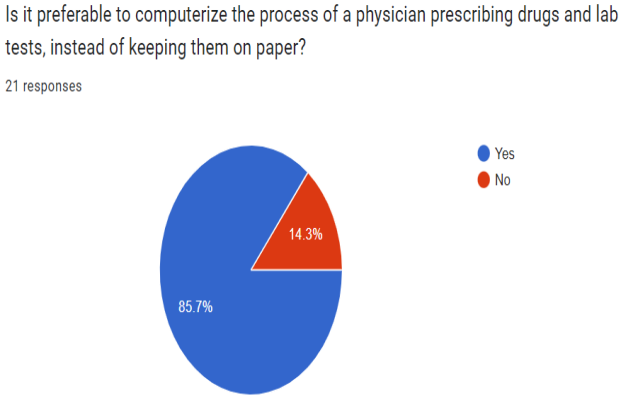
The proposed system consolidates existing hospital management systems. The website of Mar Sleeva Medicity Palai gave us the idea of booking time slots for doctor consultations and ordering lab reports online. Here online appointment bookings are done by first selecting the department, the doctor then the time slot. The doctor module was inspired by the Parumala hospital. here the doctors are using their laptops instead of pen and paper. In addition, we used some questionnaires to survey Google forms. The survey showed that most people are not satisfied with the existing system of manual doctor appointments, waiting in a long queues for consultations, and traveling for lab results.

The summary of our survey is shown below :





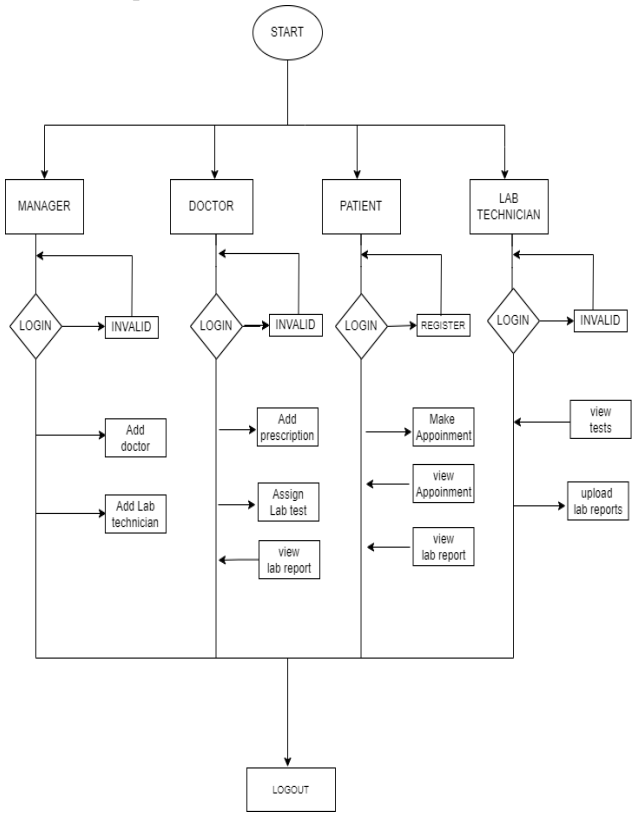




3. Methodology

Most processes such as patient registration, the sharing of reports, and the sharing of prescriptions

are still done offline, which involves a lot of paper and consumes a lot of time in the current system. The purpose of this project is to reduce the amount of paperwork involved in these processes as well as the amount of time spent on them. The user interface was designed using HTML, CSS, and JavaScript, and the backend was designed using Python and Django framework. Four modules have been identified they are the manager, the doctor, the patient, and the lab technician.



4. Results

The proposed Hospital Management System is a web-based application that aims to streamline the process of managing appointments and patient information for both patients and medical staff. The system offers several advantages over the current manual systems, including:

- Real-time appointment booking and scheduling: Patients can easily book appointments with doctors online, eliminating the need for physical visits to the hospital and reducing waiting times.
- Efficient management of patient information: The system provides an efficient way of managing patient information, including patient demographics, medical history, and lab test results.
- Improved communication: The system integrates different departments and provides easy access to patient information, improving communication between patients, doctors, and lab technicians.
- Reduced administrative burden: The system automates tasks such as prescription management and lab test tracking, reducing the administrative burden for medical staff.
- Easy access to patient's medical history: The system provides easy access to the patient's medical history and previous lab test results
- User-friendly interface: The system provides a user-friendly interface and easy-to-use features, making it easy for patients, doctors, and lab technicians to use the system.

5. Conclusion

In conclusion, the Hospital Management System project has been successfully developed and implemented to streamline the process of managing appointments and patient information for both patients and medical staff. The proposed system is a web-based application that utilizes the Python Django framework and is designed to improve the patient experience by reducing waiting times, providing easy access to medical care, and providing easy access to the patient's medical history.

Additionally, the system aims to improve communication between patients, doctors, and lab technicians, and to provide a user-friendly interface and easy-to-use features.

The system is built using the Agile/Scrum methodology, and it is designed to be user-friendly, secure, scalable, and compliant with industry standards for data privacy. The implementation of this system has resulted in improved efficiency, cost reduction, and better data management. Overall, the development and implementation of this project have been a success and it is expected to have a positive impact on the overall patient experience and the efficiency of medical staff

6. Future scope

The Hospital Management System project has a wide range of potential for future enhancements and improvements. Some possible areas for future development include creating a mobile application that allows patients to access their medical information and book appointments on their mobile devices, integrating the system with existing Electronic Health Records (EHR) systems to provide a more comprehensive view of the patient's medical history, using predictive analytics to identify potential health issues before they occur, integrating AI-based features to improve the diagnosis process, predict patient outcomes, and provide personalized treatment plans, providing remote monitoring of patient's vital signs, integrating with a chatbot that can answer patients' questions, provides information, and schedule appointments, and implementing an automated billing feature that can generate invoices, manage payments and reduce administrative burden. Overall, the Hospital Management System project has a wide range of potential for future enhancements and improvements that will help to improve the patient experience and increase the efficiency of medical staff.

7. References

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