



# MOBILE APPLICATION FOR DOCTOR APPOINTMENT

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**Abstract :** The objective of this project is to build a system that will ease the process of booking appointment of the doctor. The appointment will be booked through his/her mobile phone. The doctor will come to know the number of patients he has to attend whole day. The system will save patient's as well as doctor's time. It will save the receptionist's paper work. Traditionally, it was done manually. The main objective is to manage the details of doctor, appointments, doctor schedule. The aim is to automate its existing manual system by the help of mobile application. The Doctor Appointment system can be entered using a username and password. It is accessible either by an administrator or Doctor. Only they can add data into the database. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast. The system will prove to be useful for doctor as he can check his appointments whenever and from wherever he wants from his mobile phone and can also reschedule the appointments.

**Index Terms -** Doctor Appointment System, Mobile Application, Appointment Booking, Time Management, Doctor Access, Database Management, Appointment Scheduling, Rescheduling, Patient Details, Doctor Schedule, User Authentication, Mobile Phone Accessibility, Traditional Manual System Automation.

## I. INTRODUCTION

The development of doctor application represents a significant leap forward in the healthcare industry. These applications leverage technology to enhance the way doctors interact with patients, manage medical records, and provide care. They have become increasingly vital tools for healthcare professionals, offering a wide range of features to improve patient care and streamline healthcare delivery. Doctor applications are designed to facilitate secure and efficient communication between doctors and patients. This not only improves the patient experience but also allows healthcare providers to deliver more personalized and timely care.

One of the key benefits of doctor applications is doctors can access patient data and make informed decisions from virtually anywhere. This has proven especially valuable in situations like the COVID-19 pandemic, where remote consultations and telehealth services became essential.

## II. LITERATURE SURVEY

A literature review is a critical analysis and evaluation of existing literature, Scholarly articles, books, and other sources related to a specific research topic or question. It serves as an essential component of academic and research endeavors, providing a comprehensive understanding of the existing knowledge, theories, and arguments surrounding the choosers subject.

The purpose of a literature review is to identify, analyze, and synthesize relevant information and research findings to establish the current state of knowledge on a particular topic. It involves a systematic search and examination of published works, including primary and secondary sources, to identify gaps, conflicts, and trends within the existing literature.

Through a literature review, researchers can identify the theoretical frameworks, methodologies, and key concepts that have been used in previous studies. It helps in framing research questions, refining hypothesis, and providing a context for the research being conducted. Additionally, a literature review enables researchers to identify areas for further investigation, potential research opportunities, and new directions in their field.

Overall, a literature review is a crucial step in the research process, offering a foundation of knowledge and insights that inform and guide the development of new studies. It provides a comprehensive overview of existing literature, highlighting the current understanding and identifying areas for future research and scholarly contributions.

- The paper titled “A Mobile Based Medical Appointment and Consultation (MMAC) System” by Adekunle Ajasin University, Akungba-Akoko, Ondo State, Nigeria, Health Centre Unit (2019) [1], the researcher developed a real-time appointment scheduling system that allows patients to book appointments with available doctors and also enables live consultations between patients and doctors online.
- The paper titled “Doctor Appointment Online Booking System” by Ms. Sanjeevani, P. Avhale, Ms. Wrushali, R. Ajabe, Ms. Pallavi, Prof. N.K.Bhil (2018) [2], The proposed project is a web-based smart appointment booking system that allows users to easily book doctor's appointments online.
- The paper titled “Android “HEALTH-DR.” Application for Synchronous Information Sharing” by Amitkumar Manekar (2014) [3], "Health-DR." application is an innovative idea for ambulatory appliances, aimed at providing a healthy environment for patients and offering authentication services for users.
- The paper titled “Innovation in practice: Mobile phone technology in patient care” by Holly Blake (2008) [4], presents the study on the potential of mobile phone applications in health promotion and patient care, including the communication of health messages, monitoring of patient health data, and facilitating population interventions and chronic disease management.
- The paper titled “Development of a Mobile Application for Interaction between Patients and Doctors in Rural Populations” by Malik Bader Alazzam, Fawaz Alassery (2021) [5], presents the study on the Running Lean process, specifically through a mobile application, addresses the issue of insufficient access to specialized medical care for rural populations by connecting them with specialist doctors via the internet.
- The paper titled “Android Application for Doctors Appointment” by Prof. S. B. Choudhari, Chaitanya Kusurkar, Rucha Sonje, Parag Mahajan, Joanna Vaz (2014) [6], this system aims to simplify the appointment process for both patients and doctors, allowing patients to book appointments conveniently and doctors to manage their schedules more efficiently.
- The paper titled “Application of Smart Technologies for Mobile Patient Appointment System” by Yeo Symey, Suresh Sankaranarayanan, Siti Nurafifah binti Sait (2013) [7], presents the current challenges in patient registration and appointment scheduling in healthcare settings, highlighting the time-consuming and inefficient nature of the process.
- The paper titled “Mr. Doc: A Doctor Appointment Application System” by Shafaq Malik, Nargis Bibi, Sehrish Khan, Razia Sultana, Sadaf Abdul Rauf (2017) [8], the proposed online appointment system has been implemented using Android Studio for application development and HTML and PHP for the website.
- The paper titled “Mr. Doc: A Doctor Appointment Application System” by Shafaq Malik, Nargis Bibi, Sehrish Khan, Razia Sultana, Sadaf Abdul Rauf (2017)[9], the proposed online appointment system has been implemented using Android Studio for application development and HTML and PHP for the website.
- The paper titled “Prototype of Beacon-Mobile Application for Medical Appointment Scheduling Management” by Harold Ernesto Caceres Zea, Bch, Shirley Romero Solano, Est, Milagros Motta Rondon, Est, Karim Guevara Puente de la Vega, Dra, Eveling Castro Gutierrez, M.Sc., Cesar Baluarte Araya, Dr (2019) [10], the health beacon app utilizes Bluetooth Low Energy technology.
- The paper titled “Design and Implementation of a Patient Appointment and Scheduling System” by Akinode, John Lekan, Oloruntoba S.A (2017) [11], the proposed online appointment system has been implemented using Android Studio for application development and HTML and PHP for the website.
- The paper titled “Developing an online patient appointment scheduling system based on web services architecture” by Xiaojun Zhang, Dr. Ping Yu, Dr. Jun Yan, Hongxiang Hu, and Dr. Niraj Goureira (2012) [12], the Web Services architecture is suitable for developing an integrated health information system in a heterogeneous healthcare environment, and the prototype system demonstrates its feasibility.
- The paper titled “Online Appointment Management System “by Alaa Qaffas<sup>1</sup>, Trevor Barker (2012) [13], the development of an online appointment management system was deemed necessary to modernize and improve the registration and scheduling process in schools.
- The paper titled “Development of a Mobile Application for Patient's Medical Record and History” by Md. Talat Mahmud, Faria Soroni, Mohammad Monirujjaman Khan (2021) [14], The Health Passport project aims to establish a connection between patients and doctors by providing a free digital platform that allows patients to actively participate in their own treatment process.
- The paper titled “Enhancing Patient Appointments Scheduling that Uses Mobile Technology” by Godphrey G. Kyambille, Khamisi Kalegele (2016) [15], an integrated mobile appointment scheduling system can enhance the efficiency of appointment scheduling in hospitals, simplifying the tasks of both patients and doctors.
- The paper titled “Medical appointment application” by Noorsyahira Ismail, Shahreen Kasim, Yusmadi Yah Jusoh, Rohayanti Hassan, Ayu Alyani (2017) [16], the application has advantages such as allowing patients to easily book appointments and avoid long queues.
- The paper titled “Design and Implementation of “Novus”- A Doctor Appointment System” by Amar Chippawar, Shubham Kolhe, Kajal Raipure, Rushikesh Khursade, Dr. V. G. Nasre (2021) [17], this application provides a solution for managing and booking appointments, allowing users to select doctors based on their details and reviews.
- The paper titled “A web-based appointment system to reduce waiting for outpatients: A retrospective study” by Wenjun Cao, Yi Wan, Haibo Tu<sup>3</sup>, Fujun Shang, Danhong Liu, Zhijun Tan, Caihong Sun, Qing Ye and Yongyong Xu (2014) [18], implementing a web-based registration system can improve patient satisfaction and reduce waiting times. However, the main barrier to its use was a lack of information about online appointments.
- The paper titled “SMS DISTRIBUTER BASED PATIENT APPOINTMENTS SYSTEM” by Mohammad Salim Abdulrahman (2017) [19], the use of a proposed appointment management system, specifically an SMS distributor-based system

### III. METHODOLOGY

- Planning: Understanding and analysing user specific needs and requirements to identify existing Doctor Mobile Applications.
- Informative Survey: Understand the needs and preferences of doctors. Conduct surveys or interviews to gather insights. Select the appropriate technologies, platforms, and frameworks for app development based on project's requirements.
- Design: Select the appropriate technologies, platforms, and frameworks for app development based on project's requirements.
- Development: Implementation of features like user authentication, secure data storage. Implementation of strong encryption for data. Secure authentication and authorization mechanisms. Connect the app to relevant payment gateways.
- Deployment: Once the development is completed, it is ready to be deployed. Thoroughly test the application for functionality, security, and performance. Consider both manual and automated testing. Collect feedback from doctors and users, and make necessary improvements to the application
- Monitoring and Maintenance: Continuously monitor the app for issues, update it to fix bugs, and keep it in compliance with changing regulations. Provide training and support for doctors to effectively use the application.

### IV. REQUIREMENT ANALYSIS

#### 1. Hardware Requirements:

Hardware requirements refer to the specific components and specifications necessary for a system. This chapter includes the hardware and software used, these requirements outline the and recommended hardware configurations needed to ensure smooth operation and optimal performance. The use of hardware components is listed as follows:

1. Processor Intel Core i3 or equivalent (or higher)
2. RAM 4GB or more
3. Storage Sufficient free disk space
4. The minimum standard for Android mobile upto 8 to 12 GB

These hardware requirements provide a general guideline for a system capable of running the mentioned software tools effectively.

#### 2. Software Requirements:

Software requirements are the aspect of software development and refer to the functional and non-functional specifications that define what the software should accomplish and how it should behave. These requirements serve as the foundation for designing, developing, and testing software systems

The use of software requirements are listed below:

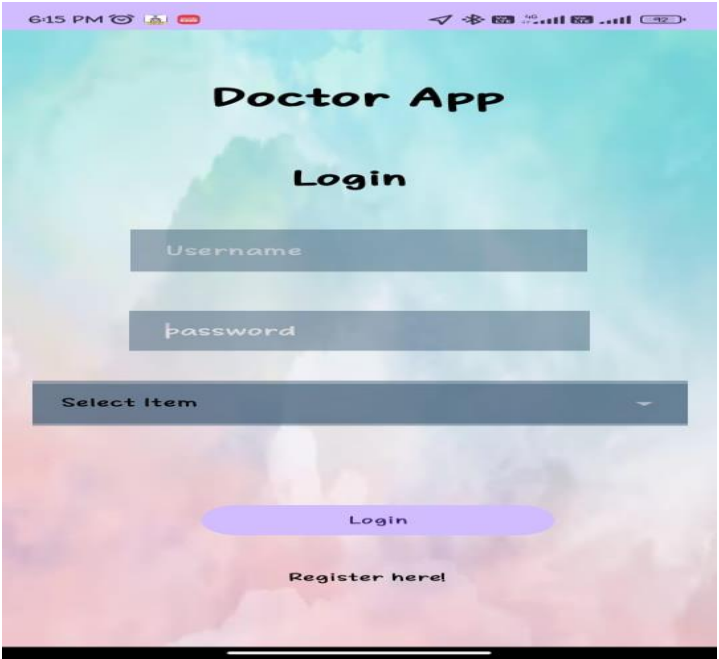
1. Java 8
2. SQLite Database 3.38.0
3. XML 1.1
4. Android Studio
5. Browser (e.g., Google Chrome, Mozilla Firefox): Latest Version

### V. RESULTS

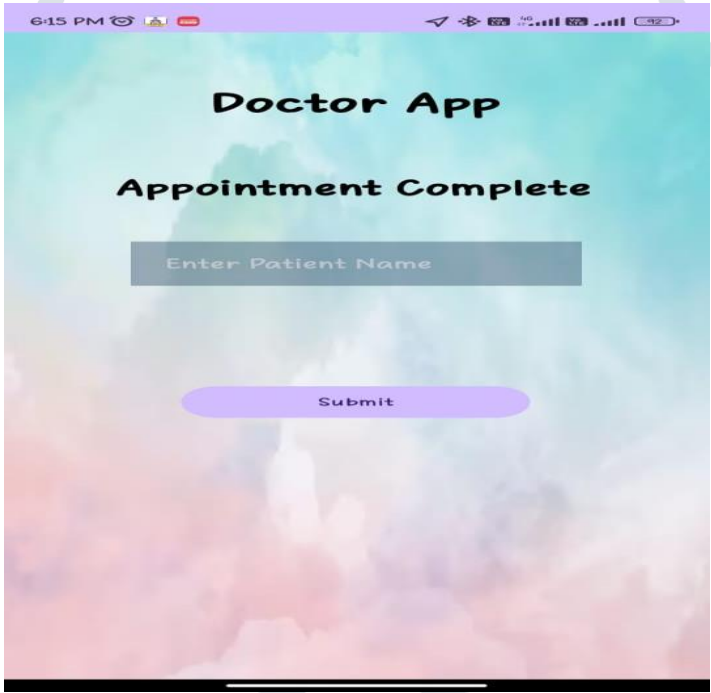
APP LOGO



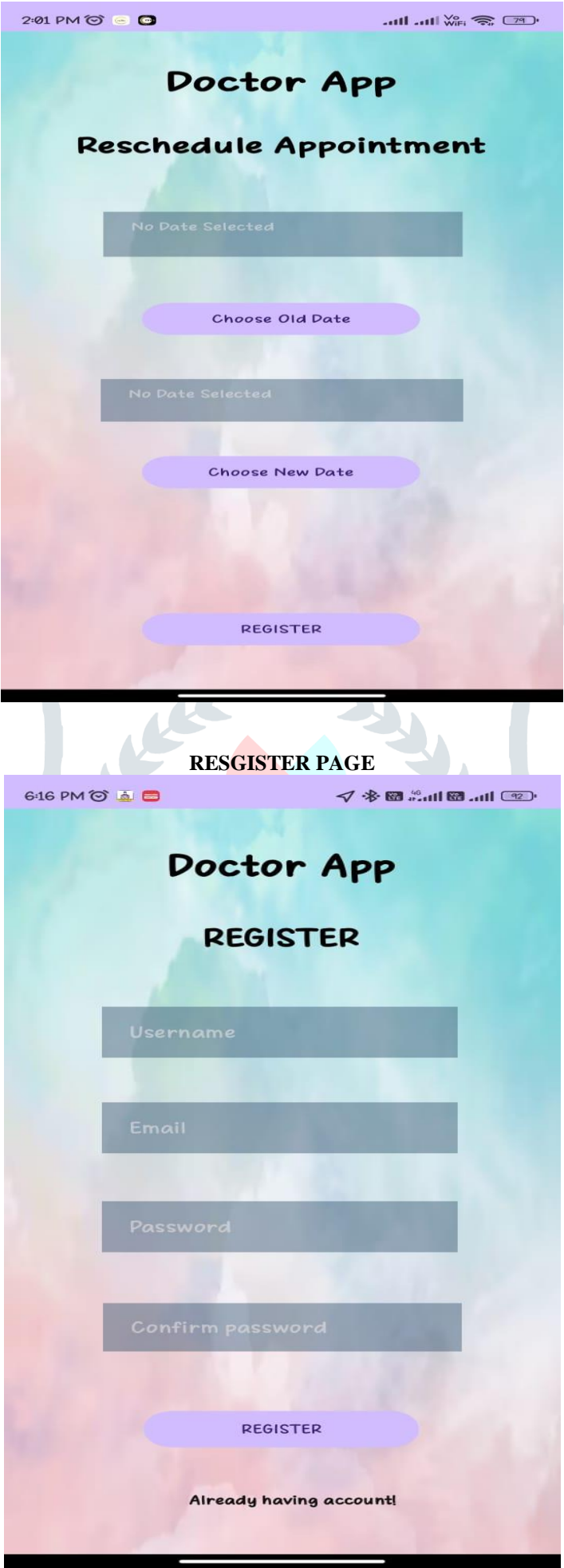
LOGIN PAGE



APPOINTMENT COMPLETE PAGE



RESCHEDULE APPOINTMENT



VI. CONCLUSION

After completing the project on doctor appointment system using mobile app, it can be concluded that this technology has the potential to significantly improve the healthcare industry. The use of mobile apps for doctor appointments not only increases



convenience for doctors, but also streamlines the entire appointment process for patients and healthcare facilities. Through the development and implementation of this system, various benefits have been identified.

One of the main advantages of this system is the reduction of wait times for patients. With the use of mobile apps, doctors can easily schedule appointments at their preferred time. This eliminates the need for patients to physically wait in long queues, saving them time and reducing frustration. Additionally, the system allows for better management of the doctor's schedule, allowing for more efficient use of their time and reducing the risk of overbooking.

Furthermore, the use of mobile apps for doctor appointments promotes accessibility for patients. This is especially beneficial for patients with mobility issues or those living in remote areas. The system also allows for the integration of online consultations, providing a convenient option for patients who may not be able to physically visit the doctor's office.

In addition to convenience and accessibility, the doctor appointment system using mobile app also promotes efficiency in the healthcare industry. By automating the appointment process, there is less room for human error and miscommunication. This leads to a more efficient and accurate scheduling process, ultimately improving the overall quality of healthcare services.

Moreover, the system also has the potential to reduce healthcare costs. With the use of mobile apps, doctors can easily reschedule or cancel appointments, reducing the number of no-shows and allowing doctors to fill the vacant slots with other patients. This can lead to a decrease in lost revenue for healthcare facilities and ultimately result in more affordable healthcare services for patients.

In conclusion, the development of doctor applications has transformed the healthcare industry, offering a multitude of benefits to both healthcare professionals and patients. These applications have the potential to significantly improve patient care, streamline medical workflows, and enhance accessibility to healthcare services. By providing efficient tools for communication, patient data management, and even remote monitoring, doctor applications can lead to better healthcare outcomes and increased patient satisfaction. However, the development of doctor applications also comes with challenges, including the need to ensure robust data security and compliance with healthcare regulations. Overcoming these challenges is crucial to maintain patient trust and meet legal requirements.

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