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Doc-Chronicle Availability and Automatic Appointment Website

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Abstract - The proposed document, titled "Chronicles: Seamless Patient-Doctor Interaction System," introduces a dynamic platform with dual logins for patients and doctors. Regular patients benefit from proactive communication through messages and emails prior to their scheduled appointments. Meanwhile, new users can easily register and access real-time doctor availability for booking. The system employs a First-Come-First-Serve (FCFS) approach for prioritizing user activities and utilizes the Longest Processing Time (LPT) scheduling algorithm. Additionally, the Muntz Coffman algorithm enhances the efficiency of the system by optimizing scheduling processes. The doctor's dashboard offers a comprehensive view of appointments and related activities, providing a streamlined experience for both patients and healthcare professionals.

Key words- Real-time doctor availability, Scheduling processes, Longest Processing Time (LPT) scheduling algorithm, Muntz Coffman algorithm.

1.INTRODUCTION

Welcome to our cutting-edge medical platform, revolutionizing healthcare with a seamless website for direct doctor appointment scheduling. Serving both registered users and new visitors, our platform ensures unparalleled convenience. For registered users, automatic notifications prevent missed appointments, enhancing engagement and well-being. New users discover an intuitive interface, allowing effortless exploration of real-time doctor availability. Our user-friendly design empowers informed healthcare decisions aligned with individual schedules. Leveraging advanced technology, our website operates efficiently, delivering seamless reminders and optimizing doctor availability. Join us on this transformative medical journey, where innovation meets accessibility, making scheduling hassle-free and personalized.

2. LITERATURE REVIEW

2.1 "Is Fast Access to General Practice All That Should Matter? A Discrete Choice Experiment of Patients' Preferences, JOURNAL OF HEALTH SERVICES RESEARCH & POLICY,2008. [K. Gerard; C. Salisbury; D. Street; C. Pope; H. Baxter]

The study analyzed patient preferences in booking general practice appointments for two health issues. Findings revealed that patients prioritize seeing their preferred doctor and booking convenient appointment times. They are willing to wait longer for preferred slots and prioritize continuity of care over immediate access. Factors like gender, work status, and caregiving responsibilities influence these preferences. The study suggests a nuanced approach beyond fast access for policymakers and practices.[1]

2.2 "Change4Life Brought to You By PepsiCo (and Others)", THE LANCET, 2009. [The Lancet]

England's health-services minister Ben Bradshaw revealed government plans to enable patients to post comments about family doctors' practices on a National Health Service website. The idea is that services should improve in response to the threat of a patient reading negative feedback and choosing to go elsewhere.[2]

2.3 "The Extent of The Online Presence of Health Authorities, Hospitals and Available Online Health Services in The United Arab Emirates",2011 1ST MIDDLE EAST CONFERENCE ON BIOMEDICAL ENGINEERING, 2011.[Syed Kabir Nasir; Syeda Shahla Kabi]

The study analyzed online presence and health services of UAE health authorities and hospitals across seven Emirates. It found only two Emirates with health authorities offering online services and four with hospitals providing online health services. Services included inquiry, appointment booking, doctor search, and consultations. Additionally, the paper compiled a list of hospitals with online presence, lacking in existing resources.[3]

2.4 "What Patients Say About Their Doctors Online: A Qualitative Content Analysis", JOURNAL OF GENERAL INTERNAL MEDICINE, 2012. Andrea López;[Alissa Detz; Neda Ratanawongsa; Urmimala Sarka]

The study examined 712 online reviews of 445 primary care physicians from two U.S. urban areas, finding 63% positive reviews. Positive feedback focused on interpersonal manner and technical competence, while opinions on systems issues varied. The study underscores the impact of staff, access, and convenience on patient reviews, emphasizing the importance of bedside manner for successful patient-physician interactions.[4]

2.5"Mr. Doc: A Doctor Appointment Application System", ARXIV-CS.CY, 2017.[Shafaq Malik; Nargis Bibi; Sehrish Khan; Razia Sultana;Sadaf Abdul Rauf]

Life is becoming too busy to get medical appointments in person and to maintain a proper health care. The main idea of this work is to provide ease and comfort to patients while taking appointment from doctors and it also resolves the problems that the patients has to face while making an appointment. The android application Mr.Doc acts as a client whereas the database containing the doctor's details, patient's details and appointment details is maintained by a website that acts as a server.[5]

3. EXISTING SYSTEM

The existing system for appointment booking involves a manual process through a website or in-person. In the manual online approach, patients typically navigate through the website, select an available slot, and provide their details. This process, while accessible, is often time-consuming and susceptible to errors. Moreover, in-person appointment scheduling at the clinic requires staff to manage the bookings manually, potentially leading to inefficiencies, data discrepancies, and longer waiting times for patients. The limitations of the current system highlight the need for a more streamlined and automated approach to appointment scheduling, emphasizing the potential advantages of transitioning to an automated system for enhanced efficiency and improved patient experience.

Drawbacks:

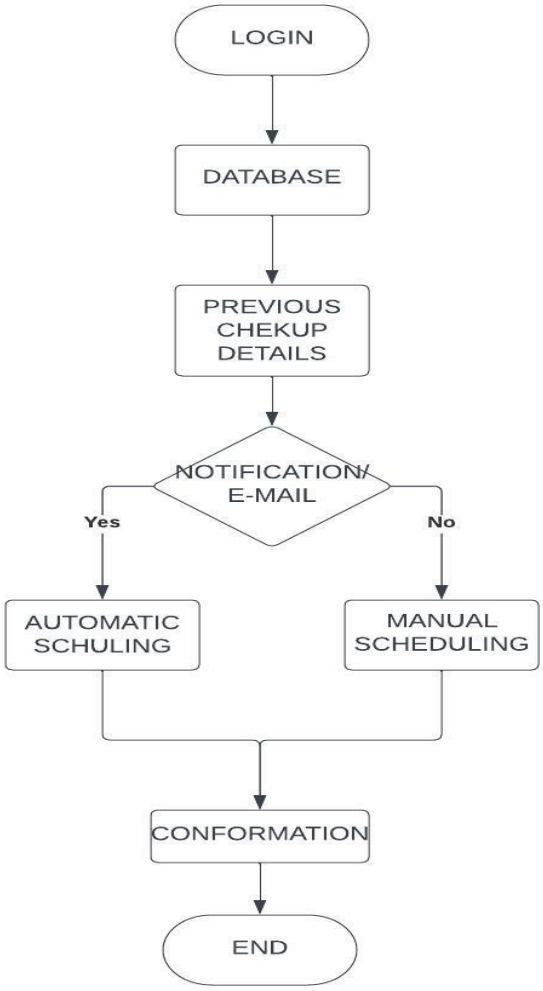
- Security Concerns
- User Adoption
- Technical Challenges
- Data Accuracy and Integrity
- User Experience (UX) Design
- Appointment Scheduling Complexity
- Integration Challenges

4. PROPOSED SYSTEM

The proposed system aims to address the constraints of the existing manual appointment booking process by introducing an automated online scheduling platform. Leveraging advanced technologies, such as intelligent algorithms and machine learning, the new system will offer patients a user-friendly interface to browse available appointment slots, select preferred times, and provide necessary

information. This automation will significantly reduce the administrative burden on clinic staff, minimize errors, and enhance overall operational efficiency. Integration with Electronic Health Record (EHR) systems will ensure seamless information flow, facilitating comprehensive patient care. The proposed system promises to streamline the appointment booking process, reduce waiting times, and improve both staff productivity and patient satisfaction, marking a transformative shift towards a more efficient and technologically advanced healthcare scheduling solution.

5. METHODOLOGY



The image is a flowchart showing a process related to login, database, previous checkup, details, notifications, emails, scheduling, confirmation, and end. It includes options like Yes, No, Automatic, Manual, and tags related to text, diagram, font, line, screenshot, plan, technical drawing, and design.

Advantages

- Dual Logins
- Proactive Communication
- User-Friendly Registration
- FCFS Approach
- Comprehensive Doctor's

- Dashboard
- Streamlined Experience

Disadvantages

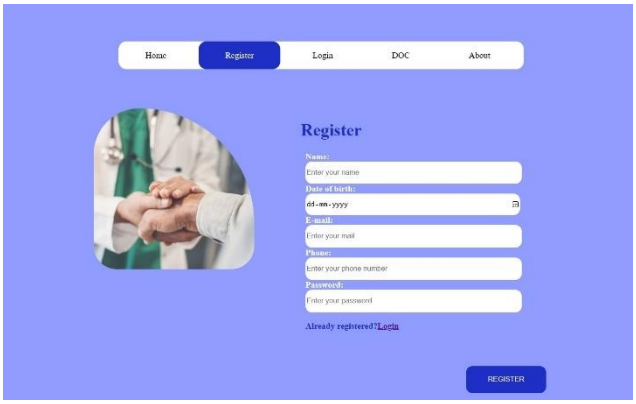
- Privacy Concerns
- Digital Divide
- Technical Challenges for Patients
- Limited Physical Examination
- Lack of Immediate Availability
- Communication Barriers
- Technical Glitches and Downtime
- Risk of Over-reliance on Technology
- Patient Resistance

6. EXPERIMENTAL RESULT

i. Test Case 1

Doc Chronicle, an online doctor appointment app, greets you with a stethoscope logo and asks if you're a doctor or patient. Buttons guide your choice, while "Doc Appointment" hints at its purpose. An odd date format raises questions about potential technical glitches.

ii. Test Case 2

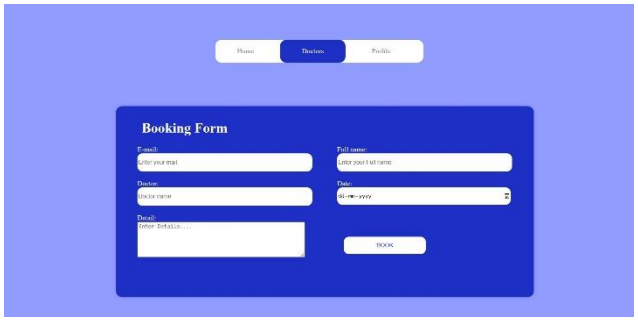


Doc Chronicle, an online doctor appointment app, welcomes you with a stethoscope logo. It asks if you're a doctor or patient, guiding your choice with clear buttons. "Doc Appointment" confirms its purpose, but an odd date format raises concerns about potential technical issues.

iii. Test Case 3

The webpage you sent me appears to be the login page for an online doctor appointment system called Doc Chronicle. The top of the page has a logo with a stethoscope and a heart, and it says "Doc Chronicle" in the top right corner.

iv. Test Case 4



The image shows a blue and white booking form

on a purple background. The form has fields for your name, email address, date of birth, and doctor's name. It also has a section for you to enter details about your appointment. The overall design is simple and easy to use.

7. CONCLUSION

In conclusion, our team successfully achieved project objectives by developing and implementing "Doc Chronicles," a cutting-edge web application for doctor appointment bookings. The system's effectiveness was evident in providing a seamless platform,leveraging modern technologies for enhanced healthcare accessibility. The project's impact extends beyond convenience, fostering better health outcomes. Looking ahead, opportunities for research and development exist to expand functionality and improve user experience. Gratitude is

extended to all contributors, and lessons learned pave the way for continued innovation in healthcare technology.

8. FUTURE WORK

The future development of our website, Doc Chronicle Appointment and Automatic Appointment Scheduler, entails enhancing back-end connectivity and integrating with pharmacies. The vision includes a seamless link between our platform and pharmacies, enabling the automated delivery of scheduled medicines to regular patients on specified dates. This innovation not only streamlines the appointment process but also ensures timely and convenient access to prescribed medications, contributing to a holistic healthcare experience for our users.

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