E- Health Care System

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Abstract

Within the Admin module, healthcare facility administrators have robust tools at their disposal to manage users, including doctors, staff, and patients. They can effortlessly organize departments and allocate doctors and staff members accordingly, ensuring a streamlined workflow. Additionally, administrators can efficiently oversee doctor appointments, maintain financial records through transaction reports, and monitor lab reports, guaranteeing the accuracy and timeliness of crucial medical information. The Patient module empowers individuals to actively engage with their healthcare services. Patients can seamlessly access their appointment schedules, check the availability and status of their appointed doctors, and book or modify appointments as needed. Furthermore, they can review their prescription history, ensuring they adhere to their recommended treatments, and manage their personal profiles for comprehensive healthcare management.

Keywords: User management, Doctor allocation Department, organization Workflow optimization, Appointment scheduling

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INTRODUCTION

Healthcare facilities today rely on robust and comprehensive administrative and patient modules to ensure seamless operations and enhanced patient care. Within the Admin module, facility administrators wield powerful tools to manage users, allocate resources efficiently, oversee appointments, maintain financial records, and monitor critical medical information. This module streamlines workflow, optimizes resource allocation, and ensures accuracy and timeliness in healthcare services. Simultaneously, the Patient module empowers individuals to actively engage in their healthcare journey. Patients can access appointment schedules, check doctor availability, manage bookings, review prescription histories, and maintain personal profiles for holistic healthcare management. These interconnected modules synergize administrative efficiency with patient-centric care, revolutionizing the healthcare experience for both providers and patients alike.

The synergy between the Admin and Patient modules represents a pivotal shift in healthcare management, fostering a dynamic ecosystem where administrative prowess meets patient empowerment. Administrators wield sophisticated tools to streamline operations, ensuring that healthcare professionals are optimally allocated, departments are organized seamlessly, and crucial data is monitored with precision. Simultaneously, patients benefit from an unprecedented level of control and engagement, accessing their healthcare information, scheduling appointments, and managing their treatment journeys with ease. This symbiotic relationship between efficient administration and patient empowerment not only enhances the efficiency of healthcare delivery but also fosters a sense of partnership and empowerment between healthcare providers and those they serve, ultimately elevating the standards of care and the overall healthcare experience.

1. PURPOSE

- **Identify need of Project**

In the realm of modern healthcare, the need for an integrated system comprising robust administrative and patient modules is paramount. Such a system serves as the backbone of efficient healthcare delivery by offering streamlined administrative processes. It enables healthcare facility administrators to effectively manage a complex network of users, including doctors, staff, and patients. Through this system, administrators can optimize resource allocation, ensuring that the right personnel are in the right place at the right time, thereby enhancing operational efficiency and minimizing bottlenecks. Additionally, the system's capability to oversee appointments, maintain accurate financial records, and monitor crucial medical information ensures a high standard of care, fostering a reliable and trustworthy environment for both patients and healthcare providers.

Moreover, the patient module within this integrated system fulfills the growing demand for patient-centered care and engagement. It empowers individuals to actively participate in their healthcare journey by providing access to their appointment schedules, enabling them to manage bookings and review their treatment histories. By offering such accessibility and control over their healthcare information, this system promotes transparency, fosters patient autonomy, and encourages adherence to treatment plans. Ultimately, the integrated system caters to the evolving needs of a healthcare landscape where seamless coordination, patient engagement, and data accuracy are critical for delivering high-quality, personalized care..

OBJECTIVE OF SYSTEM

- Streamline administrative processes to optimize resource allocation, staff management, and overall workflow within healthcare facilities. Improve the efficiency of appointment scheduling, allocation of medical professionals, and department organization to maximize operational productivity.
- Ensure accurate and timely management of crucial medical data, including patient records, lab reports, and financial information. Maintain comprehensive and up-to-date records to facilitate informed decision-making and provide a reliable source of information for healthcare professionals.
- Empower patients by providing easy access to their healthcare information, enabling them to schedule appointments, manage prescriptions, and actively participate in their treatment plans. Foster a patient-centric approach that encourages involvement and adherence to recommended healthcare protocols.
- Elevate the standards of healthcare delivery by integrating systems that facilitate effective communication between healthcare providers and patients. Promote transparency, accuracy, and timeliness in service delivery to ensure a higher quality of care.
- Implement tools and processes within the system to track financial transactions, manage billing, and optimize revenue cycles. Ensure efficient financial management while maintaining the affordability and accessibility of healthcare services for patients.
- Ensure adherence to healthcare regulations and standards, safeguard patient privacy, and maintain the security of sensitive medical information. Implement robust security measures to protect data integrity and confidentiality.

LITERATURE SURVEY:

The e-healthcare management system could be enchanced extremelyby connecting tocurrent trend technology. This paper suggested a model of grouping adaptable e-healthcare services administration framework dependent on Cloud Computing. Along these lines, this paper prescribed a model of planning adaptable e-healthcare services administration framework dependent on distributed computing. The recommended framework has been enhanced and incorporates different divisions to create healthcare services framework. Health Data Management System based on the client side, simple healthcare cloud and application side creates a readily attainable network. Biometric based confirmation system is appropriate in this condition since it defeats the constraints of nominalcrime and forgetpasswords in the regular nominal id secret key instrument utilized for giving security. It additionally has high correctness rate for secure information access and recovery. At long last, the framework proposed enhances cost administration, time, cost, putting away patient profile.

Hospital e-healthcare management is one of the important and challenging application domains of Internet of Things (IoT). During the pandemic period of Covid-19, government advices the people through media, only come to the hospital if any urgency and to take the opportunities of e-service from the hospital to control the infection. Internet plays an important role during this crucial period. The important problems are the network problem and effective way to handle e-healthcare service. Efficient management of e-healthcare possible by using IoT based 5G mobile technology. The latest technology improves the quality of e-healthcare service and efficient management of the application. Healthcare management depends on patient's satisfaction, service quality and customer experience etc. In this paper we proposed a model on Patient Relationship Management (PRM) which improves the quality of e-healthcare facilities by using the new technologies like RFID, IoT and 5G. Comparisons are shown between 3G/4G ICT based system and 5G ICT-RFID-IoT enabled system. The PRM parameters cost, accuracy and satisfaction are taken into consideration and how these parameters significantly perform better in healthcare sector with the advent of newer technologies in is main the focus of the paper.

In 2030 Vision for the Kingdom of Saudi Arabia, one of the most critical issues is improving the manual and traditional health clinic system that will provide faster, efficient and quality healthcare services. The objective of this study is to understand the manual system used by a university clinic in Saudi Arabia and propose an automated system to realize the benefits of e-Health that started few years ago. Utilization of Android Mobile technology for clinic management and providing of care services will improve the general efficacy of the corporation, and the efficiency of the clinic by reducing wasting time experienced by patients. It also will help to provide patient care, manage clinic staff and patient data, manage and recall information encountered by the usual hospital system. We distributed a survey to collect information from students and clinic employees of several universities in Saudi Arabia to develop user requirements in the system. We developed our proposed system using JAVA language in the front-end connected with the back-end software. Also, we used tools such as Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), Hypertext Preprocessor (PHP), and My Structured Query Language (MySQL). This automated system provides multiple patient services and will improve the information infrastructure.

Patients commonly visit to hospitals for monitoring and treatment of their chronic diseases especially in COVID-19 epidemic ultimately increases the patients and hospitals' burden. The foremost advancement with respect to examining a patient's critical condition in such pandemic is remote patient monitoring and providing treatment via telemedicine. The main objective of this paper is to provide a novel Internet of Things (IoT) based system for continuous remote monitoring of patients' location, health statistics related to COVID-19 infection, telemedication and maintaining E-health record database. The system monitors oxygen levels and heart-rate signals using MAX30100 (Heart Rate and Pulse Oximeter sensor) and temperature via LM-35 module interfaced with the ESP8266 WI-FI module for web-monitoring. The healthcare sector involving a web server database controlled by cPanel will be used by consultants to have patients' data remotely for telemedicine. Besides, the database is also used as an electronic health record for hospital management system to maintain E-files and history of patients' complications. Moreover, the device monitors the real time location of infected patients using GPS and alerts the medical officials if the patients breach the quarantine norms. The real time location of infected patients also enables the medical authorities to investigate about the total number of COVID-19 cases in any particular area. However, the android application is developed for patients' family/relatives so that they can also monitor the patient condition to take the necessary actions before the worst condition arises. The developed system is efficient in providing integrated services to assist healthcare officials, minimize cost, maintains security and upgrade disease diagnosis speed in less time.

ADVANTAGES

- Easy to used system
- Control system
- Centralized system
- Doctor and patient appointment booking

SYSTEM REQUIREMENTS

- **Software Used:**

  1. Programming Language – Java

2. Database – Mysql
4. Tools – Eclipse, Xamp
5. Algorithm – AES(Hashing)

- **Hardware Used:**

1. Processor – i3 or above
2. Hard Disk – 150 GB
3. Memory – 4GB RAM

CONCLUSION

In conclusion, the development and implementation of the Java-based HealthCare System represent a pivotal step toward addressing the inefficiencies and shortcomings in healthcare administration, enhancing patient engagement, improving the quality of care, and ensuring data security and compliance within the healthcare domain. By streamlining administrative processes, facilitating seamless communication between doctors and patients, and prioritizing data privacy, this project aims to create a healthcare management solution that not only meets the evolving needs of healthcare stakeholders but also contributes to a more accessible, efficient, and patient-centric healthcare ecosystem. Ultimately, the project seeks to elevate the standards of healthcare services, making them more effective, user-friendly, and secure for all participants in the healthcare domain.

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