

A Mobile App for Doctors Appointment scheduling

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ABSTRACT

Mismanagement within a large institution such as a hospital or clinic gives rise to various complications, such as longer wait times, delayed and erratic healthcare, and the need to work overtime for healthcare providers and related staff. This paper discusses all the undertaken measures regarding research, implementation, and development of 'DocEasy' an application developed to eliminate the previously mentioned issues, thus ensuring a smooth and seamless consultation experience for any healthcare institution that incorporates it. Developed on Android Studio and by implementing services provided by Firebase, the application (which can be accessed by physicians and desk clerks) boasts several features, such as reducing wait times by scheduling, the ability to hand over appointments to a substitute physician (in the event that the primary physician is on vacation, or overcome by an emergency) ensuring uninterrupted healthcare, the receptionist will be able select physicians based on the patient's corresponding symptoms, and the provision for doctors to view their patient's profile ahead of the appointment.

1 Introduction

Imagine this you enter a building, its walls stark white and its citizens clad in mint green. They rush to tend to those they have taken an oath to protect, to nurture. All of a sudden, there is a surge of these care seekers, swarming through the front door. Chaos abounds, and the scrub clad folk struggle to provide their undivided care and attention to them. Dr. Smith sighs as his shift has been extended due to a surge of unexpected appointments. Even though he is a general physician, he is obligated to consult with younger patients due to the increased number of summer illnesses. His vacation plans seem bleak as the other doctors are swamped with work as well. Now, imagine this you enter the same building, its walls stark white and its citizens clad in mint green. They are calm and composed in their offices, tending to those they have taken an oath to protect and to nurture. Patients have already been sorted and are recommended physicians based on their symptoms before they have even set foot into the premises. Dr. Smith has to leave early today. It's the first day of summer and he cannot wait to get to the beach. He doesn't have to worry about his patients as they will continue to receive their healthcare from Dr. Kapur till he returns. The second scenario seems much more appealing than the first, doesn't it? It is all because of 'DocEasy', A mobile application designed to support doctors in organizing schedules, overseeing clinical appointments, delivering in-office patient care and seamlessly transferring appointments to specialized physicians within the same medical domain during any absence. This facilitates uninterrupted care provision, ensuring a smooth continuum of patient treatment and management. This application—a beacon of digital innovation—simplifies the once-arduous task of managing doctor appointments. It sweeps away the antiquated system of pen and paper, replacing it with a streamlined, digital solution. The result? A dramatic reduction in wait times and a seamless booking experience. Doctors and receptionists alike find it easy to navigate the application's user-friendly interface, making the process of scheduling and managing appointments a breeze. And in the dynamic world of healthcare, where doctors may be unavailable due to emergencies or holidays, the application works like a charm. DocEasy effortlessly allows doctors to hand over their appointments to their colleagues, ensuring uninterrupted care for patients. In the heart of the hospital, amidst the chaos and volatility of life, this application will stand as a testament to the power of technology to improve healthcare. Welcome to the future, where managing doctor appointments is just a tap away.

1.1 Challenges

- High Performance, Scalability, and Availability:

Healthcare systems must be available to provide prompt care because, in the event of a malfunction, patient's lives are at risk. Performance and scalability are similar. The systems should function without interruption and smoothly scale on

demand to accommodate increasing demands.

- Preference for Speaking Over the Phone:

Instead of making appointments online, many people would rather give their doctors a call. One way to address this would be to offer patients a phone option whereby they may make or cancel appointments and obtain access to their medicines and medical records.

- Privacy and Security Issues:

Sensitive and private healthcare data must be shielded from abuse and illegal access. Encryption, authentication, authorization, and auditing systems that guarantee data confidentiality, integrity, and availability can be put into place to do this.

- Unpunctual Patients: Patients who are late for their appointments can seriously interfere with the efficient use of scheduling systems. These patients can set off a chain reaction of events that could result in longer wait times for other patients, hurried consultations, and more stress for medical staff. Moreover, it may lead to an under utilization of resources when spaces designated for patients who arrive late are left empty.

2 Literature Review

Author	Year	Methods/ Algorithm	Results	Review
Nazia S & Ekta Sarda [1]	2014	Scheduling (Case Study)	The case study found several issues with traditional scheduling systems such as unpunctual patients, long waiting times, and delayed healthcare.	“Patient-centeredness” is becoming more and more important in the healthcare industry. The increasing recognition of the patient’s role in both the preparation and execution of health care is essential to this change. These apps provide ease, flexibility, and transparency for patients as well as physicians. As a result, the scheduling of medical appointments, which is the fundamental basis for the majority of non-urgent health care services, is currently undergoing significant changes to encourage patient participation. Patients have greater accessibility and more options when it comes to how they want their appointments to go when they use online resources as a medium.
Akinode et al., [2]	2017	Ajax framework and MYSQL	A patient appointment and scheduling system (with Angular JS for the front-end, Ajax framework for handling client-server request and Sqlite3 and MYSQL for the back-end) was developed.	One important component of healthcare services is scheduling appointments. Numerous applications and methods of solving appointment scheduling issues in healthcare systems have been put forth. An advantage of automating clinical services and operations in different medical facilities is the appointment and scheduling system. Through an automated scheduling system, outpatients can register online, make and cancel appointments, and manage their details. The system is expected to decrease patient wait times and boost physician productivity

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Dat 'I&' Luu Tien [3]	2019	Analysis of a real time scenario involving scheduling at clinics.	This paper discusses the problems faced by incompetent scheduling systems as well as waiting times and patient satisfaction with outpatient clinic visits, treatments and services.	The term "waiting time" describes the duration of time a patient must endure while waiting for their appointment or consultation to commence. "The duration from the patient's admission to the outpatient clinic to the time the patient actually received his or her prescription" is how it is defined. It can also mean the whole span of time a patient spends from the time they schedule their appointment until their appointment with a doctor actually begins.
Roma Chauhan et al., [4]	2014	This research paper analyzed a popular medical application.	This paper delves into the homegrown healthcare startup, 'Practo', and entails its features, success, as well as drawbacks.	Using the healthcare app Practo, users may locate medical practices, schedule an immediate appointment, and have online consultations with physicians. In addition, users can ask medical issues and receive responses from the professionals on hand. Users of the service can also schedule private online consultations with any doctor of their choosing. In addition, the app lets users save their appointments and preferred providers in addition to viewing previously scheduled appointments. The application also has a navigation tool that makes it easier for users to locate the practices. Additionally, the software lets users select an appropriate time window in which to schedule an appointment [4]. This application's shortcoming is that it lacks information about the days during which a particular physician can be reached at a specific hospital.

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Ismail, N. S. et al., [5]	2017	Prototype Model, MySQL Database and programming language use is PHP and JavaScript.	Prototype Model is used to develop this system. As for the hardware and software used to develop this system, it is MySQL Database and programming language use is PHP and JavaScript. By developing this system, it will reduce the number of calls for an appointment and avoid the morning rush for an urgent appointment.	The current standard operating method for scheduling appointments and registering patients in a healthcare setting is laborious and time-consuming. The "Medical Appointment Application" is a web-based mobile application designed to manage the scheduling of appointments for a few medical organizations, irrespective of the services they offer within a specific region. In order to view the appointments made by users, the patients, the practices will need to register on the web portal. The 'Medical Appointment' application will assist users and patients in scheduling appointments. Additionally, this system is developed using the Prototype Model. PHP and JavaScript were employed as programming languages, while MySQL Database was the hardware and software utilized in the development of this system. By creating this system, fewer calls will be made in search of an appointment, and the morning rush for an urgent appointment would be avoided. Additionally, it might lessen the need to recruit extra receptionists, saving a substantial amount of work. Additionally, it saves the user time by removing the need to haggle over a convenient appointment time with the receptionist. With the help of this technology, they will be able to operate more profitably, effectively, and efficiently than they currently do with the cumbersome appointment process.
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Pal et al., [6]	2023	Text-mining 'I&' Machine-learning	<p>This study highlights the usage of user reviews to determine the characteristics that affect user star ratings. Additionally, the study evaluates user reviews of nine currently available healthcare apps and makes strategic recommendations for raising user happiness and app ratings for healthcare providers.</p> <p>Based on the literature analysis and domain expertise, the authors have categorized the reviews into the twelve most important elements.</p> <p>On the other hand, the digital revolution of healthcare delivery has been significantly influenced by variables like lockdown/COVID, expenditure of time and money, resource effectiveness, convenience, and responsiveness.</p>	<p>Demand for mobile health (mHealth) systems has surged in recent years considering the COVID-19 pandemic, and the preference of customers for doorstep services. Nevertheless, there is currently an absence of academic study on the variables impacting customer reviews-based consumer experiences and satisfaction levels on these platforms.</p> <p>By applying topic-modelling methodologies, it was determined that the influencing factors (predictors) divided them into two main categories: motivating association and strategic adoption. The research's conclusions indicate that providing a good user experience on m-health platforms is significantly influenced by time and money, convenience, responsiveness, and availability. This study offers crucial information about the variables that affect how well a user interacts with a mobile health app. These results will help application and business model developers comprehend the fundamental needs for creating a user-focused application.</p> <p>Additionally, if the mHealth sector develops throughout time, researchers will benefit from it by having methodological guidelines to follow when discovering novel characteristics in the future.</p>
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Sandesara et al., [7]	2022	Literature Survey and Visualization (Analysis)	<p>It is evident from the survey's numerical figures that the planning, designing, and ongoing development of a user interface and user experience heavily rely on the preferences and involvement of the users, which in turn depend on a variety of factors like age, gender, or mindset based on their technical background. Therefore, developing an exceptional mobile application requires a thorough analysis of each component.</p>	<p>Mobile application development is a significant emerging field that is booming as a result of the rapid growth in the ownership of handheld cellular devices. Moreover, a lot of programs fall short of their goal of drawing in the target audience, which is based on their User Interface (UI) and User Experience (UX). As a result of this, developers frequently find it difficult to live up to users' expectations. A variety of studies that examined various elements of design and the user experience of mobile applications utilizing UX/UI have been conducted up to this point. Nevertheless, a large number of these previously conducted surveys only addressed a small number of the issues at hand and neglected to take into account other important factors including language, feedback, context, user behavior, emotions, and control, visualization/graphics, and usability. The preferences and impressions of a diverse range of interested individuals have been gathered by the researchers of this study in their pilot survey, which took into account all of the previously described features. Mobile application developers could utilize these choices as a guide, providing them with useful data. Their suggested method would assist designers and developers of mobile applications in concentrating on the specific UI/UX issues of those applications in light of their pertinent contexts. This study presents an unbiased comparison of the major UI and UX aspects that define a mobile application interface. A wide spectrum of concerned individuals' points of view and interests were discussed. Mobile application developers can use these choices as a reference, which provides them with helpful information. The authors' suggested method would assist designers and developers of mobile applications in concentrating on specific UI/UX issues related to their applicability. This study provides an in-depth comparison of the major UI and UX aspects that define a mobile application interface. When creating and developing different mobile applications, user interface (UI) and user experience (UX) are the two essential components. Therefore, when creating the application, developers should take into consideration everything described previously. The younger generation anticipates seamless mobile application engagement with their electronic devices. An application's aesthetic (UI) fosters users to interact with it more, while its functionality (UX) helps make a good first impression that encourages further engagement and pleasure from users. In order to design a mobile application, both of these components must be completely in equilibrium.</p>
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Jadhav et al., [8]	2016	Web Based Notification Management System with Android Application)	Implementation of system is mostly concentrating on receiving notifications through android applications	<p>Web based notification systems have always had the capacity to become more prominent in our lives. With almost every aspect of our lives managed by handheld devices, it is obvious that we as forgetful human beings would like to be notified about the important events in life such as meetings, appointments, commencement of events, and so on. Web notifications are largely used in the academic realm where schools and colleges are equipped with these systems to make the lives of students much more productive, all while notifying their guardians about their progress. These systems offer a solution for student information maintenance through an easy-to-use interface by utilizing an all-encompassing way to keep apprised of the different tasks that a school manages. Using the Android application, parents may obtain comprehensive information about their child's education, providing facts on attendance, fees owing, results, reports on progress, vital notices, school event details, instructor information, and more. In order to facilitate communication between parents and college teachers, the system also includes an inquiry message option. An effective technology as such has also been used in the healthcare realm, although there seems to be a lot of room for improvement.</p>
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Vidya K [9]	2020	Analyzing (SMTP)	<p>SMTP is a widely adopted email standard, enables servers to send and receive messages. It operates as a push protocol for sending emails, complemented by POP or IMAP for retrieval. The majority of email systems that transmit messages over the internet utilize SMTP to transfer messages from one server to another; clients can use POP or IMAP to retrieve the messages. Moreover, emails are often sent from an electronic mail client to a mail server using SMTP. This is the reason that when we configure our utilities, we need to know the POP or IMAP server as well as the SMTP server. The following are some recent general or experimental SMTP extensions:</p> <ul style="list-style-type: none"> • guide for numerous carrier environments, • global delivery reputability and disposition notifications • content material conversion • message monitoring • internationalized scope with submission carrier extension for destiny message release 	<p>SMTP is used as the common mechanism for transporting electronic mail among different hosts within the transmission control protocol/Internet protocol (TCP/IP) suite. It is an application layer protocol. An application that enables us to send messages electronically over the internet is email. It offers a real-time, low-cost, and environmentally friendly way to distribute statistics to individuals. Nevertheless, one may also send non-textual content files as attachments sent in binary streams, such as sound and imagery. The most commonly used application of the World Wide Web was and still is electronic mail. It was one of the first things people accomplished online. Emails can also be shared between users of different Internet providers and in public and private networks that are not connected to the internet. This paper examines the protocols that are secured by SMTP (simple mail transfer protocol) and internet protocol (IP).</p>
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Qabajeh et al., [10]	2023	Analyzing and Designing	<p>An Android mobile application portal for doctor and patient booking was developed, aiming to improve the quality of health-care by improving appointment times. They developed an effective booking system to enable all stakeholders to manage their bookings and daily work. The system also addresses privacy and security issues that are fundamental in medical applications. Feedback from all stakeholders was generally positive, and when all stakeholders tested the system, it showed high performance.</p>	<p>The availability of high-speeds Internet technologies and smart phones, doctors and patients need to improve their medical interactions. In recent times, parents have been put under heavy workloads and pressures, enabling them to forget important details about their children, particularly vaccination milestones. Furthermore, a lack of awareness of the symptoms of the disease increases the likelihood of many serious and fatal diseases. Therefore, it is important to establish a system of appointment and consultation for medical vaccinations for children under the age of six. In this paper, the authors developed an effective reservation system using mobile applications based on Android and interactive websites.</p> <p>A centralized database was developed to process appointments and manage health records. Four modules were developed, i.e. the Patient Module Doctor Module, the Nurse Module and the Manager Module. Their proposed system aims to improve the quality of healthcare by improving appointment times. In addition to this, the system has reduced the time and effort required to carry out vaccination appointment processes and to ensure that vaccinations are delivered on time.</p>
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Table 2.1. Literature Review

The above table 2.1 summarizes various research papers related to healthcare appointment scheduling systems which we referred for making our project.

3 Problem statement

Create a mobile application designed to assist physicians in organizing their schedules, managing both Clinic Visitor and Resident Patient, as well as facilitating the smooth transfer of patient responsibilities during periods of absence, ensuring uninterrupted and seamless continuity of care.

4 Proposed Design and Methodology

4.1 Design

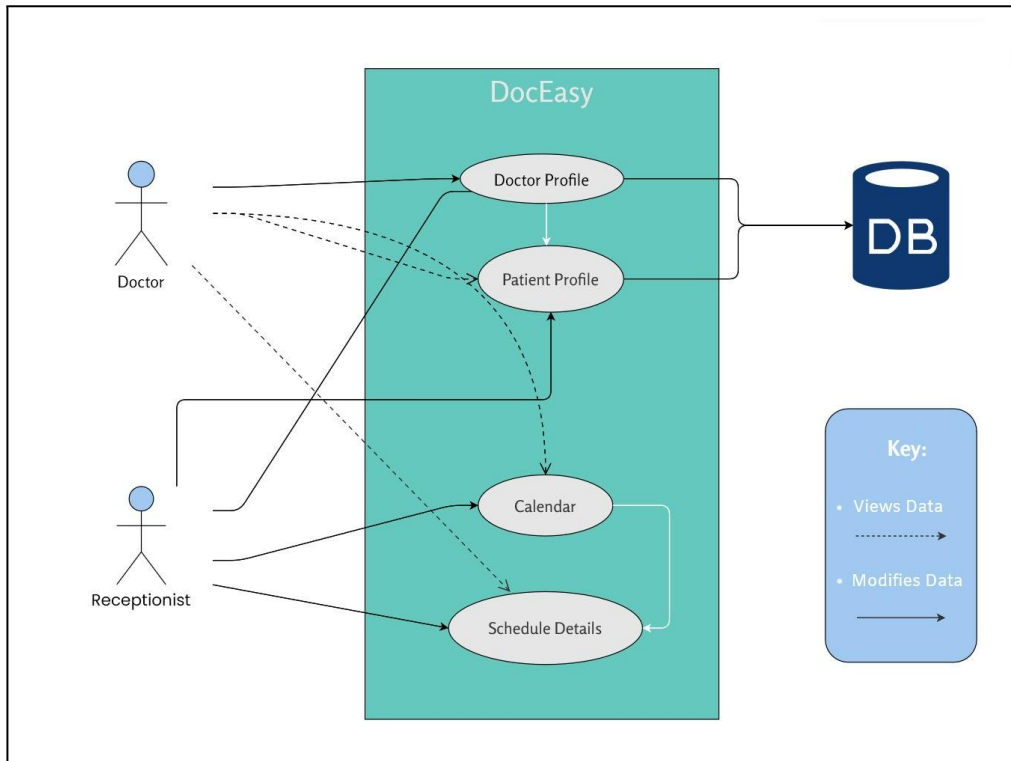


Figure 4.1.1. Architecture Diagram

61

62 The Figure 4.1.1 depicts Architecture of the users and their respective functionalities, categorizing them into two distinct roles:
63 doctors and receptionists. Receptionists, in their role, are responsible for scheduling new appointments and the details of these
64 appointments are subsequently stored in the Firestore database. On the other hand, doctors have the capability to retrieve
65 information about their patients directly from the Firestore database. The profile details of both receptionists and doctors are
66 maintained within the database. It is important to note that only receptionists possess the authorization to create or delete
67 appointments. On the contrary, doctors are limited to accessing appointments that are specifically designated for them, and they
68 can input the prescription details for each individual patient which is stored in Firestore's database. Here are some key features
69 of Android Studio:

- 70 • Flexible Gradle-based build system: Android Studio uses Gradle as the foundation of the build system, allowing you to
71 customize, configure, and extend the build process.
- 72 • Fast and feature-rich emulator for app testing: It comes with a fast emulator that helps you test your application on a
73 variety of Android devices.
- 74 • Consolidated environment: Android Studio provides a unified environment where you can develop apps for all Android
75 devices.
- 76 • Code templates and GitHub integration: These help you build common app features and import sample code.
- 77 • Extensive testing tools and frameworks: Android Studio provides a range of testing tools and frameworks to ensure your
78 app works as expected.
- 79 • Built-in support for Google Cloud Platform: This makes it easy to integrate Google Cloud Messaging and App Engine.

Key Features of Firebase Include:

- Unlimited reporting, cloud messaging, authentication, and hosting services.
- In-built analytics dashboard that can report on 500 distinct events without any limits.
- It allows for audience segmentation, integration with other services, and facilitates app development.
- Superior performance and productivity.
- It supports a wide range of embedded applications, enhancing its flexibility.
- Compatibility with numerous operating systems.
- Being cloud-hosted, Firebase allows developers to scale on-demand effortlessly.

4.2 Methodology

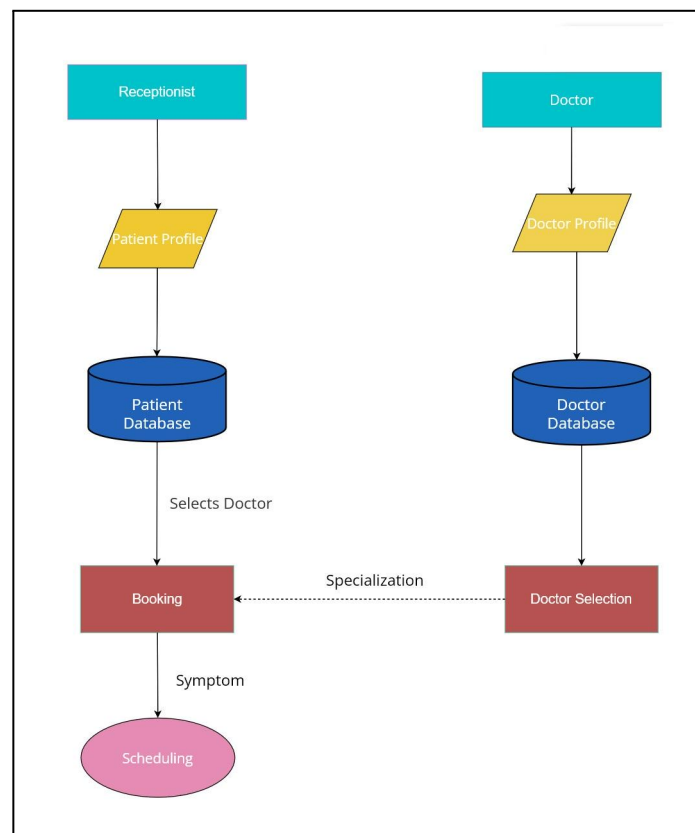


Figure 4.2.1. Methodology Diagram depicting the flow of data

The Figure 4.2.1 The depicted Data Flow Diagram showcases the interplay between two distinct roles: Doctors and Patients. Both the Doctor's and Receptionist's profile data is stored in the Firestore Database. The Receptionist is responsible for scheduling new appointments. When a new appointment is booked for a new patient, a corresponding patient profile is created and stored in the Firestore database. For returning patients, the Receptionist can streamline the appointment process by directly creating a new appointment without having to re-enter all personal details, as this information can be retrieved directly from the Firestore repository. The Doctor has exclusive access to view their appointment details and can input prescription details for each individual patient. These prescription details are also stored in the Firestore database and can be reviewed by the Doctor at a later time. Only the Doctor has the authorization to access and check the prescription details of the patients.

Input: Patient Details, Doctor Details

Output: Scheduling

- 1 User can open the DocEasy and select the type of user. Shared Preferences are used to store and retrieve the user's role information. This information is checked to determine whether the user is a doctor or a recipient, and the appropriate activity is launched accordingly.
 - 2 Receptionist logs into Doc Easy App. Receptionist credentials are authenticated using authenticated using Firebase Authentication.
 - 3 The receptionist is responsible for scheduling appointments, and the details of each appointment are stored in a Firestore Database. The receptionist verifies the availability of the selected appointment by utilizing a straightforward if-else loop.
 - 4 Doctor logs into Doc Easy App. Doctor credentials are authenticated using Firebase Authentication. DocumentSnapshotListener code is used to listen for changes in the Firestore document containing the doctor's information. This triggers the re-fetching of appointments when the document is updated.
 - 5 Filter Chips are used to filter out the patients and appointment lists. The filterpatientsBySearch method filters patients based on the entered query.
 - 6 In the Doctor's Home page, the doctor has access to view all their scheduled appointments. Additionally, they can filter and display appointments for a specific day by selecting the desired date from the calendar for this a list view and DatePickerDialog has been used.
 - 7 Doctors can apply by entering the start date, end date and remarks. These details are stored in a HashMap.
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98 **6 Results and Discussion**

99 **6.1 Dataset**

Sl.No.	Event	Attribute & value	Expected result
1.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Mohana Email: mohana@gmail.com Phone number: 9000023456 Username: Mohana Password: mohana@123	successfully Signed in
2.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Manoj Email: manoj@gmail.com Phone number: 9452236036 Username: Manoj Password: manoj@123	successfully Signed in

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3.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Vikrant Email: vikrant@gmail.com Phone number: 9000023235 Username: Vikrant Password: vikrant@123	successfully Signed in
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Table 6.1. Receptionist Signup Activity

SI.No.	Event	Attribute & value	Expected result
1.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Mishra Username: Dr.Mishra Phone number: 9603375633 Speciality: ENT Specialist Experience: 12 Email: mishra@gmail.com Working Shift: 9:00 AM -12:30 PM Password: mishra@1234	successfully Signed in
2.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Swapna Username: Dr.Swapna Phone number: 9693349049 Speciality: Dermatologist Experience: 9 Email: swapna@gmail.com Working Shift: 9:00 AM -12:30 PM Password: swapna@1234	successfully Signed in

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3.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Name: Bhagya Username: Dr.Bhagya Phone number: 9600478922 Speciality: Gynecologist Experience: 10 Email: bhagya@gmail.com Working Shift: 14:30 PM - 20:30 PM Password: bhagya@1234	successfully Signed in
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Table 6.2. Doctor Signup Activity

SI.No.	Event	Attribute & value	Expected result
1.	Verify the receptionist's login upon entering the correct email address and password.	Email: mohana@gmail.com Password: mohana@123	successfully logged in
2.	Verify the receptionist's login upon entering the correct email address and password.	Email: manoj@gmail.com Password: manoj@123	successfully logged in
3.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Email: vikrant@gmail.com Password: vikrant@123	successfully logged in

Table 6.3. Receptionist Login Activity

SI.No.	Event	Attribute & value	Expected result
1.	Verify the receptionist's login upon entering the correct email address and password.	Email: mishra@gmail Password: mishra@1234	successfully logged in

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2.	Verify the receptionist's login upon entering the correct email address and password.	Email: swapna@gmail.com Password: swapna@1234	successfully logged in
3.	Upon selecting the signup button, provide accurate and suitable information that can be utilized for authenticating the receptionist's login.	Email: bhagya@gmail.com Password: bhagya@1234	successfully logged in

Table 6.4. Doctor Login Activity

SI.No.	Event	Attribute & value	Expected result
1.	Initiating a new appointment by providing the necessary patient information.	Name: Prashanth Age: 58 Gender: Male Phone number: 9555324567 Address: Yelahanka Speciality: General Physician Doctor: Dr.Mishra In Or Outpatient: Outpatient Appointment Date: 05/01/2024 Time Slot: 10:30AM - 11:00AM Medical Remarks: Fever	New Appointment created Successfully

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2.	Initiating a new appointment by providing the necessary patient information.	Name: Moksha Age: 25 Gender: Female Phone number: 9000345632 Address: Yelahanka Speciality: General Physician Doctor: Dr.Mishra In Or Outpatient: Outpatient Appointment Date: 05/01/2024 Time Slot: 12:30PM - 18:30PM Medical Remarks: Fever	New Appointment created Successfully
3.	Initiating a new appointment by providing the necessary patient information.	Name: Arjun Age: 32 Gender: Male Phone number: 9525678912 Address: Rajanakunte Speciality: General Physician Doctor: Dr.Kokila In Or Outpatient: Outpatient Appointment Date: 05/01/2024 Time Slot: 9:30AM - 12:30PM Medical Remarks: Fever	New Appointment created Successfully

Table 6.5. New Appointment Activity

SI.No.	Event	Attribute & value	Expected result
1.	Doctor Leave Applying	Name: Dr.Mishra Start Date: 2/01/2024 Start Date: 5/01/2024 Remarks: Medical Leave	Leave applied successfully
2.	Doctor Leave Applying	Name: Dr.Kokila Start Date: 3/01/2024 Start Date: 5/01/2024 Remarks: Vacation	Leave applied successfully
3.	Doctor Leave Applying	Name: Dr.Swetha Start Date: 2/01/2024 Start Date: 5/04/2024 Remarks: Maternity Leave	Leave applied successfully

Table 6.6. Doctor Applying Leave

SI.No.	Event	Attribute & value	Expected result
1.	Initiating a new appointment by providing the necessary patient information.	Name: Prashanth Age: 58 Gender: Male Phone number: 9555324567 Address: Yelahanka In Or Outpatient: Outpatient Appointment Date: 05/01/2024	New Patient created successfully

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2.	Initiating a new appointment by providing the necessary patient information.	Name: Moksha Age: 25 Gender: Female Phone number: 9000345632 Address: Yelahanka In Or Outpatient: Outpatient Appointment Date: 05/01/2024	New Patient created successfully
3.	Initiating a new appointment by providing the necessary patient information.	Name: Arjun Age: 32 Gender: Male Phone number: 9525678912 Address: Rajanakunte In Or Outpatient: Outpatient Appointment Date: 05/01/2024	New Patient created successfully

Table 6.7. Patient Creation Activity

- Table table 6.1 Displays the information that a Receptionist must enter during the Signup activity.
- Table table 6.2 Displays the information that a Doctor must enter during the Signup activity.
- Table table 6.3 Displays the information that a Receptionist must enter during the Login activity.
- Table table 6.4 Displays the information that a Doctor must enter during during the Login activity.
- Table table 6.5 Displays the information that a Receptionist enters to a new appointment.
- Table table 6.6 Displays the information that Doctor enters to apply leave.
- Table table 6.7 Displays the information that required to make a patient creation.

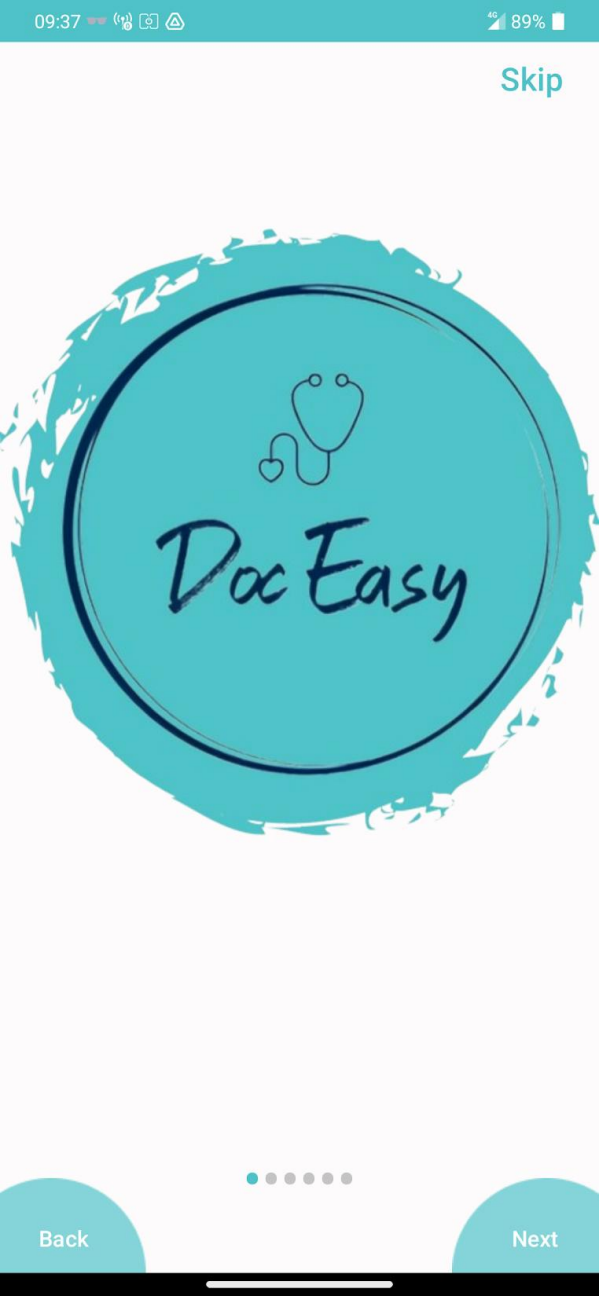


Figure 6.2.1. Onboarding Screens(1)

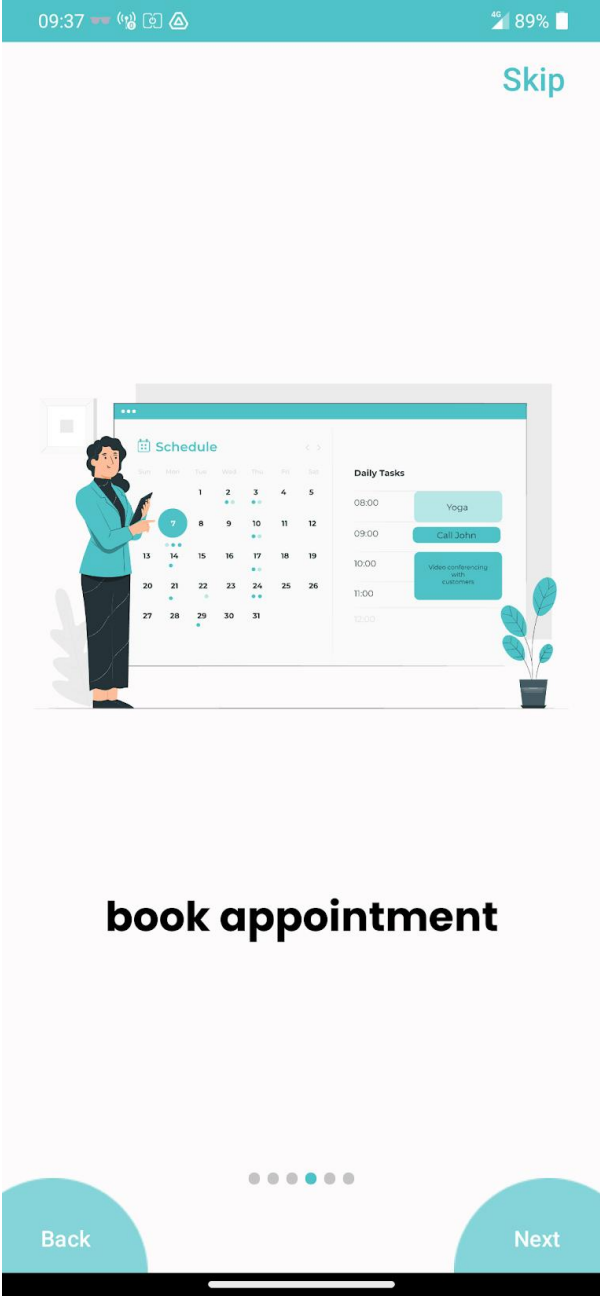


Figure 6.2.2. Onboarding Screens(2)

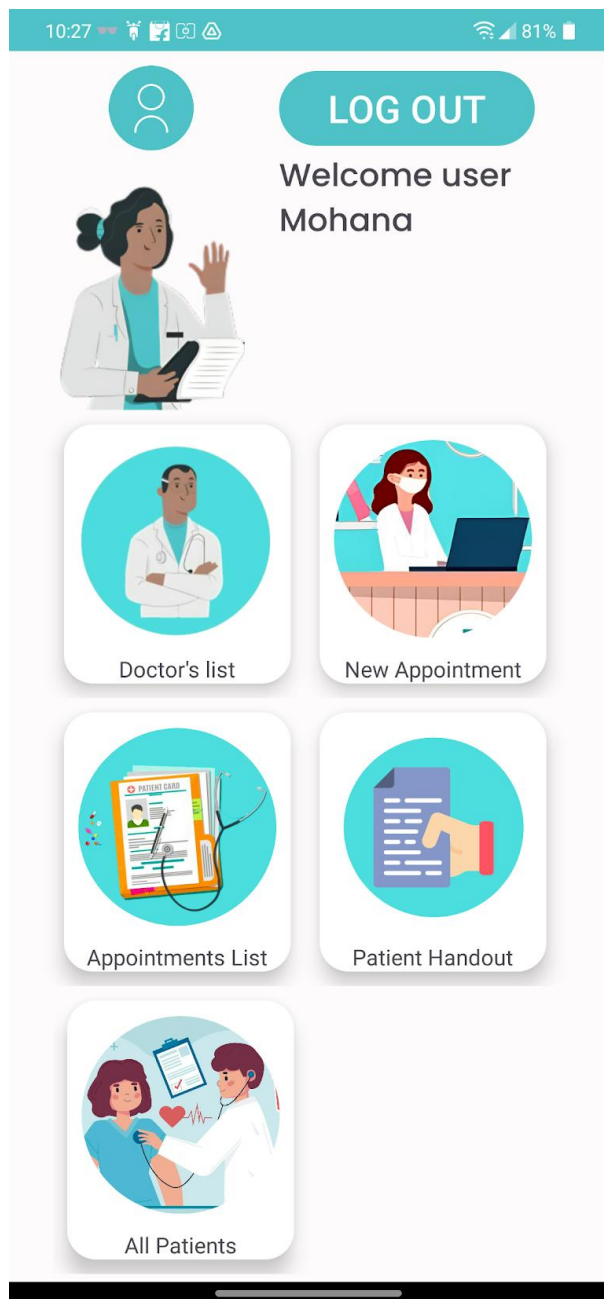


Figure 6.2.3. Receptionist Home Page

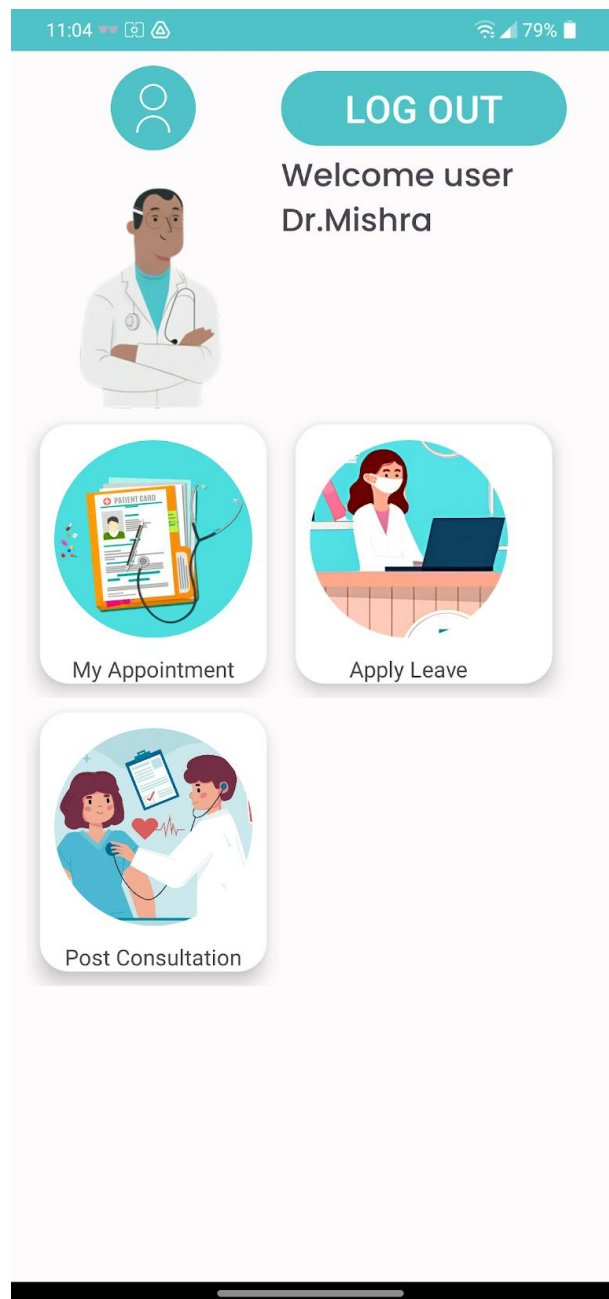


Figure 6.2.4. Doctor Home Page

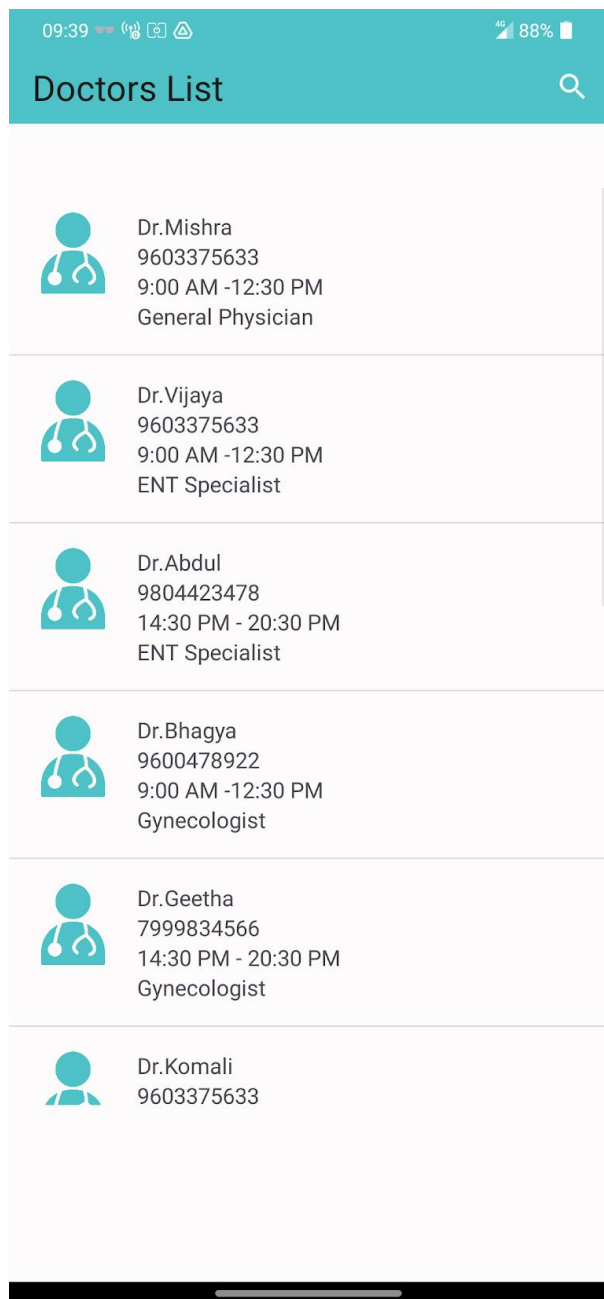


Figure 6.2.5. All Doctors

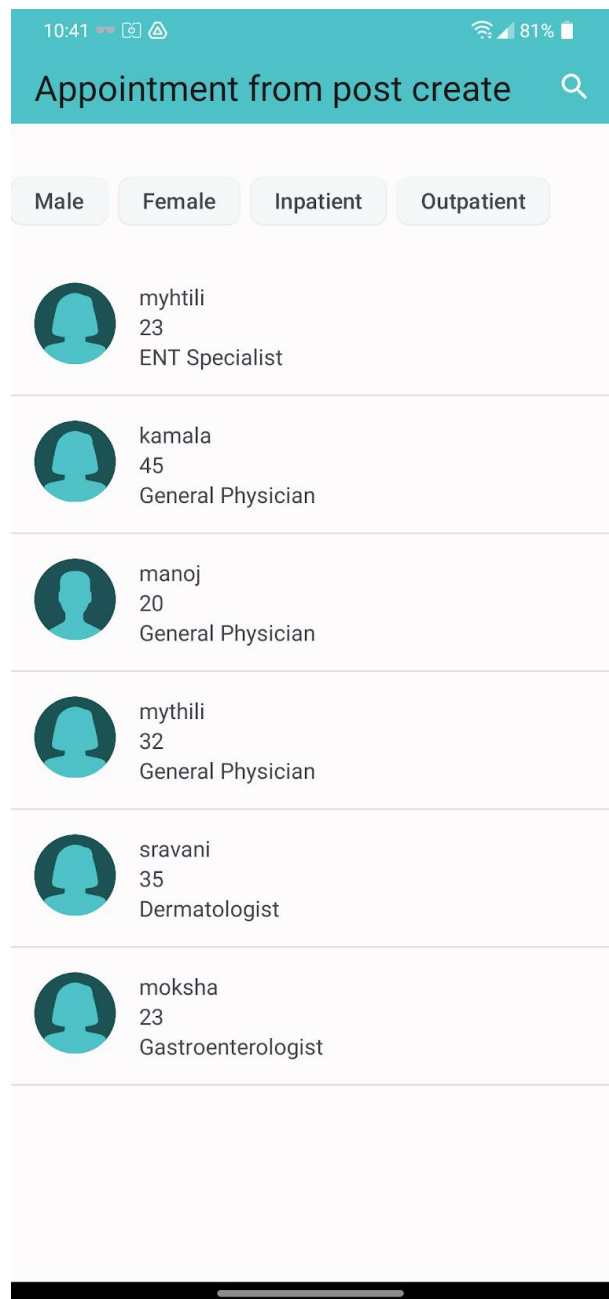


Figure 6.2.6. All Patients

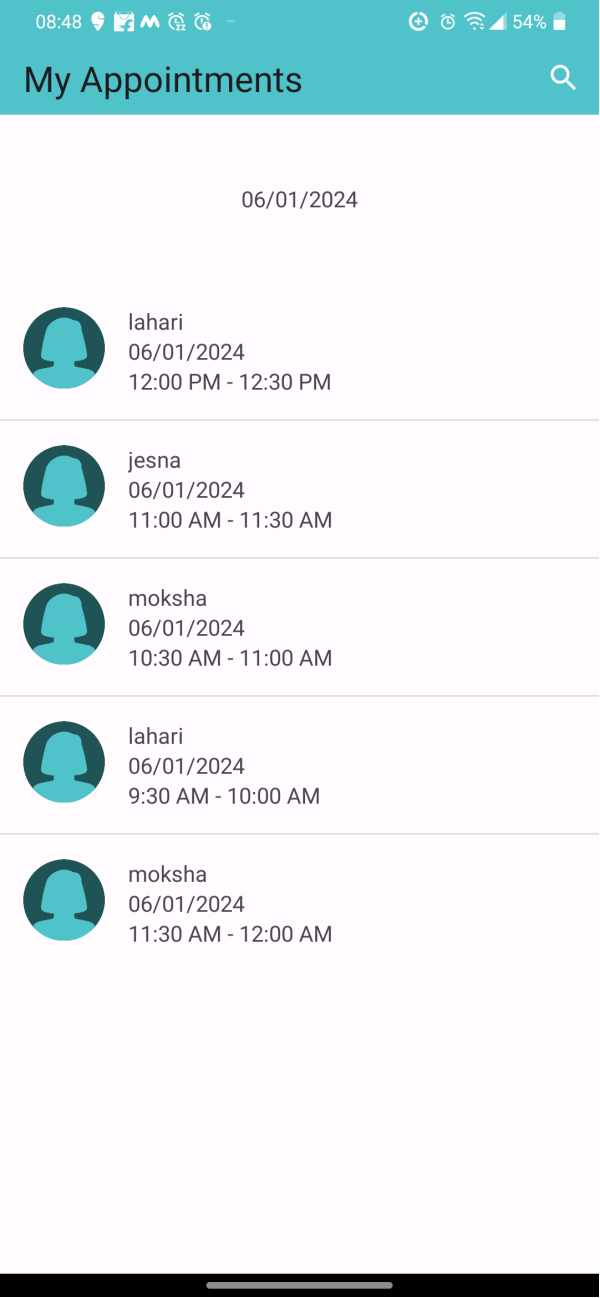


Figure 6.2.7. My Appointments

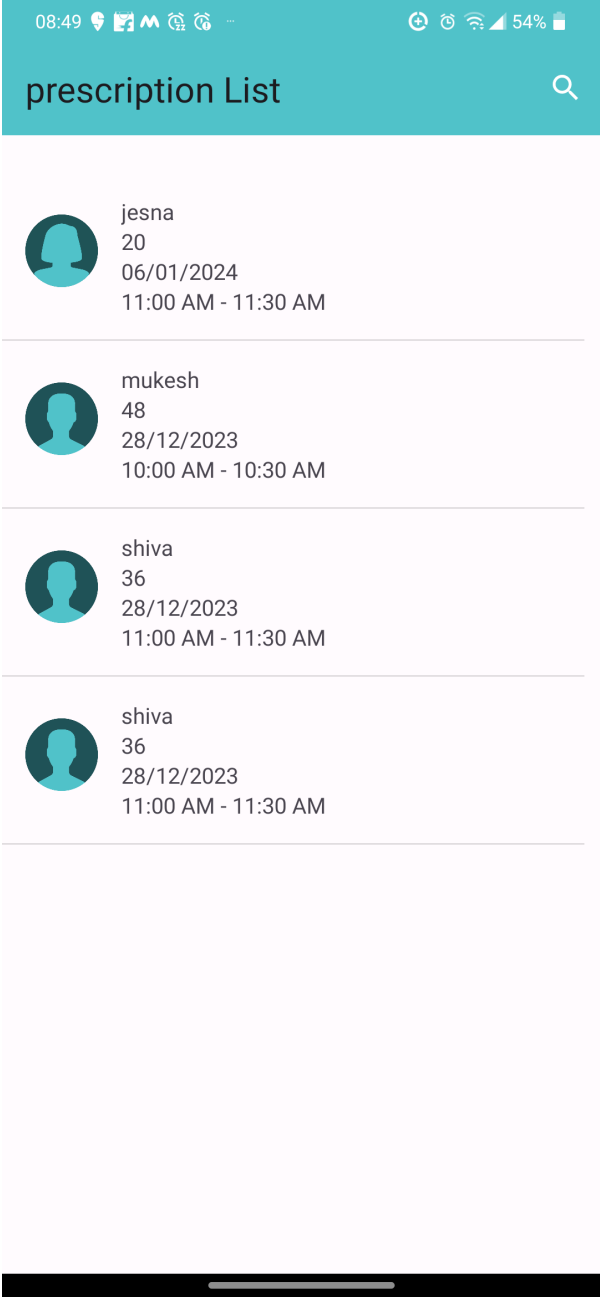


Figure 6.2.8. Post Consultation List

DocEasy helps doctors to plan their schedule and leaves. It helps Doctors to check their appointments in particular and organize their post consultation records.

Receptionist uses DocEasy to book new appointment and schedule the appointments. Receptionist has access to see all doctors, patients and appointment details. Receptionists will be able see the list of doctors on leave and will assign the appointments to replacement doctors.

- Figure 6.2.1&Figure 6.2.2 are the onboarding screens shown to the new user.
- Figure 6.2.3 shows the Receptionist Home Page which is visible upon successful login or signup. The Receptionist Home Page features different card views, allowing the receptionist to create new appointments, view lists of all appointments, patients, doctors, and doctors on leave. Additionally, it includes buttons for accessing the Receptionist Profile and for logging out.
- Figure 6.2.4 Shows the Doctor Home Page which is accessible to doctors upon successful login or signup. The Doctor Home Page features card views for viewing appointments assigned to them, entering prescription details through a Prescription Form, and accessing post-consultation information. Additionally, doctors can utilize the "Apply Leave" card view to request leave.
- Figure 6.2.5 shows the list of Doctors.
- Figure 6.2.6 shows the list of patients.
- Figure 6.2.7 shows the list appointments assigned to the particular Doctor.
- Figure 6.2.8 shows the list of prescription details from post consultations of a doctor.

7 Expected Outcomes

Enhanced management of Appointments.

Handing over of appointments in case of leaves by receptionist.

Streamlined In-Patient Care.

Helping doctors to plan and manage their appointments.

Enhanced management of Appointments.

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Streamlined In-Patient Care.

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8 Conclusion

Based on the conducted research on topics such as the history and evolution of healthcare applications, we have understood common problems that occur while using them. Our aim is to develop an application inspired by pre-existing applications, that addresses and resolves the prior discovered issues. Comprehensive study into the notification system is also required to be able to implement it in our application.

Furthermore, we intend for the mobile app to address the challenges doctors faced during appointment planning, outpatient and in-patient care management, and continuity of care during days of absence. It will provide doctors with convenient tools to streamline their work processes, leading to enhanced patient care quality and effective collaboration between medical professionals.

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