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Optimizing Doctor Available and Appointment Allocating in Hospitals Through Digital Technology

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ABSTRACT

This project focuses on enhancing the efficiency of doctor availability and appointment allocation in hospitals by leveraging digital technology The system comprises three main modules: Hospital, Doctor, and Patient. The primary objectives are to minimize the number of appointments for each doctor and allocate minimum time slots for individual appointments. The platform incorporates a device-friendly interface allowing patients to search for doctors based on their medical needs. The system provides comprehensive details about hospitals and doctors, facilitating informed decision making for patients. Upon doctor approval, the system displays relevant information for both doctors and patients. A crucial feature involves sending email notifications to patients upon successful appointment booking, including details such as appointment time and doctor information. The system also presents real-time data on available appointments for each doctor, enabling patients to schedule appointments promptly.

Keywords: Digital Healthcare, appointment system, Patient Doctor Communication.

I. INTRODUCTION

The project's primary objective is to optimize doctor availability and appointment allocation in hospitals through digital technology Specific goals include minimizing the number of appointments for each doctor, allocating minimum time slots for individual appointments, and enhancing patient-doctor communication.

II. LITERATURE SURVEY

S.NO	YEAR	AUTHORS	TITLE	OUTCOME
1.	2010	Agarwal R, Gao G, DesRoches C, Jha AK	The Digital Transformation of Healthcare: Current Status	This report emphasizes the need for efficient information systems to improve patient care, citing challenges and opportunities in
			and the Road Ahead	the integration of digital technologies.
2.	2018	Trova Lee D, J	The Use of Technology in Identifying Hospital Malnutrition: Scoping Review	The report emphasizes the potential of technology to enhance nutritional assessment and improve patient outcomes in healthcare settings

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III. EXISTING SYSTEM

Currently, healthcare appointment systems often rely on manual processes and lack optimization features. Patients typically book appointments through phone calls or in-person visits, leading to inefficiencies in doctor availability and appointment allocation. Information accessibility is limited, hindering informed decision-making. This traditional approach lacks real-time data presentation and AI integration. The proposed project seeks to overcome these limitations by introducing a digital solution that streamlines the appointment process and leverages AI for efficient doctor-patient interactions and optimal resource utilization.

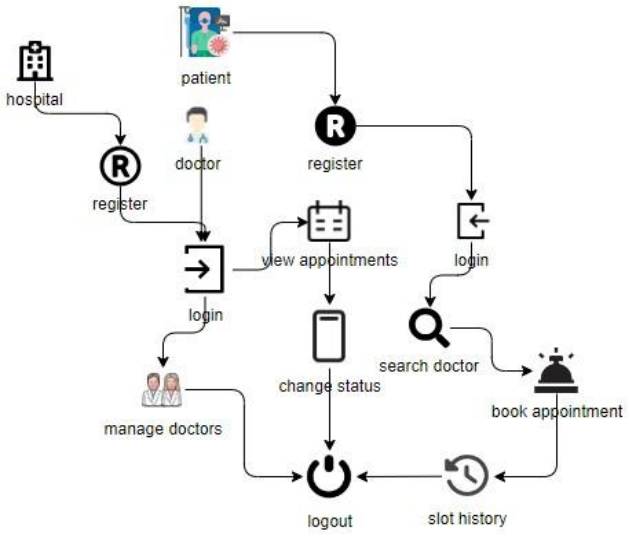
Disadvantages:Technological Barriers ,Initial Implementation Challenges, Security Risks, Cost Implications

IV. PROPOSED SYSTEM

The proposed system aims to revolutionize healthcare appointment management by leveraging digital technology and artificial intelligence. It comprises three modules: Hospital, Doctor, and Patient. The system minimizes doctor appointments and allocates optimal time slots, enhancing patient-doctor communication. A user-friendly interface allows patients to search for doctors based on medical needs, providing comprehensive details for informed decision-making. Real-time appointment data, doctor approvals, and email notifications streamline the process, ensuring efficient resource utilization. By integrating AI, the system improves overall healthcare service delivery, offering a modern, efficient, and patient-centric approach to appointment scheduling and management.

Advantages: Technological Dependency, Accessibility Challenges, Implementation Costs ,Resistance to Change

Architecture:



MODULE:
Hospital:
Registration: The hospital management will register with their details.
Login: After registration the user will login with those details.
Manage Doctor: Here the hospital will add the details of the doctor like his/her details (name, Role, Appointment count, Time, Gender, Email, etc.,
Logout: After completion of the operation logout from the browser.

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Patient:
Registrations: The patients will register with their details.
Login: After registration the patient will login with those details.
Search doctor: The patients will search the doctor with their role or based on their disease, if the doctor will be available, it will show the doctor.
Book appointment: Here the patients will make the appointment for the hospital.
Slot history: Once the doctor will update the details here, he can view the details. **Logout:** After completion of the operation logout from the browser.
Doctor:
Login: The doctors will login with Emil and password.
Appointment: Here the Doctors can view booked appointment.
Change status: Here the doctor can change status it is accepted if it is accepted then he gives the status for that.
Logout: After completion of the operation logout from the browser.

V. CONCLUSION

In conclusion, this project presents a robust solution for optimizing doctor availability and appointment allocation in hospitals through a seamlessly integrated digital platform. By incorporating features and fostering efficient patient-doctor communication, the system aims to revolutionize healthcare service delivery. With a focus on minimizing appointment numbers, reducing time slots, and providing real-time information, the project contributes to enhanced operational efficiency and improved patient experiences, marking a significant stride towards the advancement of digital healthcare.

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