

Part 3.1 System Prototype

Yu, Clyde Allen

Zacarias, Hosea James

Human Computer Interaction

CS152

CHERRY LISONDRA

I. Project Description

M.A.P.S (Medical Appointment Planning System) is a user-centric mobile application designed to streamline the process of scheduling medical appointments. By integrating features such as doctor search and filter, appointment booking, and reminders, M.A.P.S facilitates easy access to healthcare providers, tailored to user preferences for specialty, location, and availability. The app's intuitive interface caters to users of all technical levels and includes accessibility options to ensure inclusivity. This project aims to enhance the efficiency of medical consultations, reduce the burden on emergency services, and improve overall patient care by making healthcare more accessible.

II. Requirements Summary

M.A.P.S aims to enhance the process of scheduling medical appointments by incorporating the following features:

1. **Appointment Booking:** The app should allow users to book appointments directly, showing real-time availability and enabling easy scheduling.
2. **Doctor Search and Filter:** Users should be able to search for doctors by specialty, location, availability, and ratings, using a sophisticated filtering system to find the best match for their medical needs.
3. **Appointment Reminders:** To ensure users do not miss their appointments, the app will send automated reminders via notifications, enhancing user experience and appointment adherence.
4. **Doctor Profiles:** Detailed profiles for each doctor, including qualifications, experience, patient reviews, and consultation fees, should be accessible to help users make informed decisions.
5. **User Ratings and Reviews:** Users should be able to rate their experience and leave reviews for doctors, contributing to community-driven insights and helping others in their selection process.
6. **User Interface and Navigation:** The app should feature an intuitive and user-friendly interface, making it easy for users of all ages and technical skills to navigate and use the app effectively.

III. Prototype Description

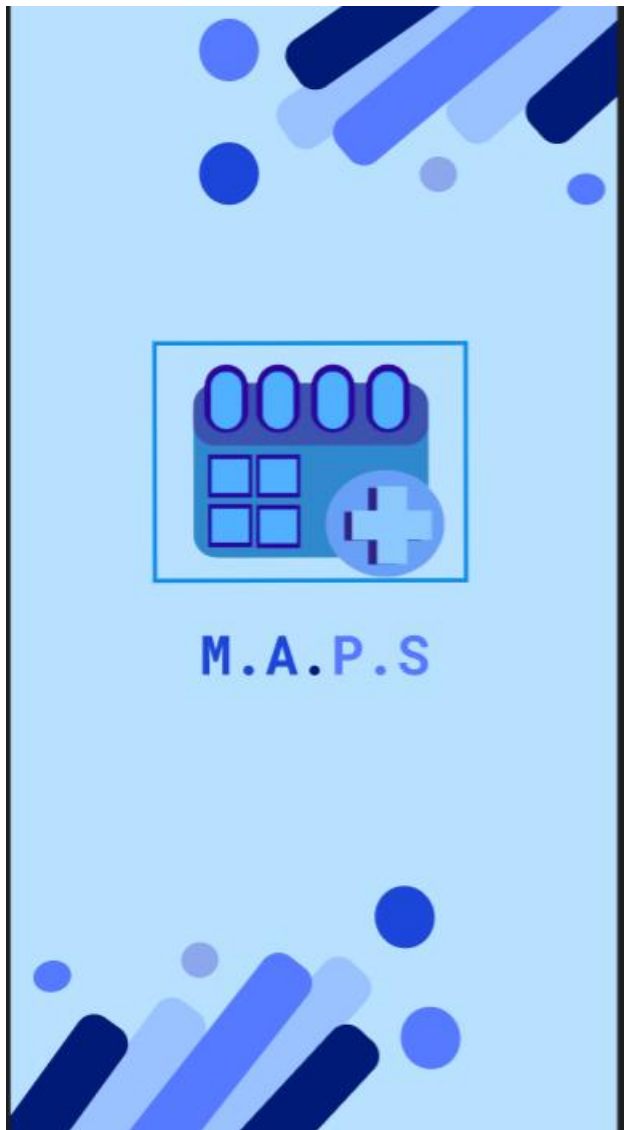


Figure 1. Splash Screen

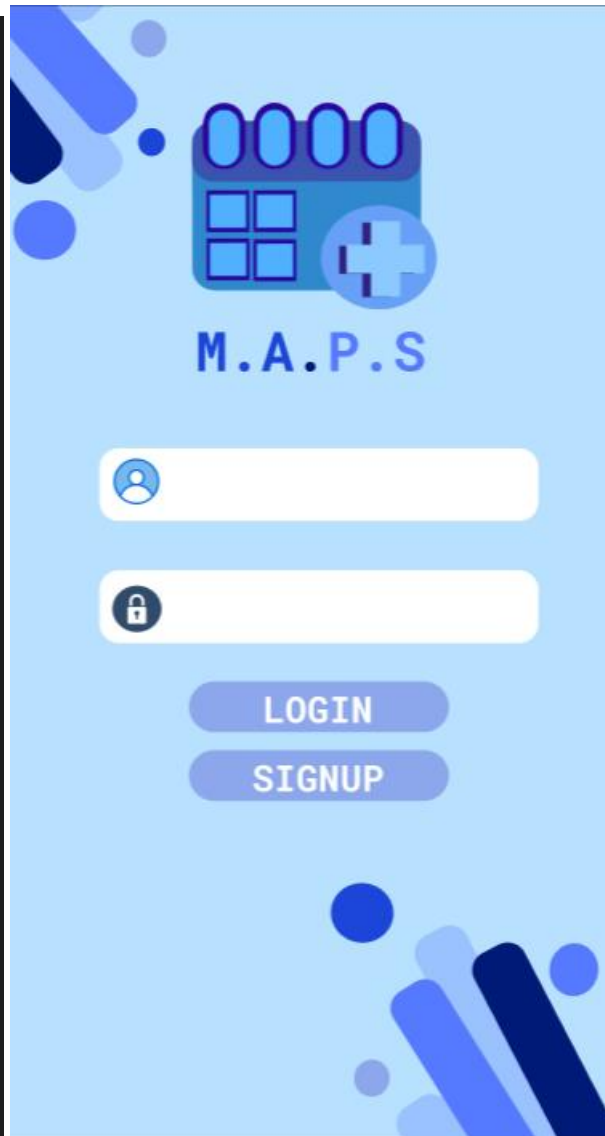


Figure 2. Login Screen

Once the app is opened it will show the splash screen then loads into the login screen where the user can either sign up an account or log in an existing account.



M.A.P.S

NAME

MOBILE NUMBER

EMAIL

BIRTH DATE 

PASSWORD 

SIGNUP

Figure 3. Create Account

CONFIRMATION



Enter the 6 digit code
sent to you that ends
in -1234

CONFIRM

Figure 4. Confirmation

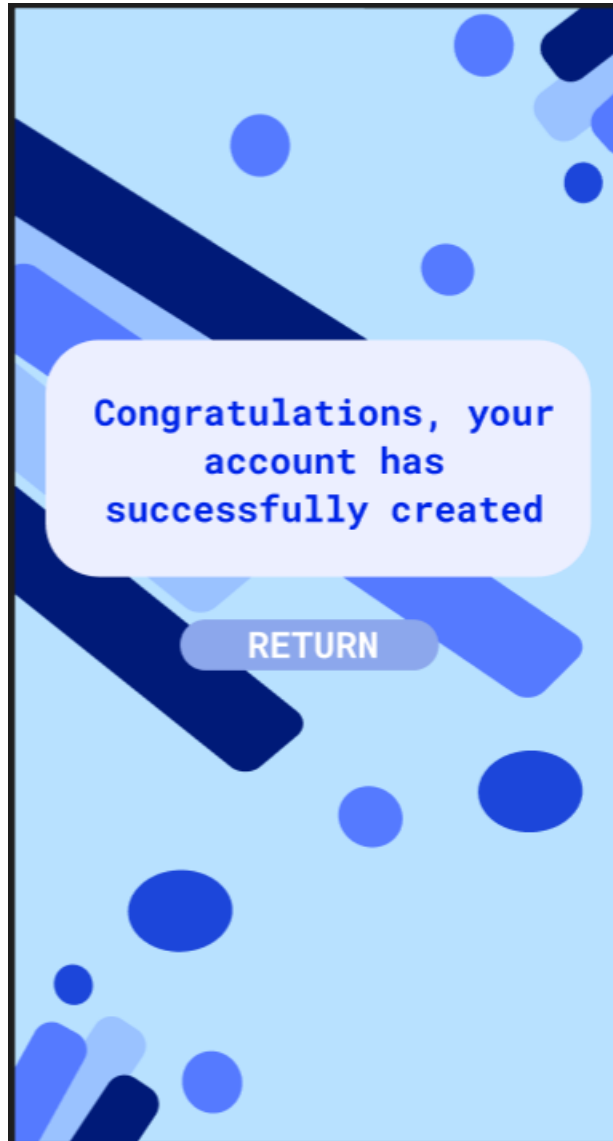


Figure 5. Success Message

If the user wants to create an account, it will transition into Figure 3, where the user has to input their first name, last name, email, birthdate, and password. For the birthdate, the user can utilize the calendar button to open a calendar for accessibility if the user wants to choose its birthday that way. Then after it would send a 6-digit verification code to the user's inputted mobile number in order to verify the account. After that, it would display the success message then the user returns to the log in page.

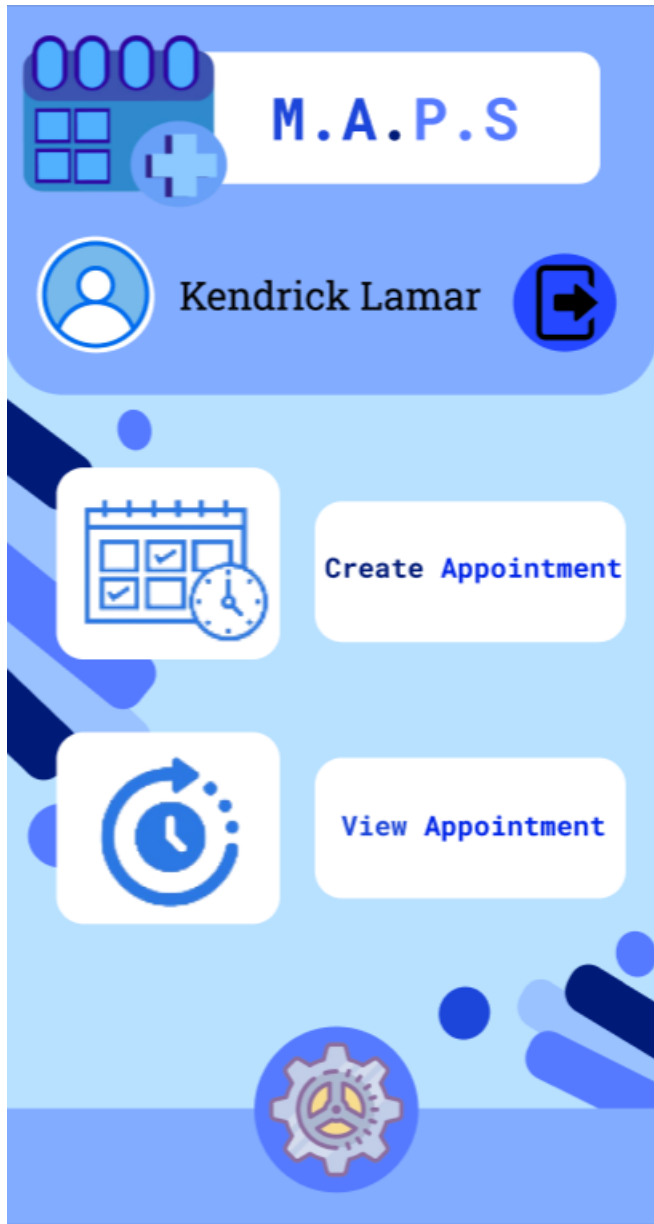


Figure 5. Main Menu

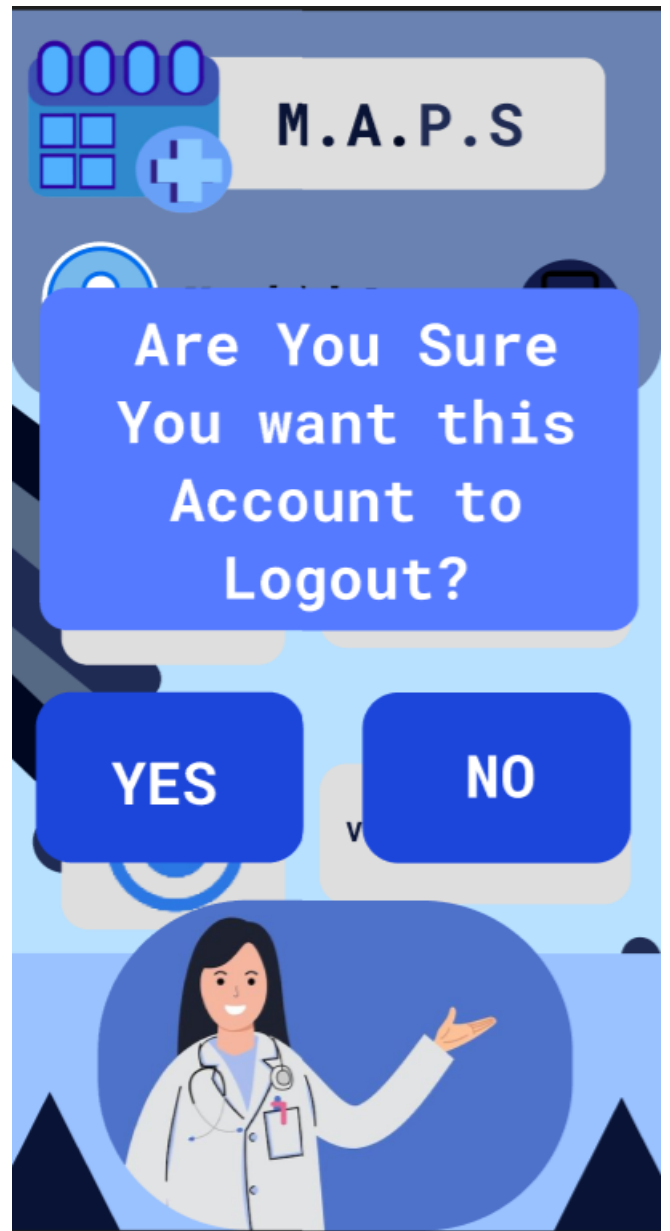


Figure 6. Log Out

After the user logs in, the app will display the main menu showing the user whether to Create Appointment, View Appointment, check the settings of the app, or Logout. In Figure 6, if the user wants to log out there would be a popup message confirming logging out to ensure that the user doesn't accidentally exit their account.

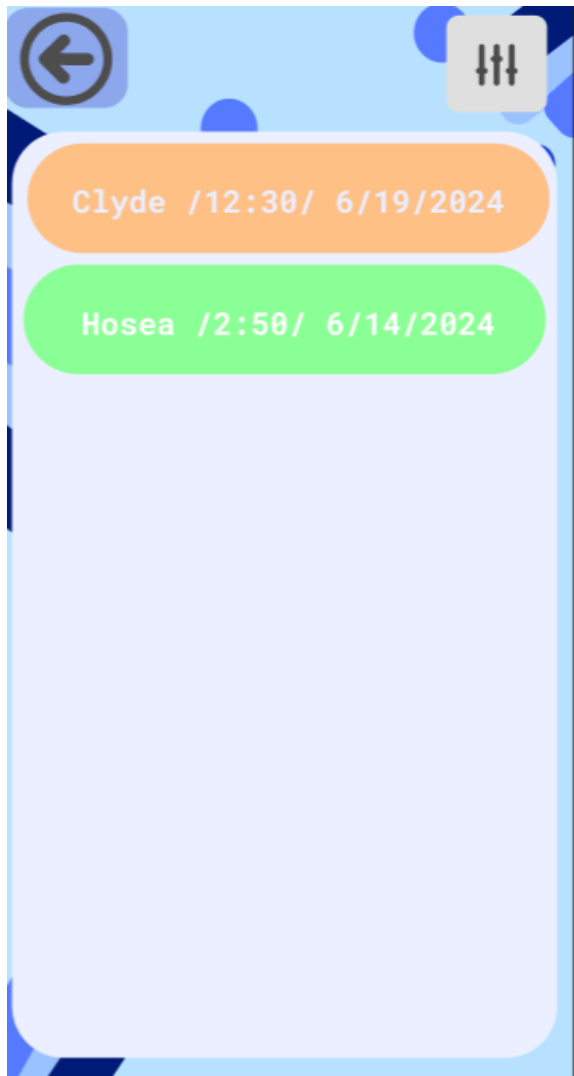


Figure 7. List of Previous and Current Appointment (With Appointments)



Figure 8. List of Previous and Current Appointments (No Appointments)

The image shows a mobile app interface for viewing appointment details. At the top, there is a blue header bar with a back arrow icon on the left and a settings icon (three vertical lines) on the right. Below the header, a green rounded rectangle contains the text "Clyde /12:30/ 6/19/2024". Underneath this, a blue rounded rectangle contains the text "Status:" followed by a white pill-shaped button with the word "Completed" in green. The main content area is a large green rounded rectangle containing the following text: "Name: Clyde Duckworth Lamar", "Name of Doctor: Dr. James Dean", "Specialist: Urologist", "Date: 6/29/24", "Time: 12:30 PM", "Location: Pennsylvania Avenue NW, Washington, DC", and "Payment Method: Cash-In".

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Clyde /12:30/ 6/19/2024

Status: **Completed**

Name:
Clyde Duckworth Lamar

Name of Doctor:
Dr. James Dean

Specialist:
Urologist

Date:
6/29/24

Time:
12:30 PM

Location:
Pennsylvania Avenue NW, Washington,
DC

Payment Method:
Cash-In

Figure 9. Appointment Details

If the user clicks View Appointments in the Main Menu, it would show the list of previous and current appointments done by the account. If there are no appointments at all, the app will show Figure 8. Clicking a previous appointment will show the details of that said appointment.

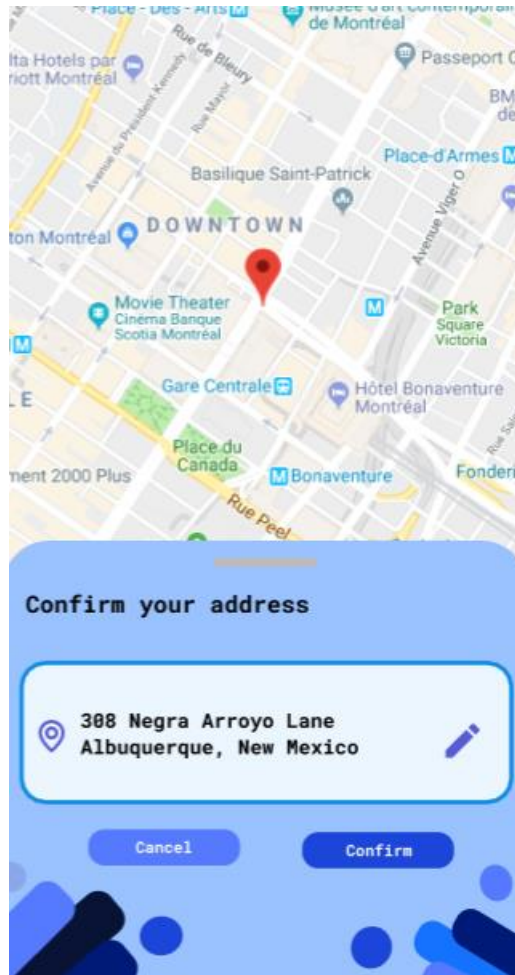


Figure 9. Confirm Location

Once the user creates an appointment, they first have to confirm their location in order to get a list of doctors and specialists near the user's location.



Figure 11. List of Doctors

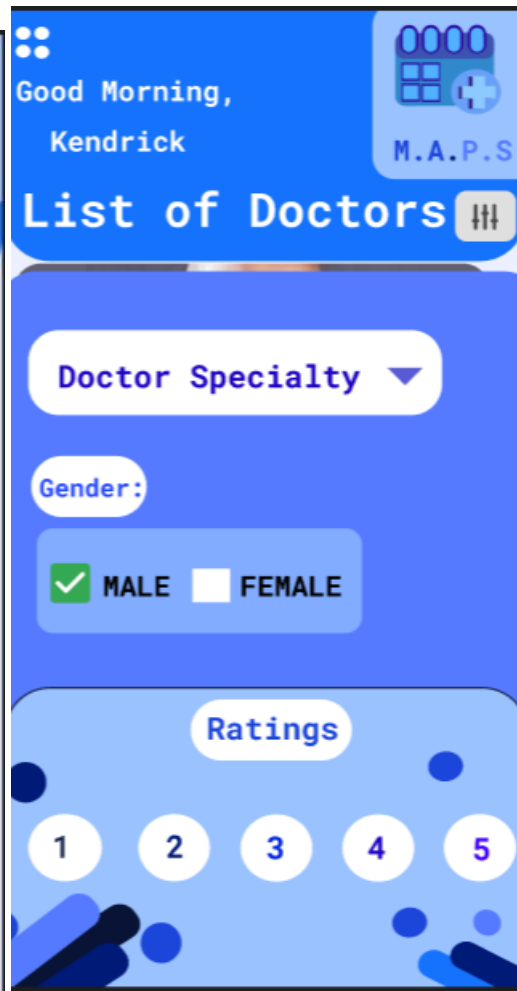


Figure 12. Doctor Filter

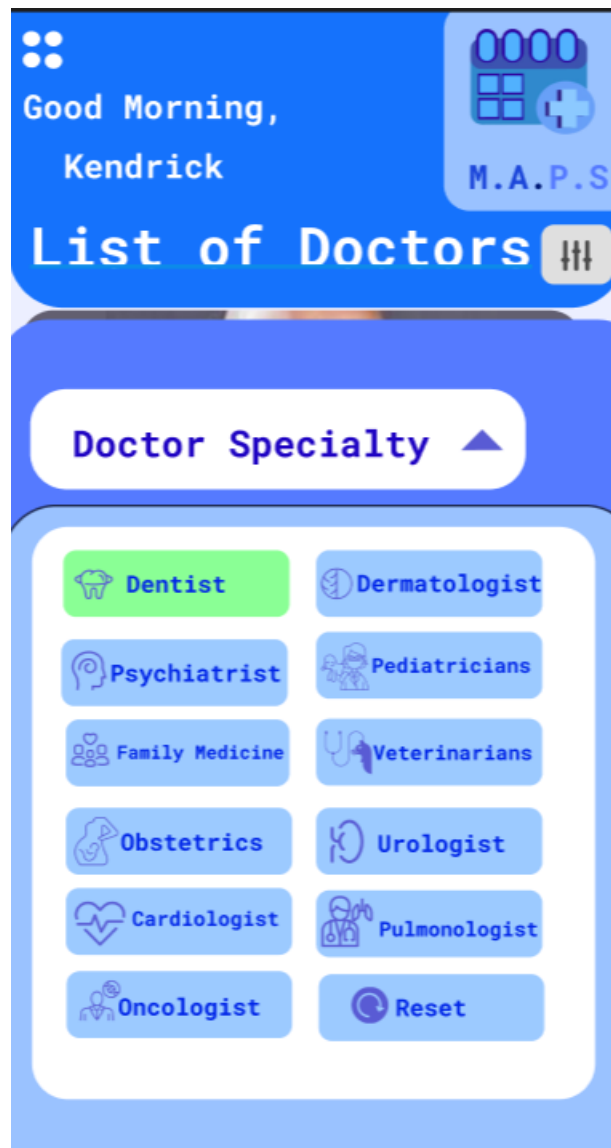
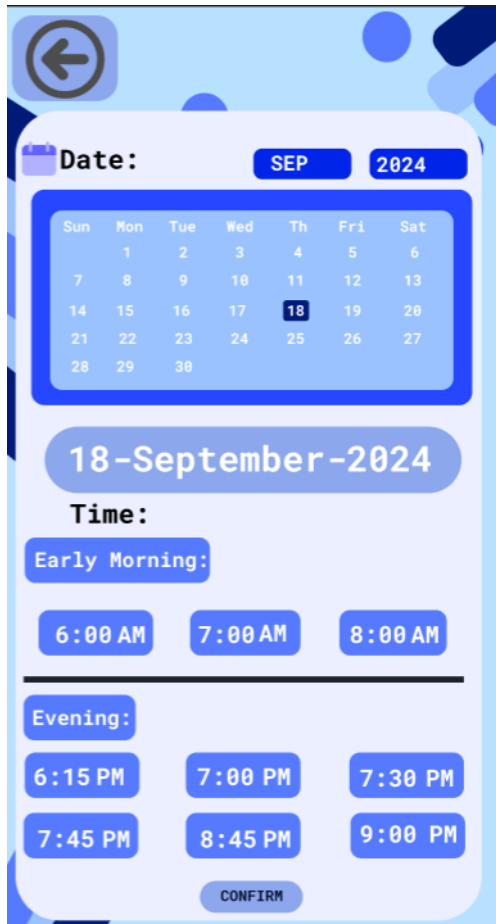


Figure 11. Doctor Specialty Filter

After confirming the user's location, it would show a list of doctors nearby their location. And each doctor, it would display their ratings reviews, specialty, years of experience, gender, location of their clinic, and their earliest available time for appointment. The user can also filter out according to their specialties, gender, and ratings.



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Date: SEP 2024

Sun	Mon	Tue	Wed	Th	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

18-September-2024

Time:

Early Morning:

6:00 AM 7:00 AM 8:00 AM

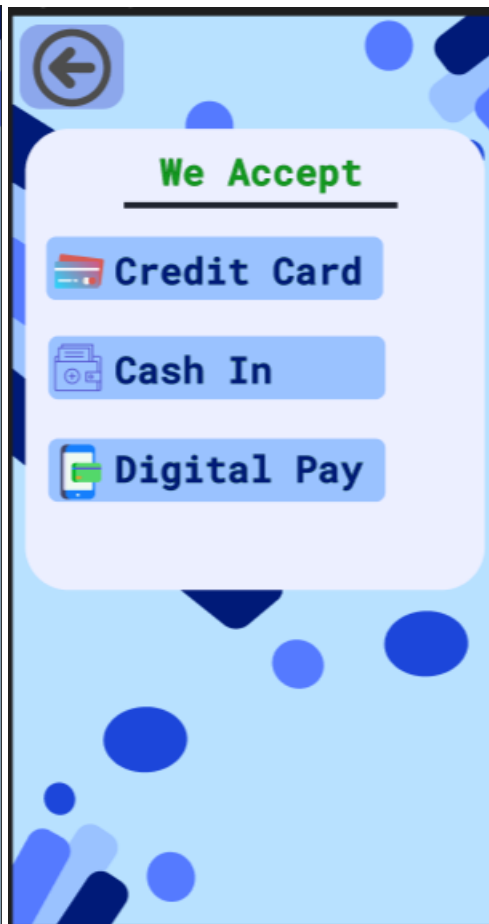
Evening:

6:15 PM 7:00 PM 7:30 PM

7:45 PM 8:45 PM 9:00 PM


CONFIRM


Figure 13. Appointment Time



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We Accept

 **Credit Card**

 **Cash In**


 **Digital Pay**

Figure 14. Edit Account

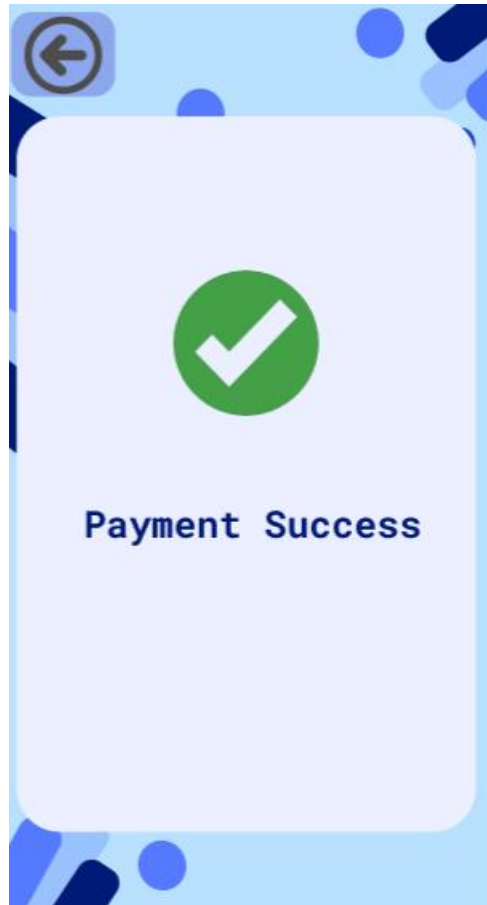


Figure 15. Success Message

After choosing a doctor, the user picks a date and time for the appointment. Then, the user can choose a payment method so that the user pays in advance for the appointment. After all of a payment success message, the user gets brought back to the main menu where the user can view the appointment.

Scenario from a User's Perspective:

Reag, a busy professional with a recurring medical condition, finds it challenging to schedule timely doctor appointments around her hectic schedule. He downloads the M.A.P.S app and quickly creates a profile. Using the app, he searches for a specialist nearby, filters the results by availability and ratings, and finds a highly recommended dermatologist who fits his schedule. He books an appointment for the next day during his lunch break and receives immediate confirmation along with a reminder set for the morning of his visit. Reag appreciates how M.A.P.S simplifies what used to be a time-consuming process, allowing him to manage his health effectively without disrupting his work.

Rationale

M.A.P.S is designed to streamline the process of scheduling medical appointments, making healthcare access more convenient and efficient. Advantages of the app include the ability to quickly find and book appointments with various specialists, receive timely reminders, and view detailed doctor profiles, all from a user-friendly interface. This significantly reduces the time and effort typically required to manage healthcare appointments. However, disadvantages include the potential difficulty in finding the right specialist at any given moment due to availability or specific medical needs, and the initial complexity for users unfamiliar with digital appointment systems.

Changes to your requirements

During the development of the prototype, we adjusted our initial requirements due to time and resource constraints. Originally planned features like detailed doctor profiles and multi-language support were scaled back to focus on core functionalities such as creating and viewing appointments. This shift allowed us to develop and test the most essential aspects of the app within realistic constraints, ensuring we could deliver a functional prototype that still provides significant user value.

IV. Initial Evaluation Plan

Usability Criteria and Requirement

1. **Ease of Use/User-Friendly:** The prototype aims to provide a straightforward and intuitive interface that allows users to easily navigate and manage their medical appointments without confusion or frustration.

2. **Efficiency:** The app is designed to minimize the time and effort required to book, view, and manage appointments, enhancing the overall user experience by making the process quick and straightforward.
3. **Accessibility:** Ensuring the app is accessible to users with varying abilities is crucial. This includes implementing features like screen reader compatibility, high contrast visuals, and easy-to-read fonts.

Evaluation Techniques:

1. **User Testing:** We will conduct sessions where real users interact with the prototype to perform typical tasks. Observations and feedback will be collected to identify usability issues and areas for improvement.
2. **Heuristic Evaluation:** A small group of usability experts will review the app against established usability principles (heuristics) to uncover any design flaws or inconsistencies that could hinder user experience.
3. **Analytics:** Usage data such as task completion time and error rates will be analyzed to quantitatively measure the app's efficiency and effectiveness. This data will help refine the app further to meet the set usability criteria.