Final Project Report

Project Title: Memory buddy

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Date: December 1, 2024

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Department: Computer Science

Course: Human-Computer Interaction

significantly influencing how we manage our health, particularly for seniors and the elderly. As the population of individuals over the age of sixty continues to grow, the need for technological solutions that address the unique challenges faced by this demographic becomes increasingly critical. This is where the "Memory buddy" app comes into play, designed to provide essential support for seniors.

Overview of the Memory buddy App: The Memory buddy app is specifically tailored to assist seniors in organizing their medication schedules and tracking healthcare appointments. The app aims to offer comprehensive support to its users in managing their health conditions, including chronic illnesses such as diabetes, hypertension, and heart disease. Through this app, seniors can easily manage their medication intake and medical visits.

Identifying the Problem: For many seniors in Saudi Arabia, remembering to take medications and attend medical appointments poses a significant challenge. Research indicates that a substantial number of seniors forget to take their medications due to factors such as memory decline or busy lifestyles

Failure to adhere to medical appointments increases the risk of premature death, particularly for seniors suffering from chronic health conditions. Generally, those with multiple chronic conditions are at a higher risk of missing medical appointments.

Design Challenge How can we empower seniors to adhere to their medication regimens and regularly visit their healthcare providers to avoid health risks?

This question helps us define key objectives that provide practical solutions to this issue:

1. Ensure that seniors do not miss their medications or medical appointments due to memory issues.
2. Facilitate easy access to medication schedules and appointment information.

3. Enable family members to monitor medication records and appointments to ensure mutual support.
4. Offer tips and guidance to improve the overall health of seniors.

Project Scope The project involves designing applications compatible with both Android and iOS platforms to assist seniors in tracking their medications and health appointments.

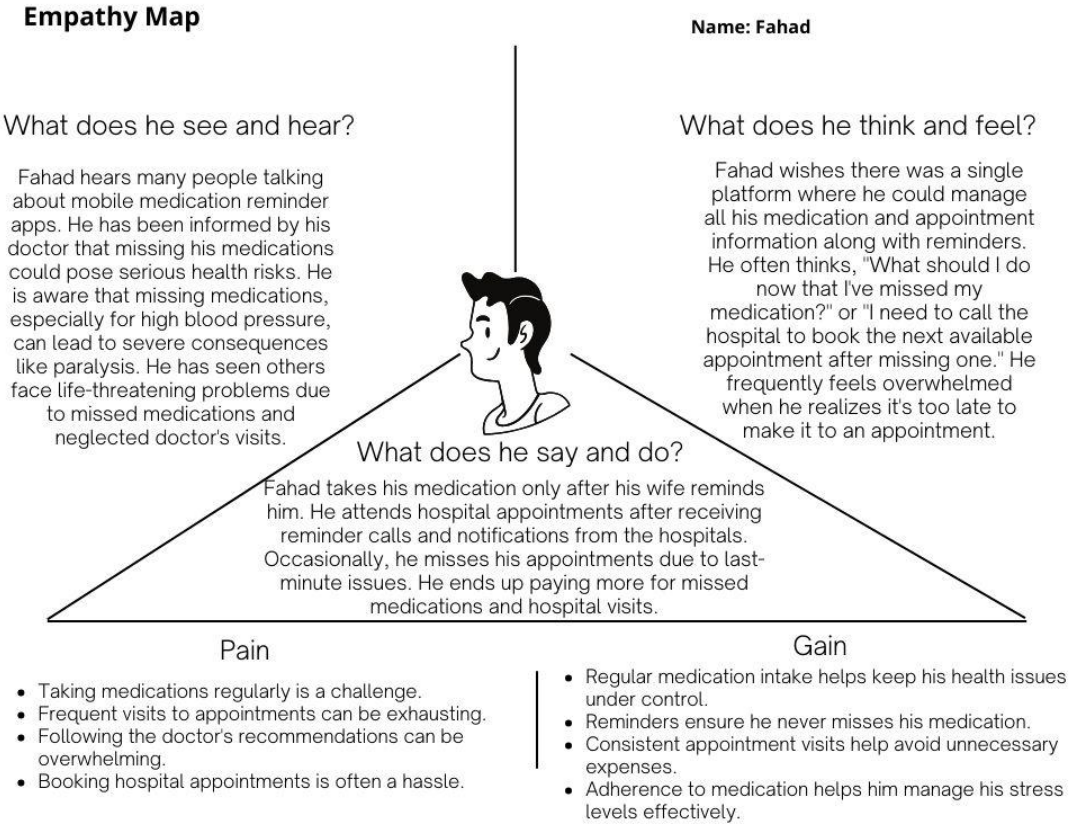
Research Methodology Before defining the project objectives, a comprehensive research plan was established, incorporating various methodologies:

- **Primary Research** Individual interviews were conducted with seniors to gain insights into their challenges, requirements, and opinions on managing medication. A fictional persona and empathy maps were created based on the findings from these interviews.
- **Secondary Research** Valuable information regarding medication non-adherence among seniors and its causes was gathered through reviewing articles and available online resources.

Persona Development A persona representing the lifestyle of the interviewed seniors was developed, focusing on their daily routines, goals, and pain points.

Empathy Map

An empathy map is created to gain a deeper insight into the targeted users. The process gave better understanding about the users.



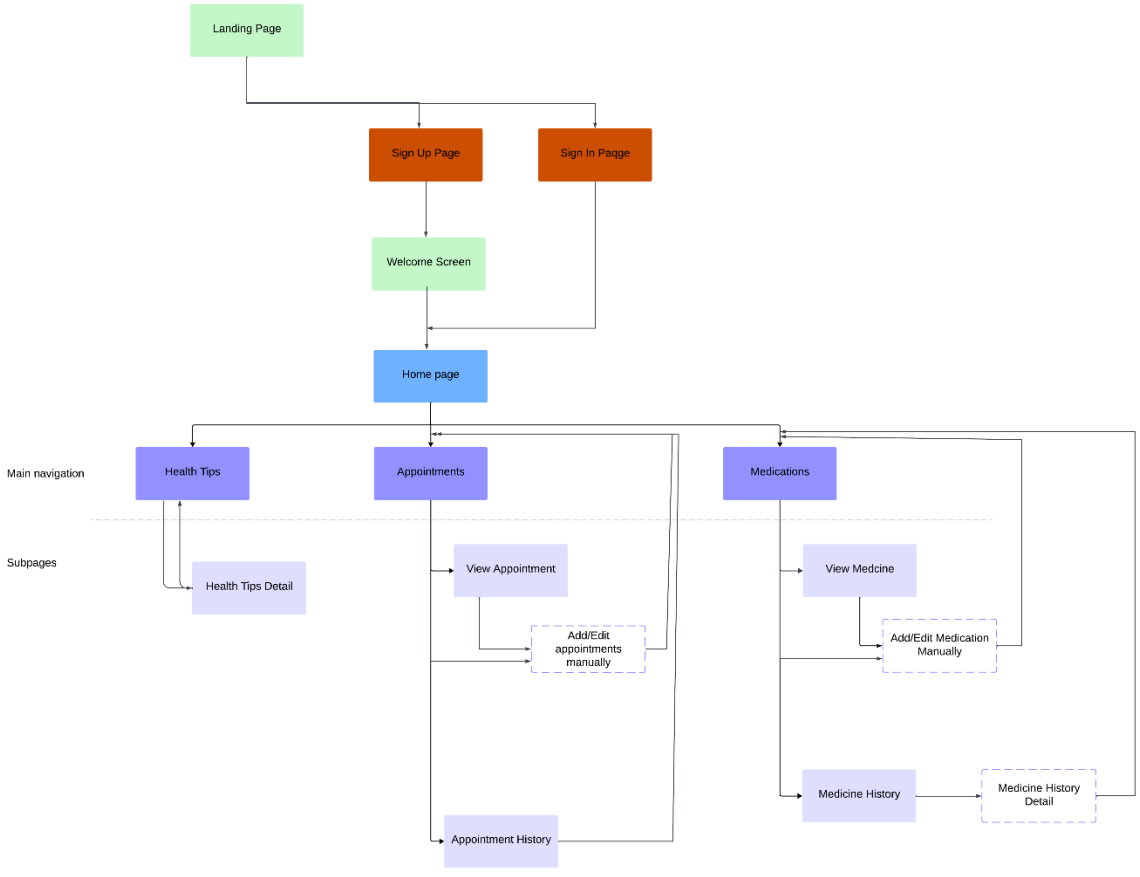
Featured Roadmap

Project: Memory buddy application		
Main Features		
The welcome		
Registration		
Login		
User Profile (First Name, Last Name, Email, Gender, Date of Birth, Hospital, Logout, Invite Friends)		
Care Recipient / Report Email (Select date range, add details)		
Medications		
Medication List	List	
Medication	Manual Add	
	Added by Hospital	
	Add by Scanning	
History	Previously taken medicines	
Appointments		
Appointments list	List	
Appointments	Add Appointments	Appointment Type (Doctor/Pharmacy)
		Appointment date and Time
		Appointment Location
		Setup reminder, reminder date and time (multiple)
	Appointments added by hospitals	
Appointment History	List	
Health Tips		
Healthy Life Style		
Personalized Medication Side Effects		

A feature road map was developed using inputs from interview and secondary research.

Information Architecture

Considering the features, site map was created imagining how a user would use the application. Below is the Information Architecture created based on the feature list.



Design

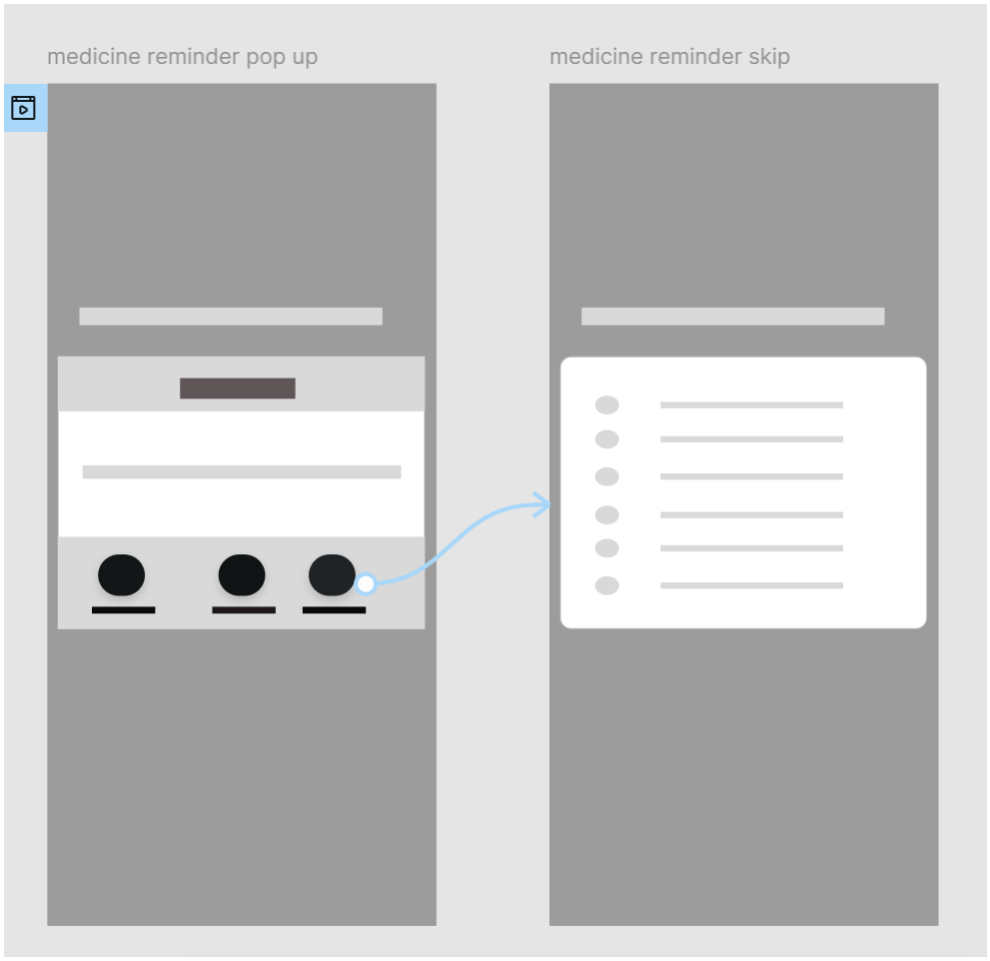
- **Wireframes**

After drawing on paper, we started creating wireframes on Figma. During this process, some improvements were made to the design, and the viewer's perspective became better.

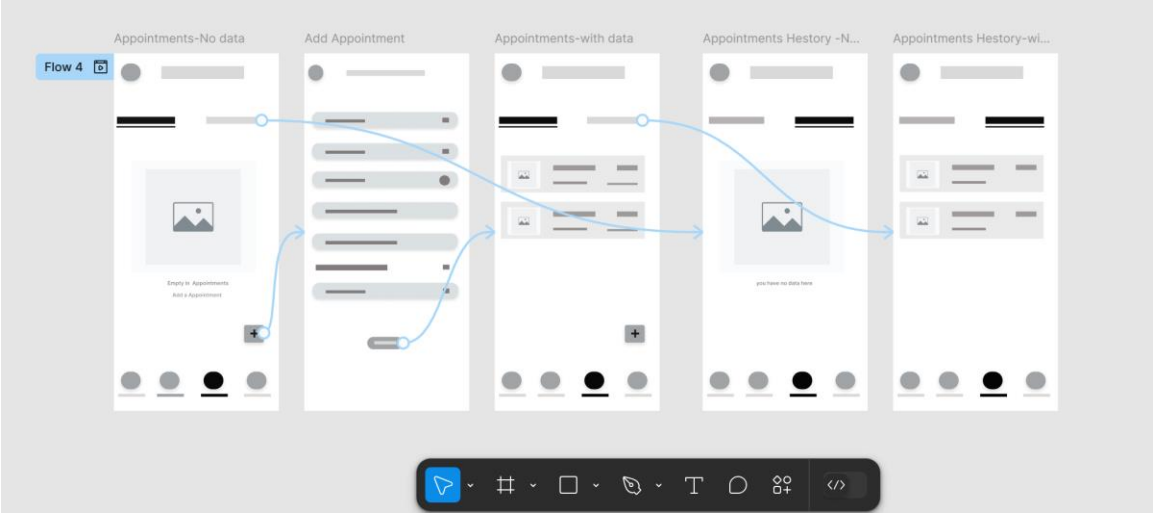
- **User settings**

- **Medicines**

- **Reminder**



- **Appointments**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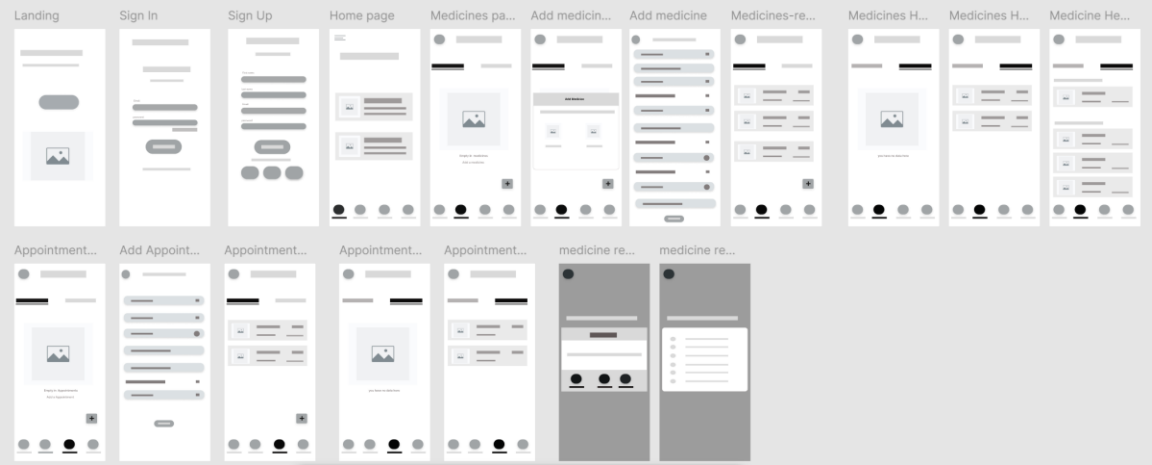
- **All design**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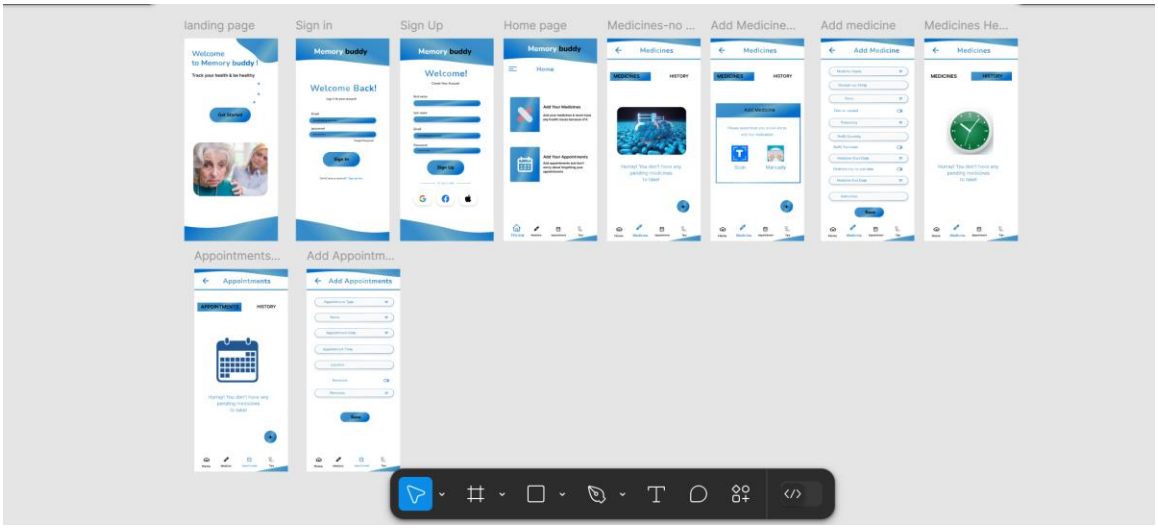
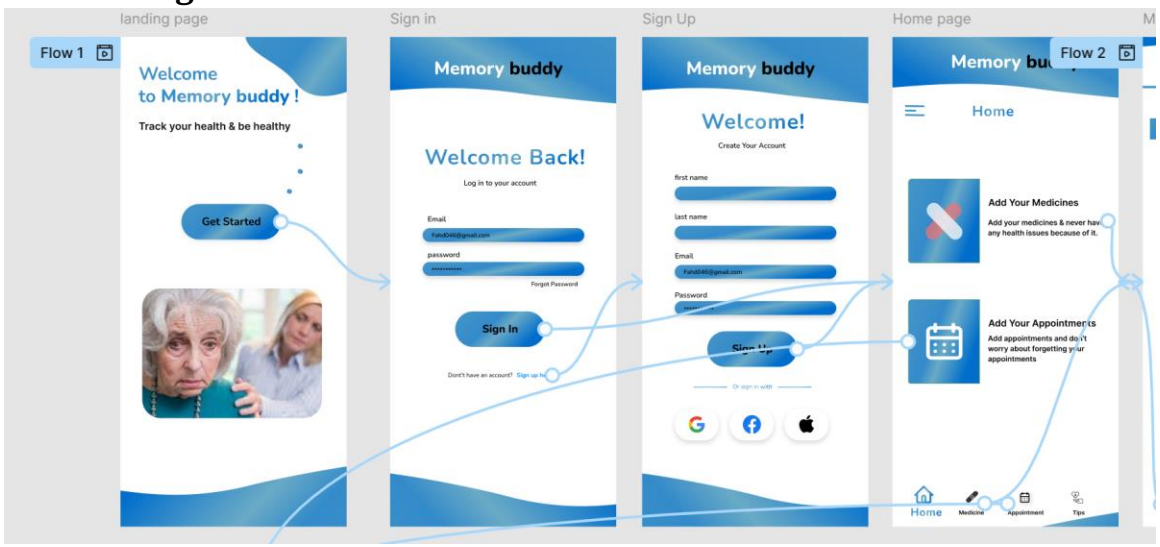
User Interface Design

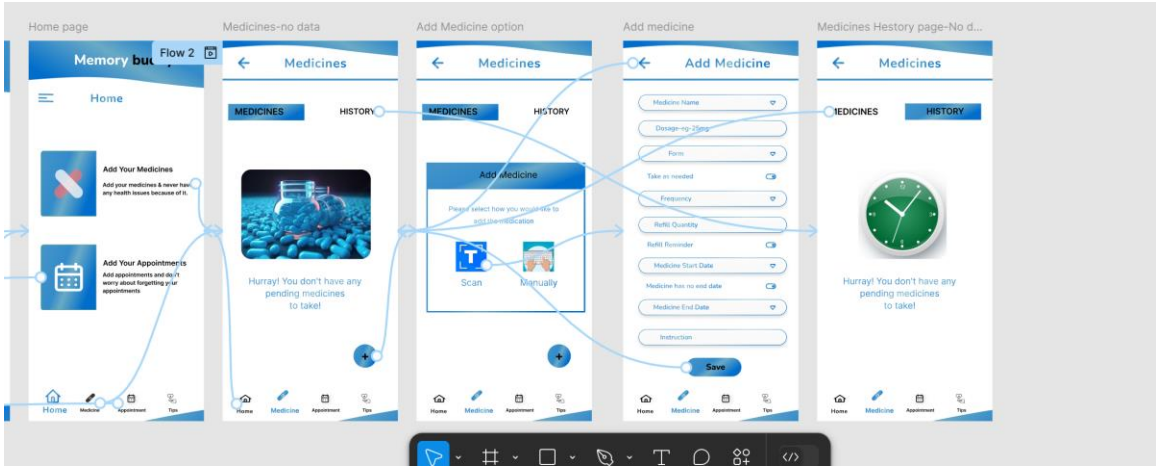
After completing the basic wireframing phase, we started working on the UI design. During this process, there were a lot of improvements to the design with “better user experience” in mind. The improved high-resolution design looks exactly as shown below. This also led to some important changes to the information architecture to improve the overall user experience.



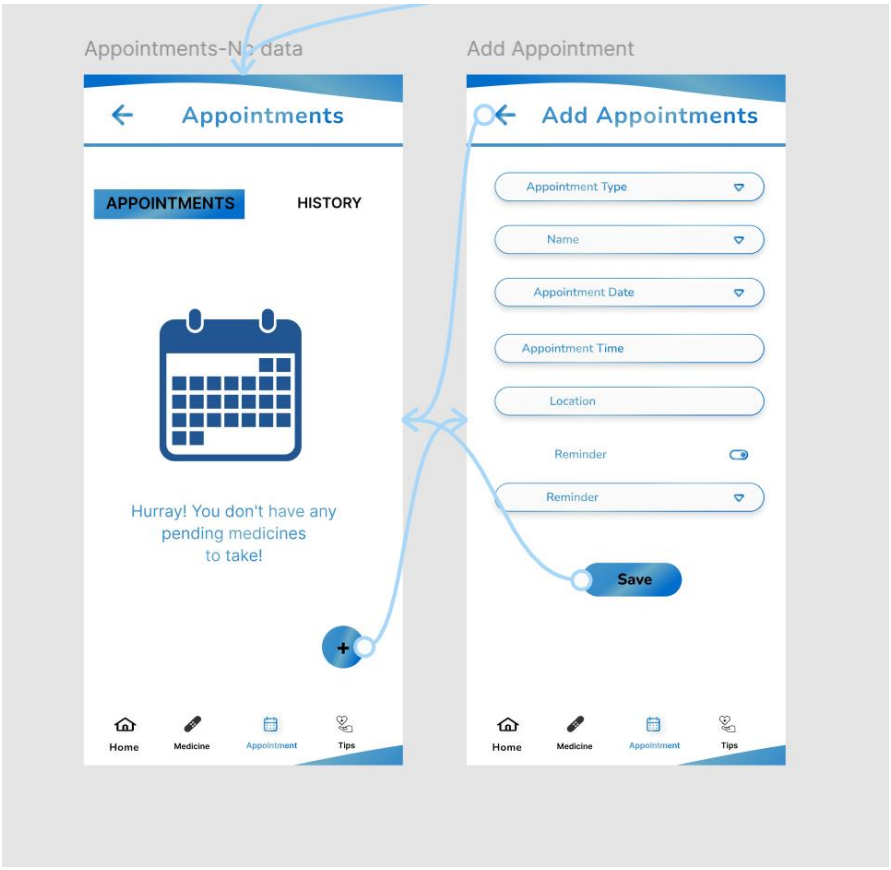
- **User settings**



- **Medicines**



- **Appointments**


Appointments-No data
Add Appointment
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HISTORY
Hurray! You don't have any pending medicines to take!
Home
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Appointment
Tips
Add Appointments
Appointment Type
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Appointment Date
Appointment Time
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Research Methodology:

In the research phase, both primary and secondary methods were utilized to ensure a comprehensive understanding of the challenges faced by seniors.

1. Primary Research:

• Interviews were conducted with seniors aged 60 and above to identify their pain points and preferences in using mobile applications.

• Questions focused on their daily routines, difficulties in managing medications and appointments, and their willingness to use technology.

2. Secondary Research:

• Articles and reports on senior healthcare and medication adherence were reviewed to gather statistical data and insights into common challenges.

• Research revealed that over 40% of seniors in Saudi Arabia miss their medications due to memory issues.

The results highlighted the necessity of creating an easy-to-use application with clear instructions and reminders tailored to seniors' needs.

User scenarios

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Future prospects:

1. Multilingual Support:

• Add support for multiple languages to cater to a broader audience, including non-native Arabic speakers.

2. Integration with Wearable Devices:

• Connect the app with smartwatches and fitness trackers for real-time health monitoring and medication reminders.

3. Voice Assistance:

• Implement voice commands to make the app more accessible for seniors with vision impairments or limited technical skills.

4. AI-Powered Features:

• Introduce AI to analyze user habits and provide personalized health tips or predictive reminders based on behavior patterns.