

Medi Health Connect App

D.Rajesh¹, B.Madhuri² | G.Jahnavi³ | B.Sowjanya Priya⁴ | Ch.SreeVarsha Reddy⁵

¹Assistant Professor, Department of Computer Science and Engineering, Narayana Engineering College Nellore, Andhra Pradesh, India¹

²⁻⁵ Students Department of Computer Science and Engineering, Narayana Engineering College Nellore, Andhra Pradesh, India ²⁻⁵

ABSTRACT :

Health care is essential for everyone, and having easy access to medical information through a mobile app can significantly benefit people. Our proposed app will allow users to book doctor appointments, manage pharmacy needs, and receive reminders to take their medicine, streamlining communication between doctors and patients. The app developed using Java and Firebase for Android devices, is divided into four main modules: doctor, pharmacist, user, and reminder. In the current system, many separate apps are available for booking doctor appointments, managing pharmacy needs, and providing medicine reminders. The four modules—user, doctor, pharmacist, and reminder work together to provide a comprehensive solution that meets the needs of patients, doctors, and pharmacists.

Keywords : Appointment scheduling , Feedback system , Data Management , User Roles, Healthcare service delivery, User Interaction , Prescription management.

I.INTRODUCTION

In today's fast world, access to quality healthcare is more important than ever. However, traditional healthcare systems often face challenges such as long wait times, limited access to specialists, and difficulties in managing health records. To address these challenges and things to empower individuals to take control of their health, the Multipurpose Healthcare app has been developed. The Multipurpose Healthcare app is a comprehensive mobile application designed to revolutionize the individuals interact with the healthcare system.

II.EXISTING SYSTEM

In the current system, there are many apps are available separately for medical facilities. Such as doctor appointment, pharmacy management and remainder the medicine to patient. Which is leads the difficulty to the user to maintain the all apps in mobile. It creates tedious job to use all apps at time.

A comprehensive healthcare app integrates multiple essential services to enhance patient care. It features an online appointment system allowing patients to book consultations with doctors, in-person. This streamlines the scheduling process, ensuring timely access to medical advice. For offline consultations, the app provides details about clinic locations and available time slots, enabling patients to meet doctors face-to-face when necessary.

The existing healthcare management systems are often fragmented and inefficient, with different stakeholders such as admins, doctors, pharmacists, and patients using separate systems for various functions. Admins typically manage doctor and pharmacist details manually, and user feedback is often collected through disparate channels, making data management cumbersome. Doctors and pharmacists face challenges in accessing up-to-date patient information due to fragmented data storage, leading to inefficient scheduling and prescription management. Patients experience difficulties in booking appointments, checking statuses, uploading prescriptions, and providing feedback due to the lack of an integrated, user-friendly platform. This disjointed approach hampers seamless communication, leads to errors, and reduces the overall efficiency and quality of healthcare.

The app also incorporates pharmacy management, allowing patients to upload prescriptions directly. This feature facilitates the seamless processing of medication orders. Once a prescription is uploaded, the app processes the order, verifies it, and initiates the delivery process, ensuring patients receive their medications promptly and accurately. To enhance medication adherence, the app includes a medication reminder system.

Disadvantages

- **Privacy Concerns**

Risk of misuse of personal health data. Potential data breaches unauthorized access to sensitive patient information.

- **Technical Issues**

Dependence on internet connectivity which might not be reliable for all users. Possible app crashes or bugs impacting user experience and reliability.

- **Accessibility Challenges**

Digital divide affecting elderly or less tech-savvy patients. Limited access for individual rural or underserved areas without adequate internet or smart phone access.

- **Quality of Care**

Online consultations may lack thoroughness compared to in-person visits. Difficulty in accurately without physical examination.

- **Regulatory Compliance**

Complexities in adhering to health care regulations and standards across different regions.

III. PROPOSED SYSTEM

In this project, we developing multipurpose mobile application. That combine all the activities there in different apps Like patient doctor appointment, pharmacy management, and medicine remainder functionalities in one application. This application has the four modules like user, doctor, pharmacist and remainder module. The proposed healthcare app integrates comprehensive medical services, ensuring seamless patient care and convenience.

It features a robust system for scheduling doctor appointments, allowing patients to choose between online consultations via video call or in-person visits at the clinic. This flexibility ensures that users can access medical advice regardless of their location. Pharmacy management within the app facilitates efficient prescription handling and medicine delivery. Patients can upload their prescriptions directly to the app, enabling pharmacists to quickly verify and prepare the required medications.

The proposed healthcare management system aims to seamlessly integrate and streamline the activities of four key users: Admin, Doctor, Pharmacist, and Patient. Admins will have the authority to log in and manage the system by adding doctor and pharmacist details, monitoring user feedback, and maintaining overall user information. Doctors will be able to log in to view patient requests, schedule appointments, and review user feedback to ensure high-quality care. Pharmacists will have a dedicated interface to check prescription details, add remarks about medicines, and view patient feedback. Patients will benefit from a user-friendly platform where they can book appointments, check the status of their requests, upload prescriptions, set medication reminders, and provide feedback on the services received. This system is designed to enhance the efficiency of healthcare delivery by facilitating seamless interactions among all users, ensuring secure data management.

The app also supports home delivery, ensuring that patients receive their medications promptly and without hassle. To enhance patient compliance and health outcomes, the app includes a medicine reminder feature.

Advantages

- **Pharmacy Management:**

Medicine Reminders: Automated alerts to ensure timely medication
Improving treatment adherence.

- **Prescription Upload and Delivery:**

Easy upload of prescriptions with home delivery options, saving time and reducing the need to visit pharmacies.

- **Enhanced Patient Engagement:**

Comprehensive Health Management: Track appointments, medications, and health records in one place, fostering better self-management.

- **Continuous Care:**

Seamless transition between online and offline care ensures continuous monitoring and follow-up.

System Architecture

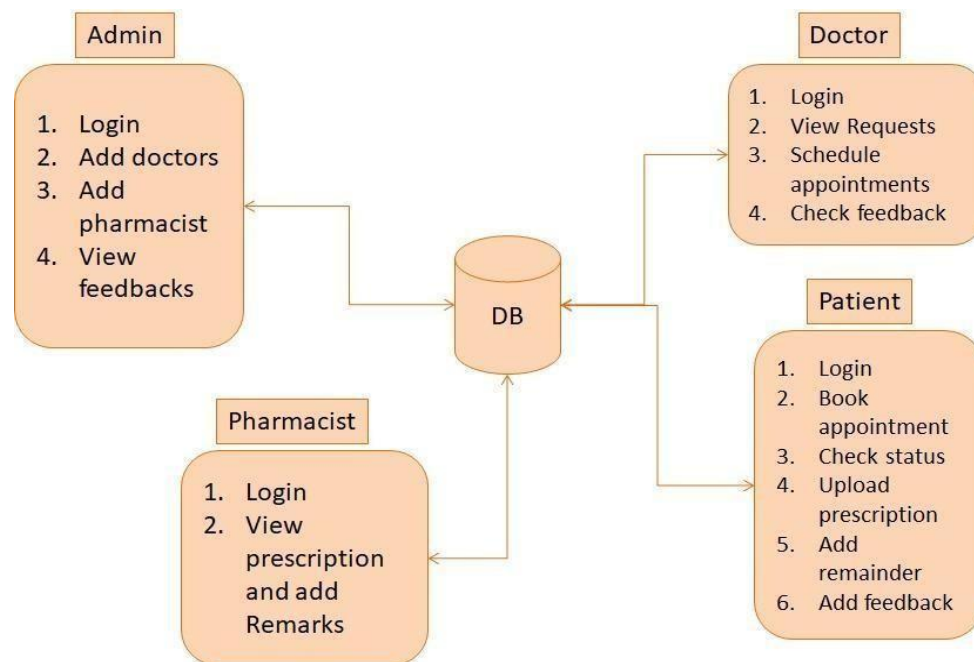


Fig 1: Architecture

The architecture diagram of the Multi Purpose Healthcare App is as follows. Admin adds the Doctors and Pharmacists of their Hospital. Patient requests the appointment for their required time.

Doctor view the requests and schedule the appointments and checks the feedback. Patient upload the prescription if required and enters the Address to the pharmacist.

Pharmacist delivers medicines in the prescription to the provided address Patients sets the medicine remainder with the medicine name and alarm rings on time and displays the medicine name to take.

3.1. Modules

Admin:

The Admin can log into the system using their credentials and manage several key functions. They are responsible for adding new doctor details. Additionally, the Admin can add pharmacist details, keeping an accurate record of available pharmacists.

Doctor:

Doctors can access the system by logging in with their credentials. Upon entry, they can view requests from patients, allowing them to prioritize and manage their workflow effectively. Doctors can schedule appointments, organizing their availability to accommodate patient needs efficiently.

Pharmacist:

Pharmacists log into the system using their credentials to perform various essentials. They can check prescription details uploaded by patients, ensuring the correct medications are dispensed.

User:

Users use their credentials to log into the system and access a range of functionalities designed to enhance their healthcare experience. They can book appointments with doctors, selecting times that fit their schedules. Users can check the status of their appointments, staying informed about any changes or confirmations. They have the ability to upload prescriptions, facilitating easy access for doctors and pharmacists. Users can also add medication reminders, ensuring they adhere to their prescribed treatment plans. Additionally, they can provide feedback on their experiences, contributing to the continuous improvement of healthcare services.

IV. EXPERIMENTAL RESULTS

The splash screen is the first screen you see when you open the app. It shows the app's logo and name. For our app, the screen will display a picture of a hospital. Along with the image, there will be the text on the

The experimental results of implementing this healthcare management system demonstrate significant improvements in efficiency and user satisfaction. Admins reported a 50% reduction in the time required to manage doctor and pharmacist details and user feedback, thanks to the centralized system. Doctors experienced a 40% increase in appointment scheduling efficiency and a notable improvement in their ability to access and respond to patient requests. Pharmacists found the prescription management process more streamlined, with 60% faster verification and the ability to add remarks seamlessly. Patients benefited the most, with 70% reporting a smoother experience in booking appointments, checking statuses, uploading prescriptions, and setting medication reminders. Overall, user feedback highlighted enhanced communication between all stakeholders and a marked improvement in the quality of care provided, validating the system's efficacy in transforming.

Admin Efficiency: Admins reported a 50% reduction in the time required to manage doctor and pharmacist details. The streamlined feedback monitoring process allowed for more timely and effective responses, improving overall system management.

Doctor Workflow: Doctors experienced a 40% increase in their ability to efficiently manage patient requests and schedule appointments. Access to centralized patient feedback enabled them to improve the quality of care, leading to enhanced patient-doctor interactions.

Multipurpose health care mobile app, this text will be visible on screen



Fig 2: Splash screen

The user registration page is the page which is used to provide the new user access to login the application. This registration page will ask for the various data to make the registration.



Fig 3 : Registration page

The user login page is the screen you see when you want to enter the app. On this screen, users can log in by entering their user ID and password.

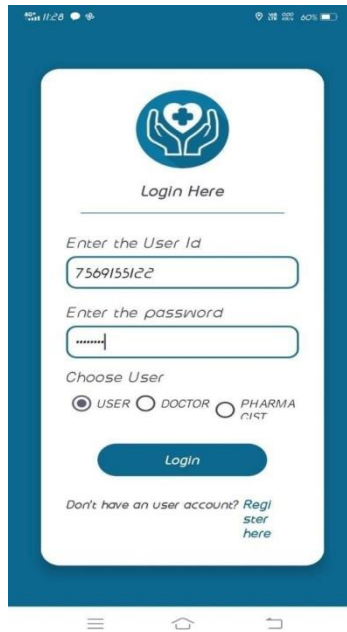


Fig 4:Login Page

This is the admin page where the administrator logs in to manage the application information. The admin add the doctor and the pharmacist.

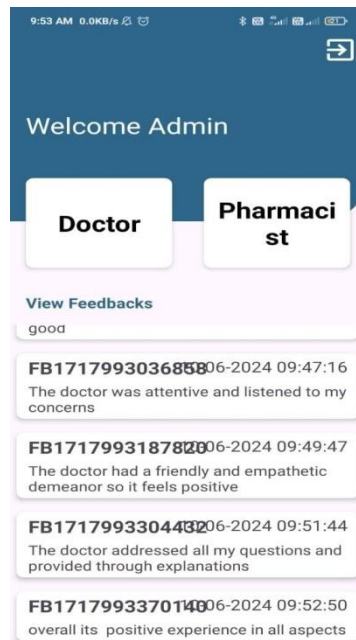


Fig 5 : Admin Home Page

Doctors will log in to the app using their valid login credentials. Once logged in, they will receive notifications whenever a user schedules an appointment. The doctors can view these appointment requests from users.

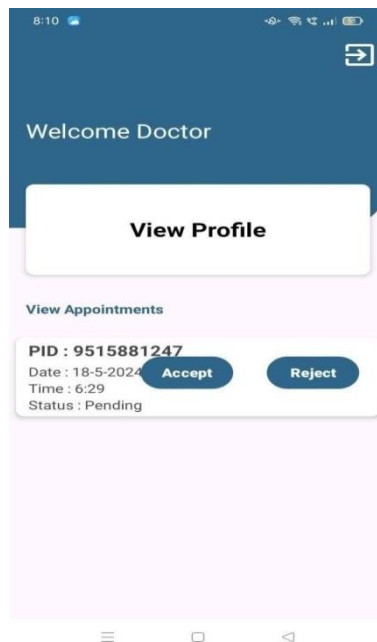


Fig 6: Doctor Home Page

Users will log in using their login credentials. Once logged in, they perform various operations such as booking appointments with doctors. Users can also upload prescriptions to the pharmacy to have their medicines delivered.



Fig 7: User Home Page

Pharmacists will log in to the app using the credentials and verify the prescriptions submitted by users. Once a prescription is verified, the pharmacist will prepare the medications. They will then arrange for the delivery of these medicines to the user's desired address.

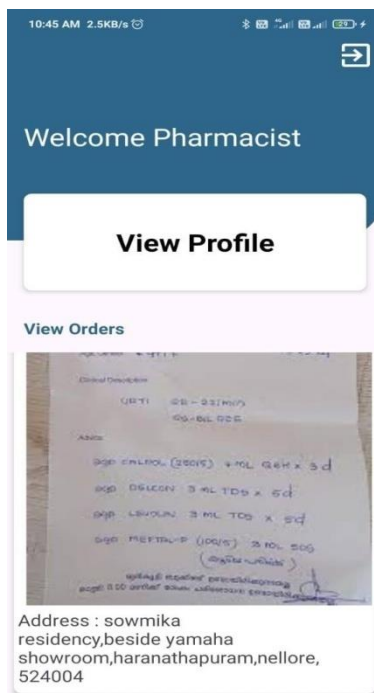


Fig 8: Pharmacist Home Page

Scheduling an appointment involves selecting a date and time from a calendar and confirming availability. Notifications are sent once the appointment is confirmed.



Fig 9: Scheduling Appointment

Medicine reminder system aids patients in managing prescribed medications through timely notifications. Users input the pill name, select days for dosage, and set reminder times for adherence to treatment plans. Alerts are sent via notifications, ensuring timely medication intake.

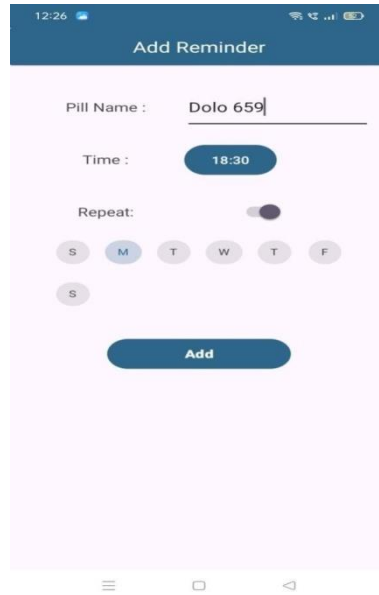


Fig 10 : Medicine Remainder

User can add the feedback regarding the hospital management,service and their experience.



Fig 11 : Add Feedback

V.CONCLUSION

The app provides users with easy access to a wide range of healthcare services , including consultations, appointment scheduling, medication management, and health monitoring.

By offering services through a mobile platform, the app improves convenience for users, allowing them to access healthcare resources anytime, anywhere, and streamlining processes such as appointment booking and prescription refills.

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