MediConnect - HealthCare Simplified

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A B S T R A C T

The development of a web application for the Doctor Appointment System using Javascript, HTML, CSS, Bootstrap, and MySQL on the back end is presented in this paper. An application called MediConnect Doctor Appointment System offers services to both doctors and patients. Through the MediConnect Doctor Appointment System, patients can search for a doctor and schedule an appointment with the help of a web application. The primary goal of this research is to quickly and easily connect a doctor and patient from any location, all without the need for a third party. By registering, both patients and doctors can use this application with ease. Patients can schedule an appointment with the specialist doctor. Additionally, the patient receives a notification from this system reminding them of their appointment.

Keywords: Web application, front-end, back-end, doctors ,patient , appointment ,book, MediConnect

1. Introduction

Effective patient care management is critical in the constantly changing healthcare environment. Scheduling appointments, overseeing outpatient and inpatient care, and making sure that patient care is smoothly transferred—particularly during emergencies or leaves of absence—are daily challenges faced by doctors and other healthcare professionals.innovations in digital health, like mobile health applications. It is believed that mHealth apps have a great deal of potential to enhance patient autonomy, quality of life, and health literacy. By providing a full range of tools for appointment scheduling, patient information tracking, distinguishing between outpatient and inpatient care, and easing the transition of patient care responsibilities, this mobile app aims to empower medical professionals.

2. Literature review:

Digvijay H. Gadhari, Yadnyesh P. Kadam, Prof. Parineeta Suman have discussed to computerize the Front Office Management of Hospital to develop software which is user friendly simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The main function of the system is register and store patient details and doctor details and retrieves these details as and when required, and also to manipulate these details meaningfully.

"A hospital resource and patient management system based on real-time data capture and intelligent decision making" Authors: Musa, A. Lancashire Bus. Sch., Univ. of Central Lancashire, Preston, UK Yusuf, Y, Meckel.M.

Daiping Hu, Antai Sch. of Manage., Shanghai Jiaotong Univ., China Weiguo Xu ; Huizhang Shen ; Mengyu Li has reviewd the HIS (Hospital Information Systems) which are widely used in many hospitals in China mainly to provide easier and faster way for daily medical tasks /activities with a GUI And provides for overcoming some of the limitations of HIS.

3.Objectives

- User-friendliness: To give people a simple and practical approach to locate hospitals in their area that can accommodate their needs.

- Transparency: To assist patients in making knowledgeable decisions about their medical care by giving them details about various hospitals, including details about patient happiness, cost, and quality of care.

- Expanding Reach: To increase everyone's access to healthcare, particularly in underprivileged areas.

- Health Parity: Assisting patients in obtaining the care they require will assist to lessen inequalities in healthcare outcomes.

- Efficient Navigation: To help people find the proper hospital for their needs quickly and simply in order to improve the efficiency of the healthcare system.

- Appointment booking mechanism: Establish a smooth mechanism for booking appointments that enables clients to make appointments.

4. Methodology

Analysis of Requirements: Examine in-depth the specifications provided by prospective customers, taking into account the features and capabilities they hope to see in the hospital discovery app. Define the search parameters for hospitals, including the vital services, medications that are available, and the medical treatments that are provided.

System Architecture: Create the general system design, taking into account the database structure, user interfaces, and integration of the required APIs (Google Calendar, Maps, and so on). Establish the data models that will be used to store details about hospitals, doctors, treatments, medications, and patient profiles.

Front-End Programming: Create a user-friendly mobile application interface with Bootstrap, HTML, CSS, and JavaScript. Provide functionality that allows users to browse hospital details, register or log in to the application, and search for hospitals based on particular criteria.

Reverse Engineering: For server-side development, manage user requests, process data, and communicate with the database by utilizing Java and Spring Boot. Provide APIs so that the front-end and back-end parts can communicate with one another.

Implementation of a Database: The database, which stores details on hospitals, healthcare providers, medications that are available, and user profiles, is created and maintained using MySQL. Make sure that data is stored and retrieved efficiently to provide quick access to pertinent information.

Authorization and Authentication of Users: To safeguard user information and guarantee that only authorized users can access specific application functionalities, implement a secure user authentication and authorization system.

Testing: Test the program thoroughly to find and address any faults or problems. To guarantee an easy-to-use and intuitive user experience, do usability testing.

Implementation: Install the hospital discovery app on an appropriate platform, making sure users can access it on both iOS and Android.

Upkeep & Updates: Maintain and support the program continuously, taking care of any problems that may come up and taking user comments into account. Update the program often to enhance functionality, add new features, and keep up with changing technological standards.

5.Implementation

Front-End Programming: With HTML, CSS, JavaScript, and Bootstrap, create a front-end that is both aesthetically pleasing and responsive. Make sure that using various devices is effortless.

Reverse Engineering: For the back-end logic, managing user requests, and communicating with the database, utilize Java with SpringBoot. Provide APIs so that the front-end and back-end parts can communicate with one another.

Implementation of a Database: To store data on hospitals, healthcare providers, and medications that are available, use MySQL. Make the database as efficient as possible for data retrieval.

Testing: Test the program thoroughly, taking into account its security, performance, and functionality. Take care of any problems or defects found during testing.

Implementation: Install the Hospital Finder App on a platform that works well for users of iOS and Android smartphones.

Upkeep & Updates: Continue to support and maintain the application. Update the program frequently to incorporate new features and enhance functionality input
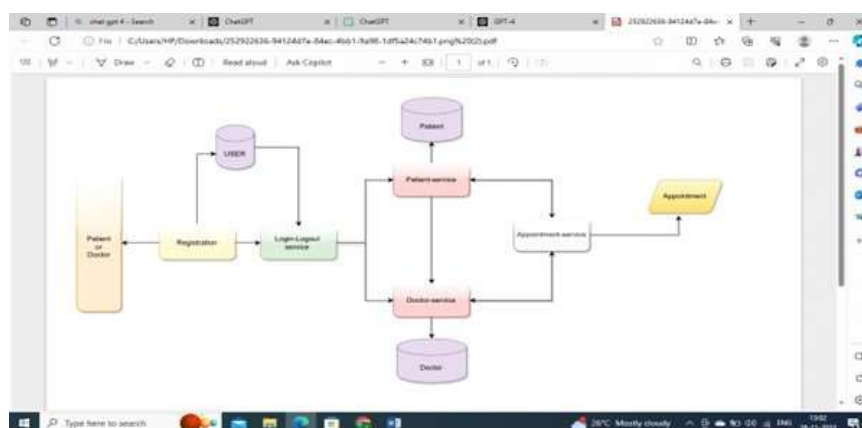

Fig.1 Architecture diagram

Results

Efficiency in Appointment Management: The Doctor Appointment System successfully automates the manual appointment scheduling process, leading to efficient and error-free management. Patients can easily schedule and manage their appointments through the computerized system, reducing the need for manual intervention.

Resource Utilization: The system contributes to better resource utilization within the organization. Automation of record-keeping allows staff to focus on other activities, enhancing overall productivity.

Reduced Redundancy in Data Entry: Computerized records eliminate redundant data entries, ensuring accuracy and consistency in the stored information.

Users can access relevant information without being distracted by irrelevant details.

Conclusion

The envisioned web-based Doctors website holds great potential in addressing the challenges associated with healthcare accessibility and decision-making. However, the existing methods in the field still have certain research gaps that need to be addressed for the successful implementation and effectiveness of the project.By delving into the intricacies of patient data integration, predictive analytics, user-friendly AI-assisted diagnostics, remote patient monitoring technologies, and customization of treatment plans, the project can be enhanced to provide a more holistic and personalized healthcare experience. Bridging these gaps would contribute to the overall success of the platform, making it more efficient, user-friendly, and capable of significantly improving healthcare outcomes.

In conclusion, the journey towards reshaping healthcare through technology requires a continuous commitment to research and development. As we embark on this transformative project, addressing these research gaps will pave the way for a more advanced, patient-centric, and effective healthcare management system that benefits millions of individuals and contributes to the well-being of communities.

Discussion:

Improved Patient Experience: The automation of the appointment system improves the overall experience for patients. Mobile applications can further enhance convenience by providing appointment reminders, reducing waiting times, and offering navigation details to hospitals.

Enhanced Communication: The integration of mobile applications allows for improved communication between healthcare providers and patients. Patients can receive timely alerts and updates about their appointments, minimizing potential disruptions.

Challenges and Drawbacks: Some existing online systems may still have drawbacks.

It's crucial to identify and address any challenges, such as data security concerns, system reliability, and user education for optimal system utilization.

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