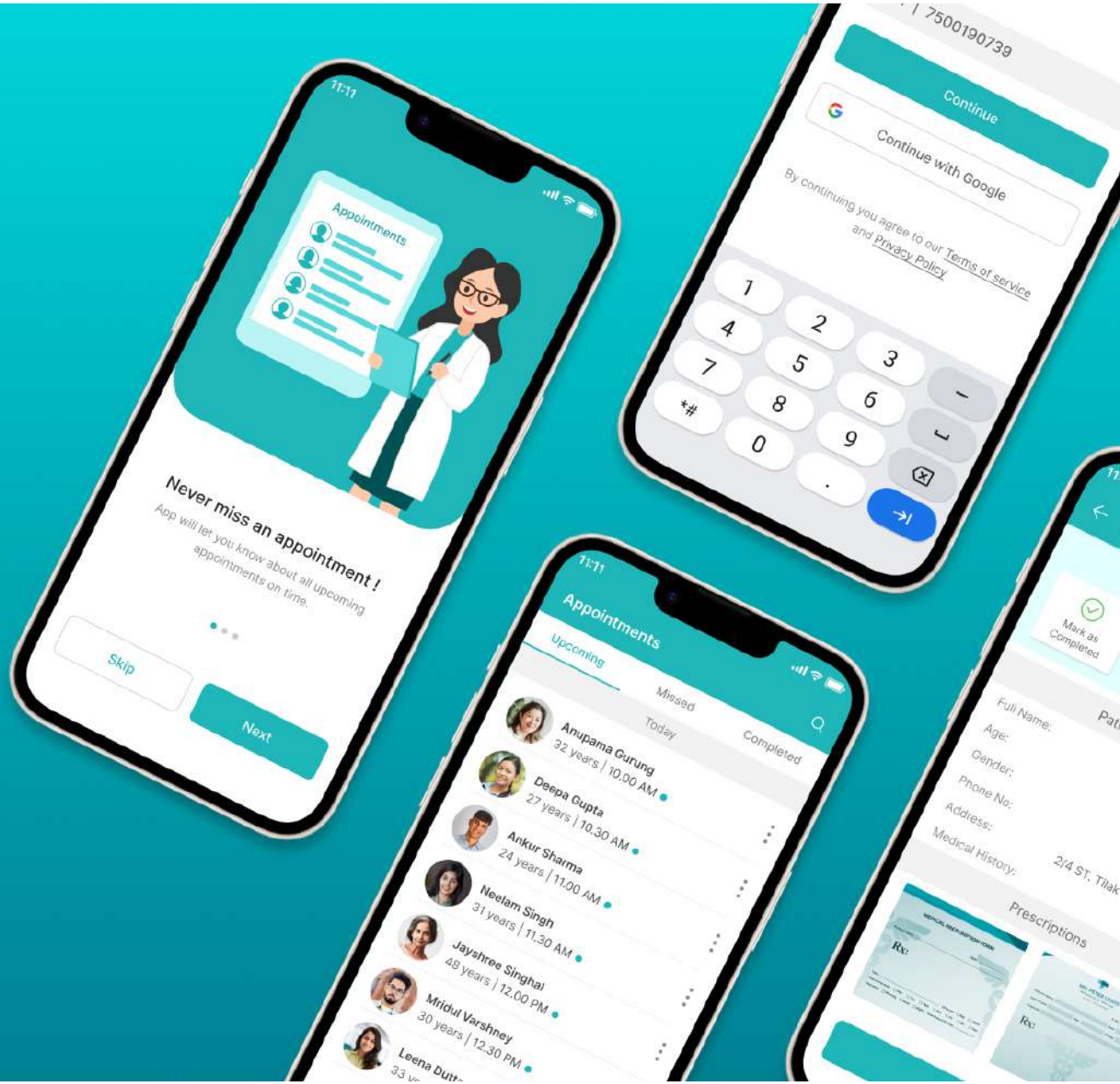
Patient Diary

Appointment Management App

UX/UI Case Study



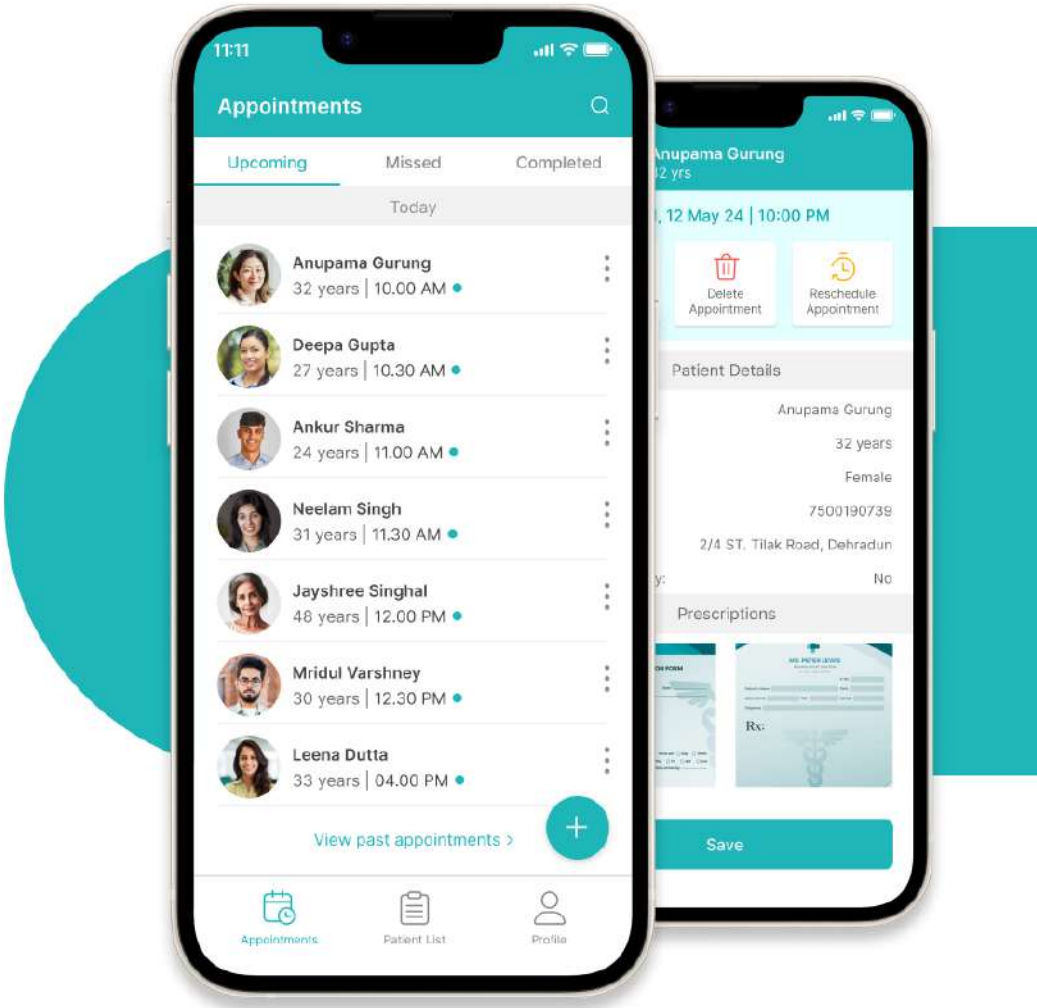
About Project

Project Overview

The Patient Diary App is designed to simplify the lives of healthcare professionals, allowing doctors, therapists, dietitians, and others to effortlessly manage their patients' schedules. One key benefit is that doctors can conveniently store patient prescriptions, medical reports, and profile information within the app. It is exclusively tailored for doctor use, intentionally crafted with essential features for easy navigation and efficiency.

My Role

- Research
- User Persona
- User Survey
- Wireframe
- Final Design



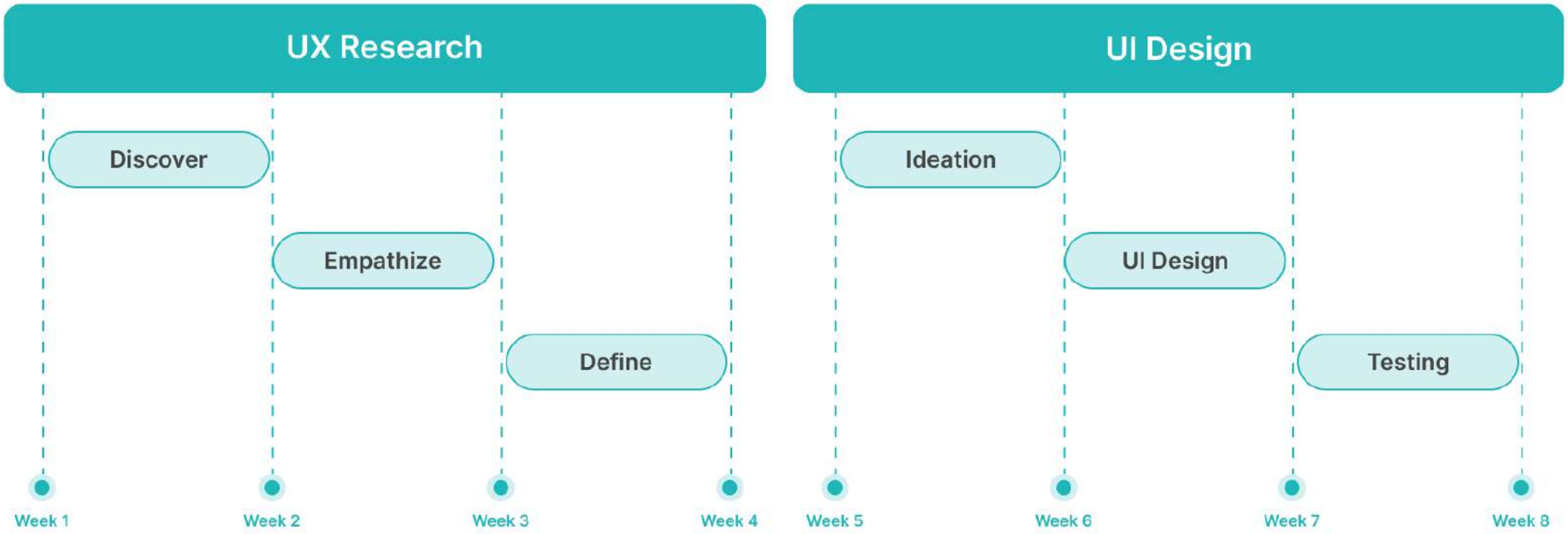
Project Goals

The project goal is to enhance the capabilities of small clinic doctors by providing a user-friendly and streamlined experience that saves time, organizes patient information, and facilitates appointment scheduling. The preference is for simplicity, avoiding complexity and excessive features. The design and features have been deliberately kept minimal to meet this specific need.

- **Save Time**
  Saving time from managing patients and their appointments.
- **Organize**
  Organize patients' prescription histories and medical reports.
- **Easy Appointment**
  Making an easy way of creating appointments of the patients.
- **Minimal Design**
  Simplify design for doctors with essential features only.

Project Timeline

Crafted over two months, the project timeline highlights the journey of refining and launching an improved product.



Problem Statement & Solutions

Problem Statement

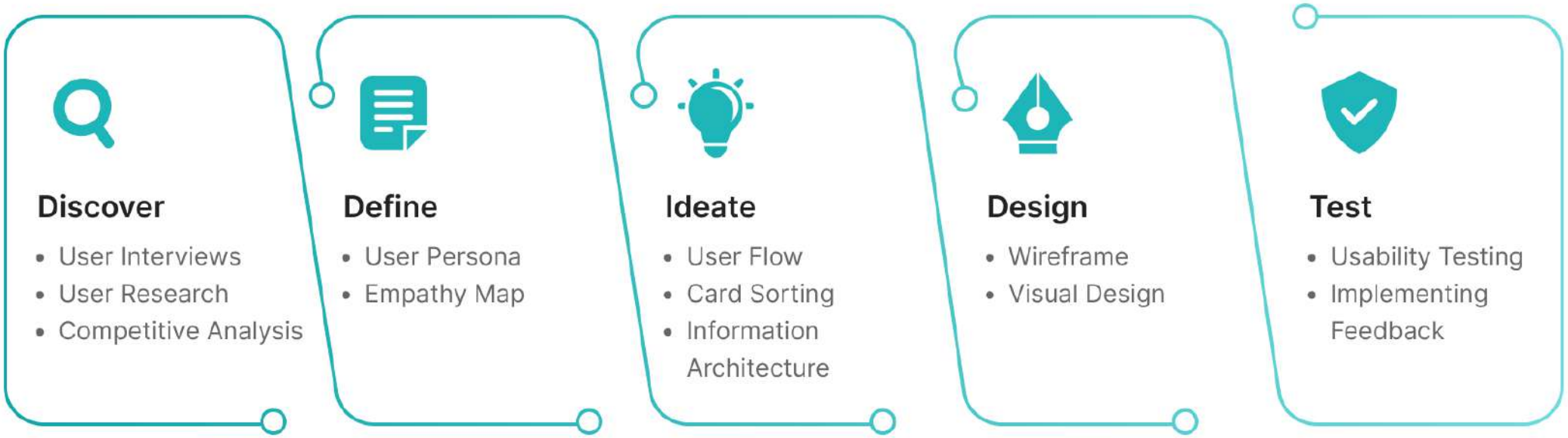
- Challenging to handle patient queues in clinics.
- Doctors struggle to recall patient prescription and medical test histories.
- Patients frequently forget to bring previous prescriptions.
- Verbal appointment scheduling leads to patients forgetting appointment times.
- Occasionally, doctors unintentionally schedule appointments on days when they are out of the clinic.
- Manual rescheduling of missed appointments by doctors may result in conflicting appointment times that the doctor may not remember.

Possible Solutions

- Digital solution for doctors or their assistants to effortlessly create appointments and maintain a comprehensive record of each patient's prescription and medical reports history.
- Ability for doctors to indicate their absence, allowing for appointment adjustments and rescheduling without conflicts with upcoming appointments.
- Quick appointment scheduling, taking less than 1 minute!

My Process

I engaged in research, planning, designing, and testing as part of my process. Each stage was carried out using the following method:



Discover

- User Interviews
- User Research
- Competitive Analysis

Define

- User Persona
- Empathy Map

Ideate

- User Flow
- Card Sorting
- Information Architecture

Design

- Wireframe
- Visual Design

Test

- Usability Testing
- Implementing Feedback

Discover Phase

After figuring out the problems, thinking of solutions, and planning my next steps, it was time to learn more using different research methods.

Qualitative Research

We interviewed 10 doctors and therapists over phone calls as well as Google Meet video calls to understand the challenges they face during their practice in clinics. A few sample questions are listed below:

- Introduce yourself and your profession.
- Describe your daily routine.
- Explain your daily patient management practices.
- Inquire about your approach to making notes about patients.
- Explore how you record patient history.
- Discuss the information you typically expect from patients before starting an appointment.
- Enquire about your actions in the event of a missed appointment by a patient.

Key insights derived from the Interviews

- Handling 20-50 patients per day is common.
- Usually, doctors manage appointments manually and remember them from memory.
- Many doctors make notes on prescriptions to remember the medical history of special case patients.
- Doctors generally expect similar information from patients before initiating appointments.
- In the event of missed appointments, doctors usually take no action, but there is a desire to remind or reschedule appointments.

Discover Phase

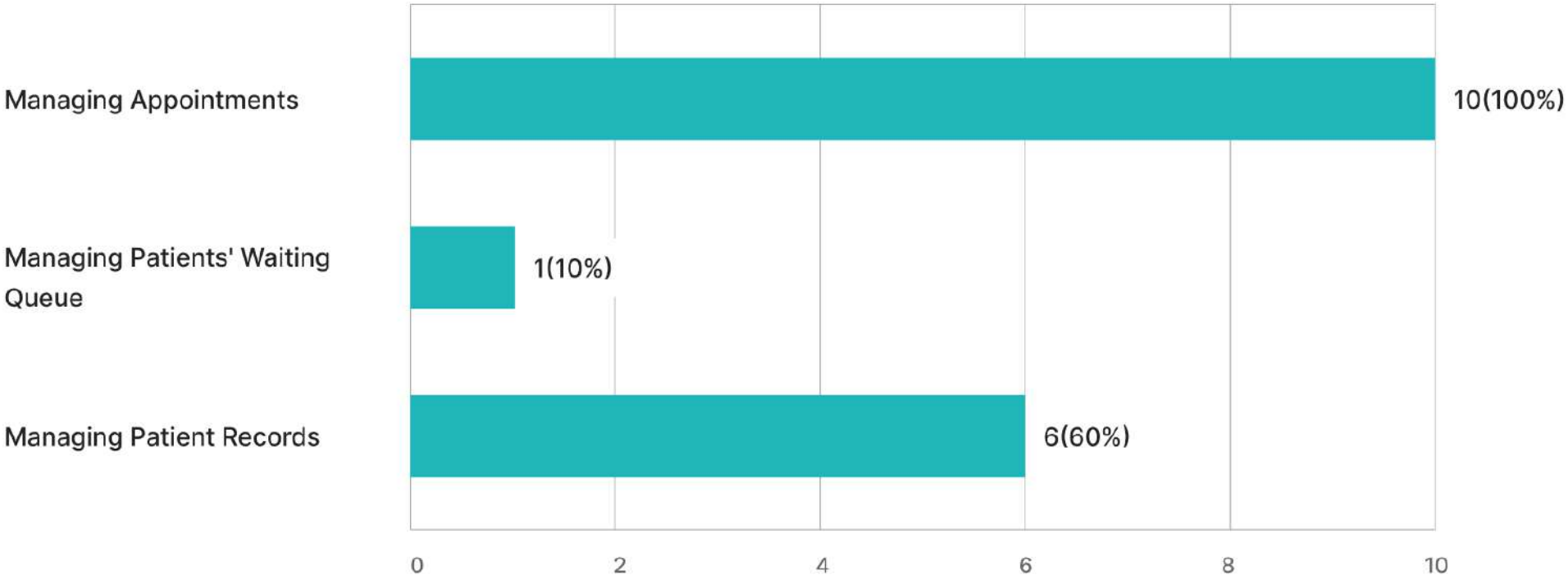
Quantitative Research

In order to comprehensively understand the needs and preferences of potential users, I strategically employed Google Forms to conduct an online survey. The platform allowed me to design a structured questionnaire aimed at uncovering patterns and gaining insights into the common preferences of healthcare professionals.

Ten doctors and therapists took part in the survey, sharing their thoughts and experiences. Their input was crucial in figuring out the main issues accurately. Because they had different viewpoints and experiences, it helped us better understand the challenges and needs in the healthcare field. This collaboration with the healthcare professionals made sure we got a well-rounded understanding of the problems we were trying to solve.

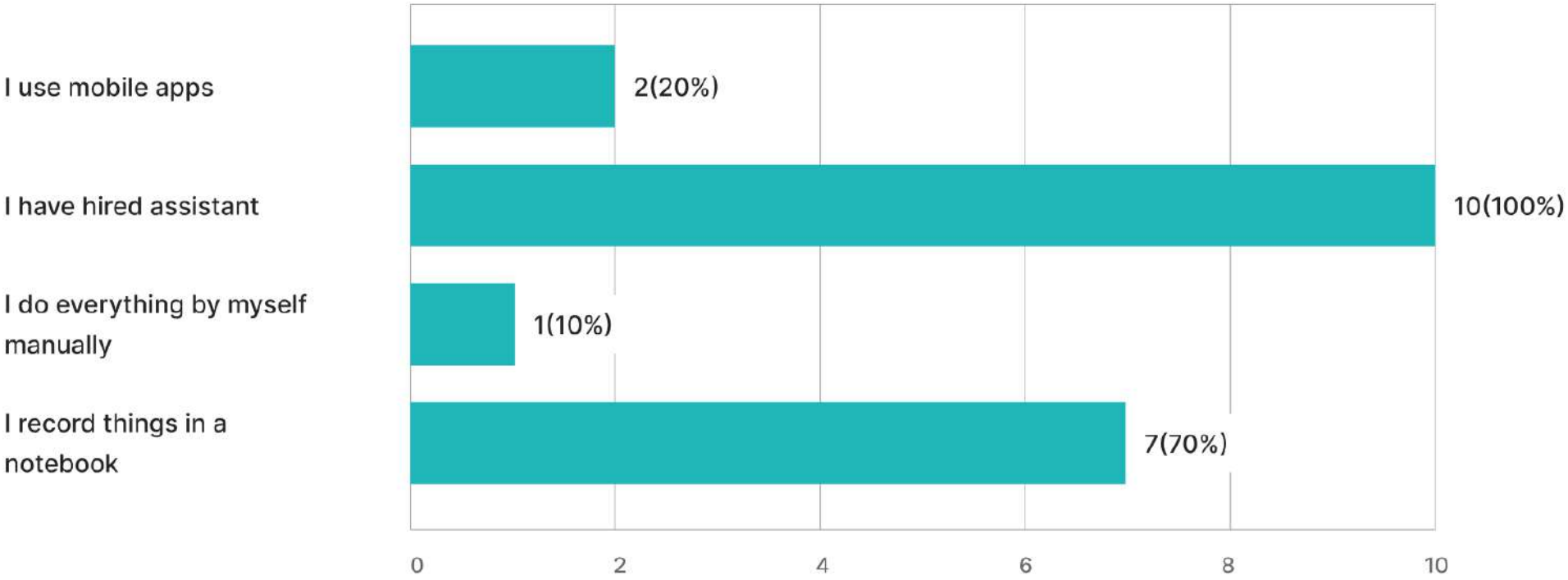
What is your topmost problem in your profession? You can choose multiple.

10 Responses



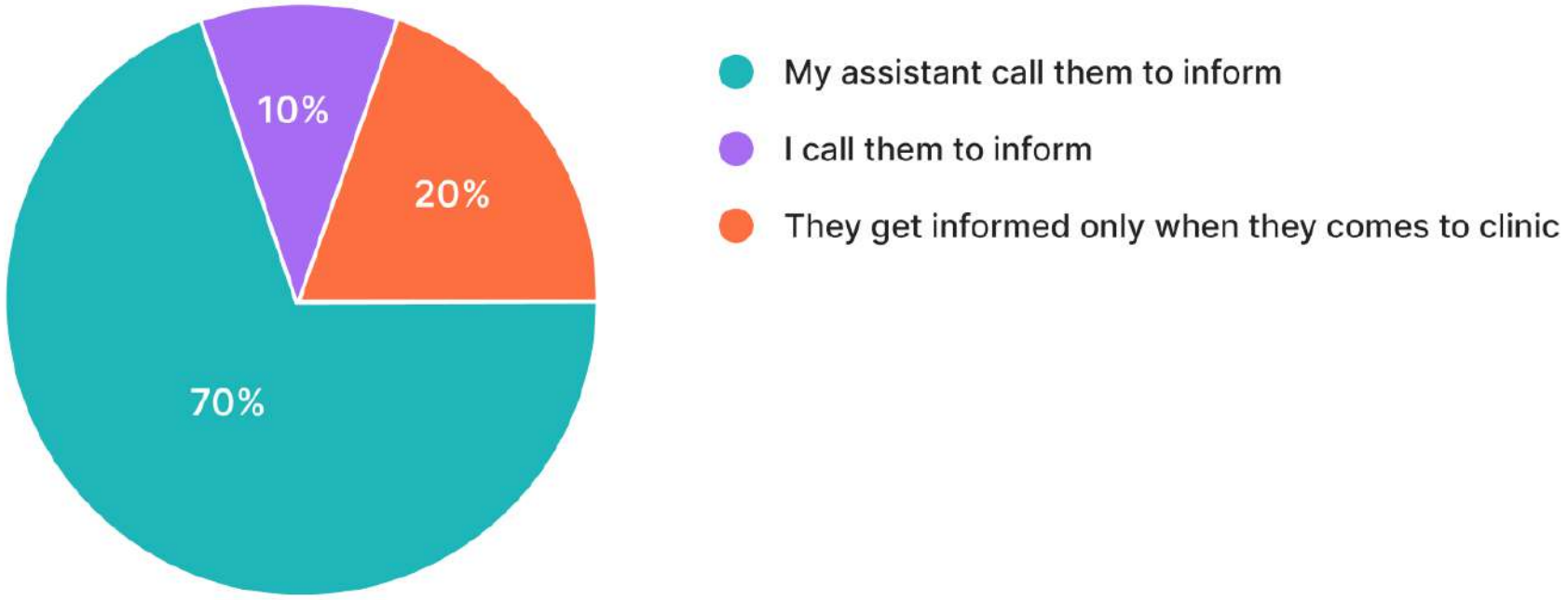
Select what you do to make your work easy.

10 Responses



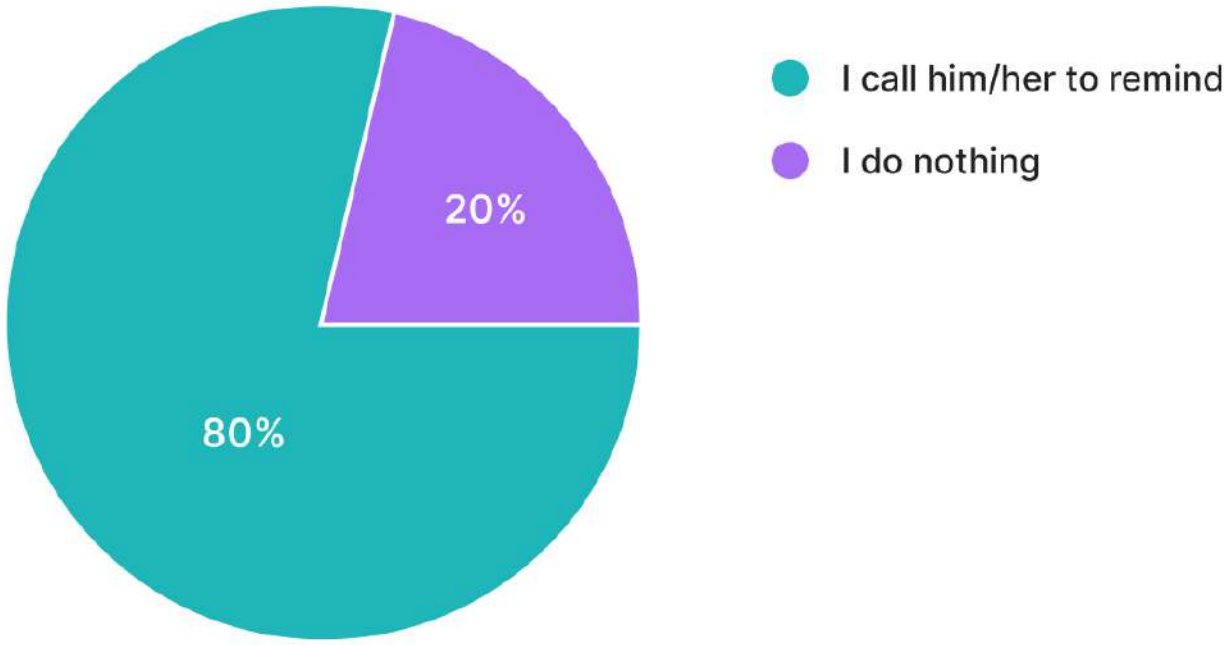
What happens to patients if you are not in the clinic for a day or more?

10 Responses



What happens if a patient misses his/her appointment?

10 Responses



Key insights derived from the Survey

- More than 60% of doctors admit that managing patient records is challenging.
- 100% of doctors agree that they face issues in managing appointments.
- Each doctor has an assistant, and 70% of doctors use a notebook for note-taking.
- The majority of patients book appointments through calls or clinic visits; none of the doctors use online services.
- Every doctor requires information like name, gender, age, contact info, address, medical history, and symptoms from each patient.
- 80% of doctors don't record patient feedback, so this feature may be omitted for now.
- Every doctor desires the ability to view previous patient prescriptions; a feature to save all prescriptions is necessary.
- 80% of doctors remind patients about appointments.
- 80% of doctors check old prescriptions brought by patients during appointments.

Define Phase

Empathy Map

I used this process to clearly identify the target audience, understand their needs and actions better. Empathy mapping provided insights into their thoughts and feelings, and the data in the map originated from user interviews.

Says

- Can't remember every patient's medical history
- It's very hard to find patients' old records
- Patients often lose medical receipts, making it difficult to understand their problems at that time

Feels

- Organizing records is an uncomfortable task
- Finding a specific record is time-consuming
- Tired of daily appointment list creation

Thinks

- Better and easy way to organise records
- Easy to find old records
- I shouldn't have to create a new appointment list every day

Does

- Use notebook to save records
- Spend extra time searching patient history
- Manually contacts missed appointment patients
- Hire an assistant to write records in a notebook
- Creates an appointment list daily

Define Phase

Pain

- Dealing with many patients makes it hard to remember each person's records and history.
- Searching for any old record is very difficult.
- At times, when I'm not in my clinic, I have to manually notify each patient.

Gain

- Wants to simplify scheduling appointments.
- Wants all records to be more organized.
- Want to make the process of searching records easier.
- Wants to easily manage patients' medical histories.

User Persona

A user persona stands as an intricate and partially fictional portrayal of the intended audience or user base for a product, service, or system. Crafted with the purpose of comprehending and empathizing with the needs, objectives, behaviors, and traits of the users, these personas are meticulously shaped through research, interviews, and data analysis. This meticulous process ensures that user personas effectively mirror the authentic characteristics of real users.

Utilizing insights gathered from interviews and surveys, I developed a user persona that embodies the characteristics of an ideal application user. This persona has proven instrumental in enhancing my comprehension of user objectives, challenges, and overall personality traits, ultimately guiding me toward more refined and effective solutions for the application.

Name:	Neelam Joshi
Age:	32 Years
Gender:	Female
Status:	Married
Occupation:	Physician, MBBS

Bio

Neelam, a doctor with her own clinic, balances daily patient check-ups with family responsibilities. She occasionally takes picnic trips with her spouse and two children. Hiring an assistant helped ease her workload, but challenges emerge when the assistant is on leave, impacting patient check-ups and appointment scheduling. Despite hurdles, Neelam consistently strives to efficiently manage tasks, using social media and apps for support.

Key Characteristics

- Effectively balances her personal and professional commitments.
- Regularly attends her clinic on a daily basis.
- Examines 20-30 patients each day.
- Inquires about the health of each patient.
- Occasionally takes holidays.
- Employs an assistant to manage workload.
- Maintains thorough records of patients.
- Reserves Sundays for socializing with friends.

Other Applications

- Excel
- Power point
- Keep notes
- Whatsapp
- Facebook
- Chrome

Frustrations & Pain Points

- Managing a large number of patients makes it challenging to recall every individual's records.
- Searching for any old record is quite difficult.
- When I'm not in my clinic, I need to manually inform each patient.
- Feeling fatigued from creating an appointment list daily.
- It's frustrating when trying to locate a specific record.

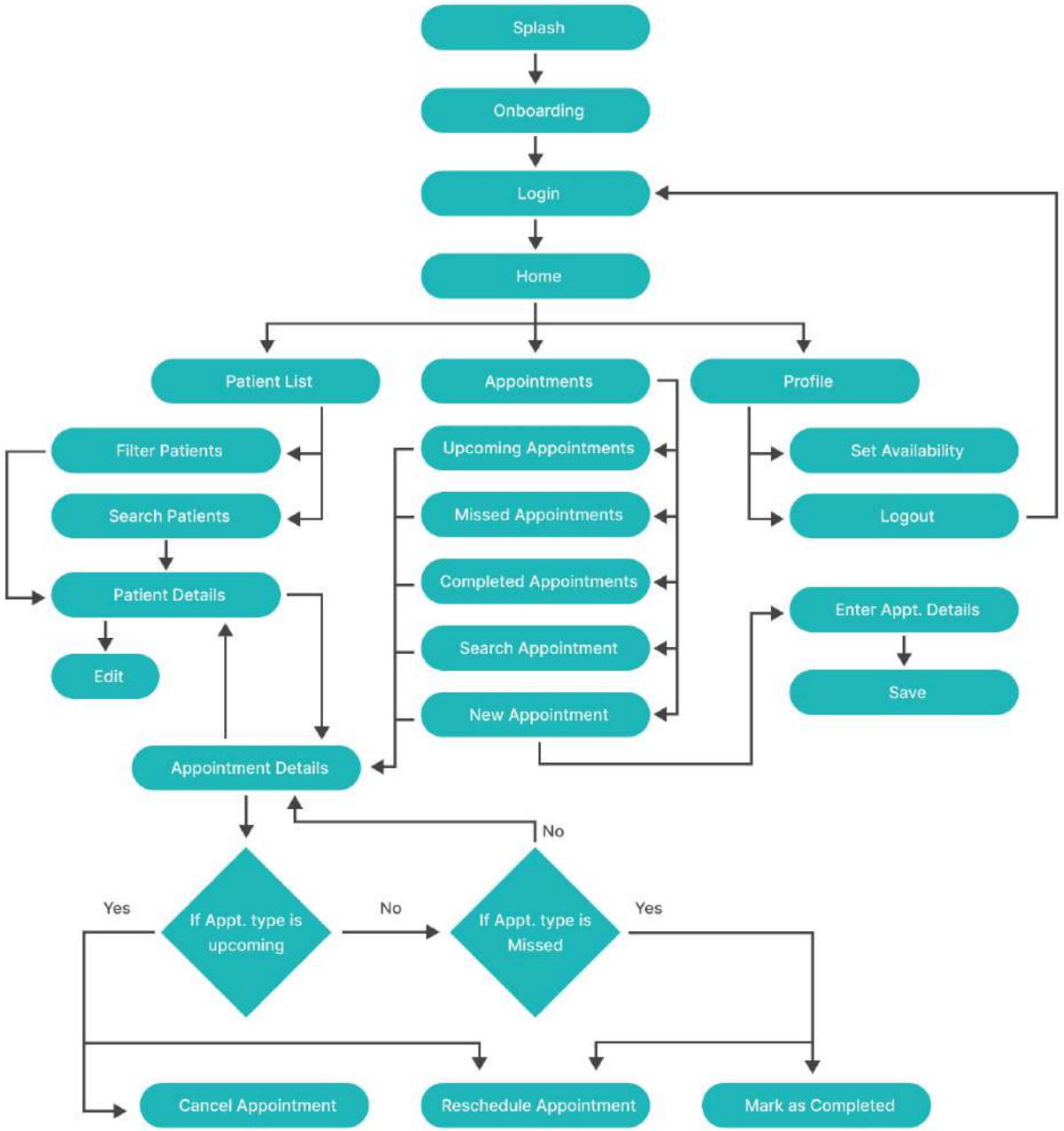
Goals

- Ensure all appointments are well-organized.
- Implement an intuitive search feature.
- Provide a user-friendly process for scheduling new appointments.
- Enable swift rescheduling or cancellation of appointments.
- Implement an automated system to send SMS notifications to patients with appointment details.
- Ensure patients receive SMS updates even when I'm not in the clinic.

Ideate Phase

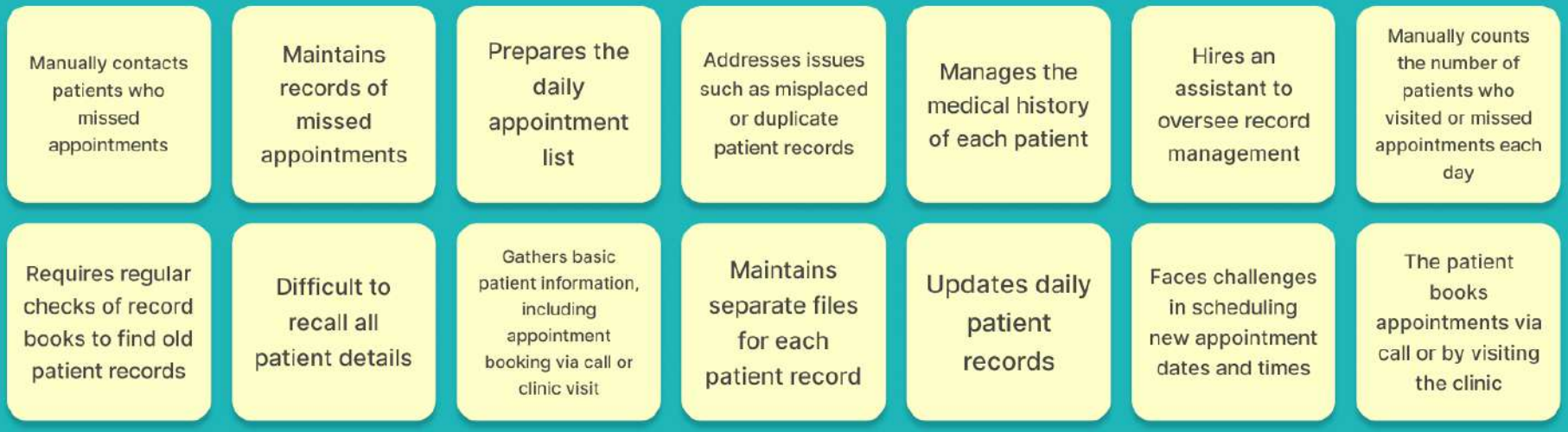
User Flow

A user flow diagram is a visual representation illustrating the steps a user takes to accomplish a specific task.



Card Sorting

Through this technique, I have discovered how people comprehend and categorize information.



Sorted Cards

Patient Management

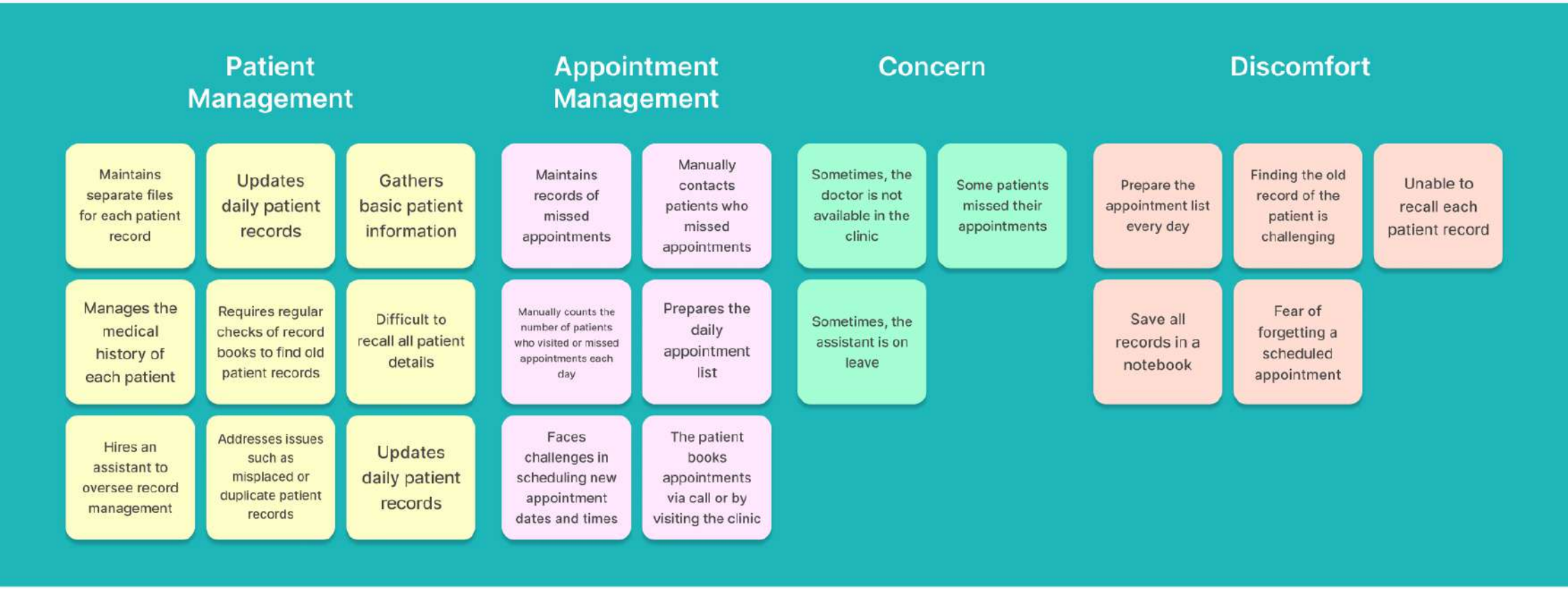
- Maintains separate files for each patient record
- Updates daily patient records
- Gathers basic patient information
- Manages the medical history of each patient
- Requires regular checks of record books to find old patient records
- Difficult to recall all patient details
- Hires an assistant to oversee record management
- Addresses issues such as misplaced or duplicate patient records
- Updates daily patient records

Appointment Management

- Maintains records of missed appointments
- Manually contacts patients who missed appointments
- Manually counts the number of patients who visited or missed appointments each day
- Prepares the daily appointment list
- Faces challenges in scheduling new appointment dates and times
- The patient books appointments via call or by visiting the clinic

Affinity Diagram

I brainstormed to generate ideas and used an Affinity Diagram to collect opinions and issues. Then, I organized them into groups based on their natural relationships.



I want, I Like, What if

Grouped some cards based on what doctors want, like, and hypothetical scenarios

I Want

- I want to view the list of patients who have appointments today
- I want to record every patient's history
- I want to identify patients who missed their appointments
- I want to upload PDFs/ images to the patient records
- I want to modify patient records
- I want the pharmacist to automatically receive patients' prescriptions
- I want to search for every patient record by name or phone number
- I want to easily add new patients to the list
- I want to connect the lab with the app to receive reports directly on the app

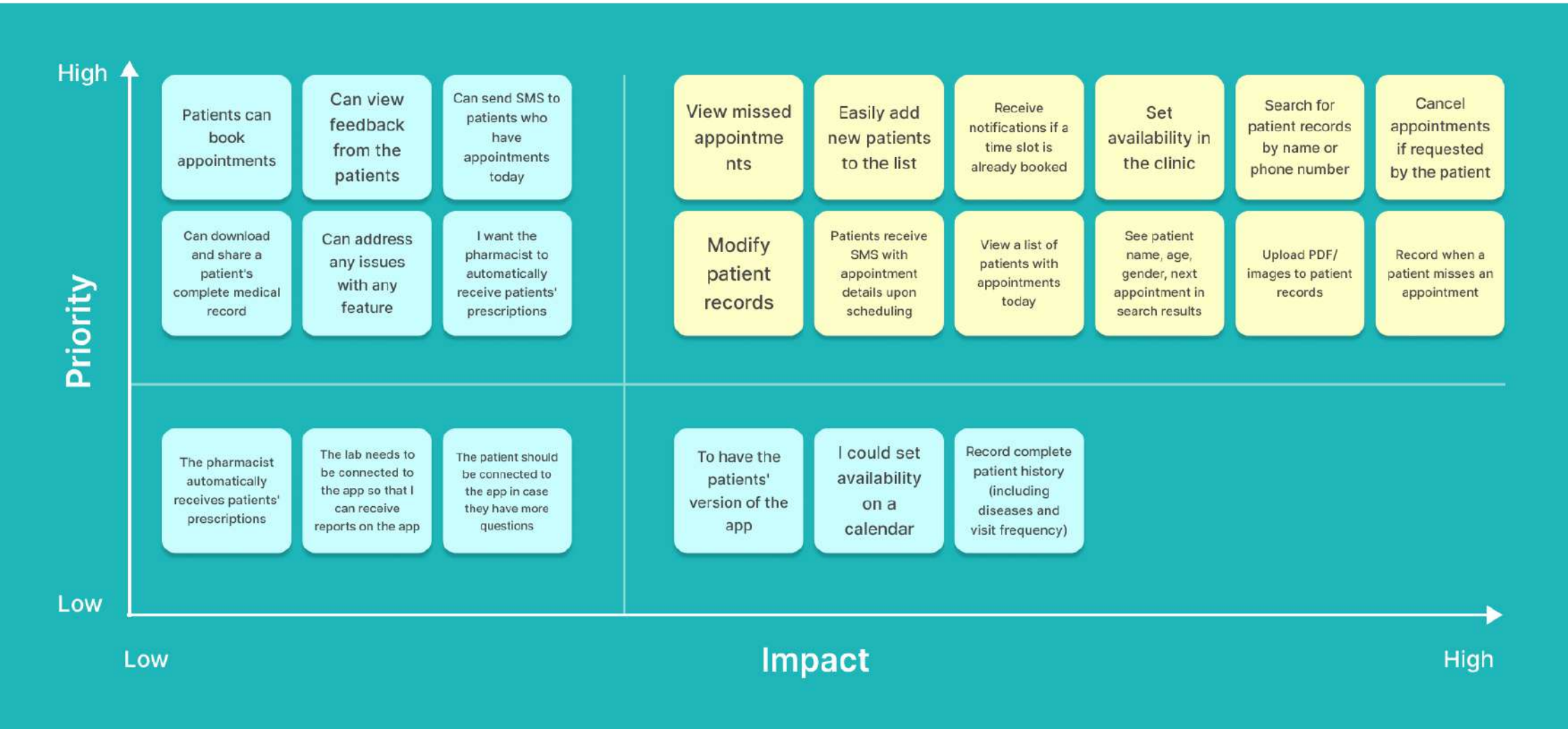
I Like

- I like that I can send SMS to my patients who have appointments today
- I like it when patients can book appointments
- I like when scheduling appointments triggers an automatic SMS to the patient
- I like that I can see the patient's details and upcoming appointment in the search results
- I like that I can download the entire medical report of a patient to share with another doctor
- I like to see feedback from patients
- I like that I can have the patient version of the app
- I like that I can cancel the appointment if the patient wants

What if

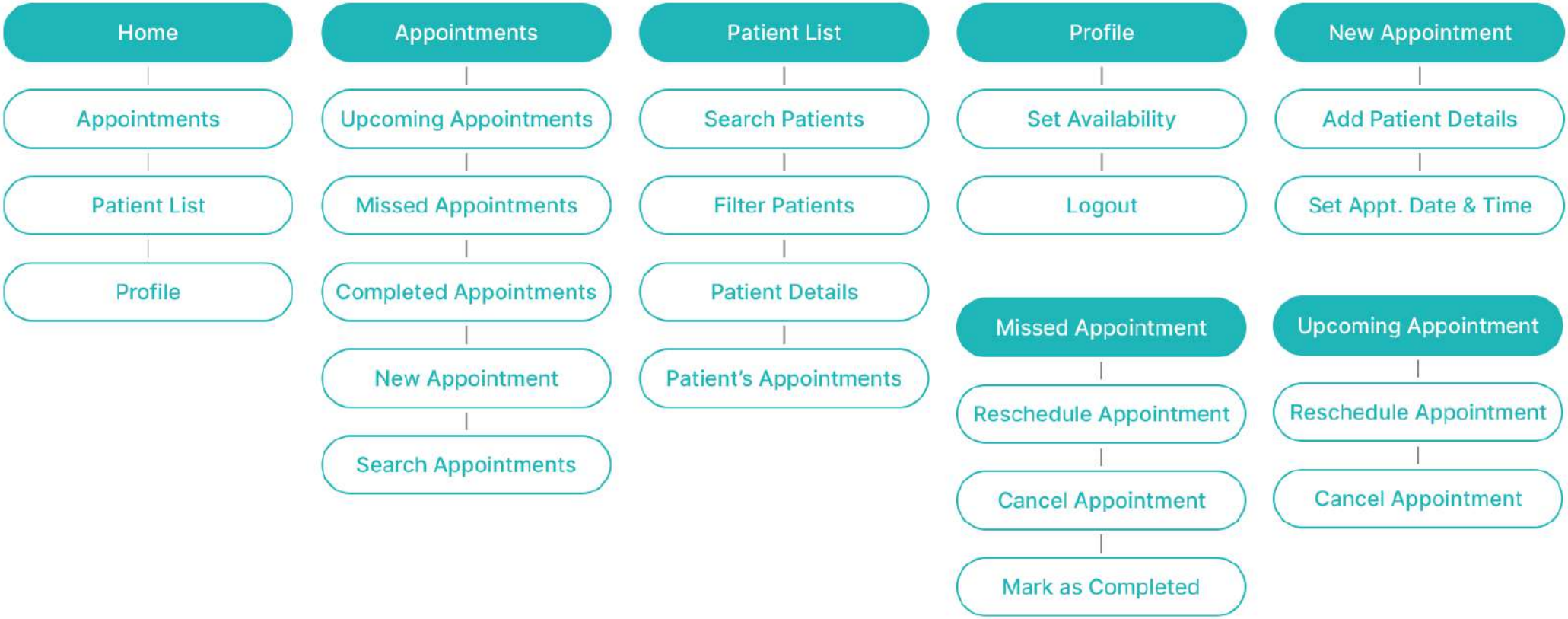
- What if I am not available in the clinic?
- What if the patient misses his appointment?
- What if I could set a calendar to indicate when I am available or not?
- What if the time slot is already booked?
- What if the patient has already connected with this app, just in case he has more questions?

Feature Prioritisation Matrix



Information Architecture

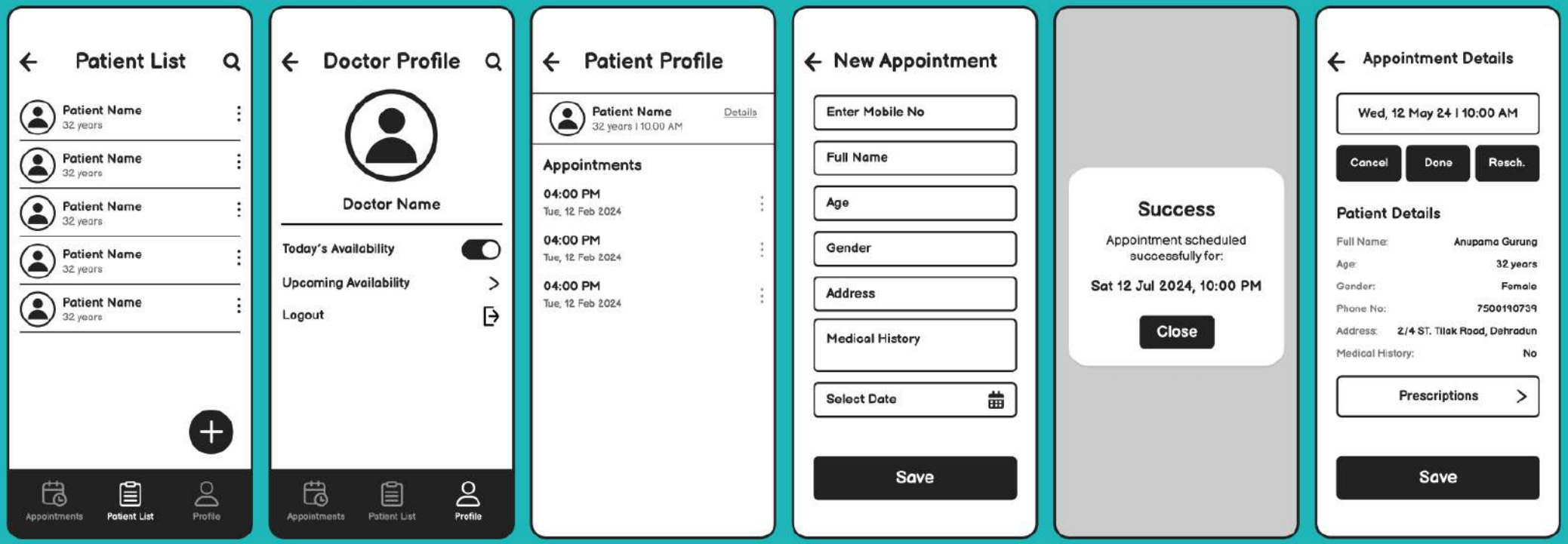
A well-defined information architecture organizes content in systems for easy navigation, ensuring logical categorization and accessibility, thus enhancing user experience.



Design Phase

Wireframes

A wireframe is a skeletal outline visualizing the fundamental structure of an application, excluding detailed design elements.


Patient List
Patient Name
32 years
Patient Name
32 years
Patient Name
32 years
Patient Name
32 years
Patient Name
32 years
Appointments
Patient List
Profile
Doctor Profile
Doctor Name
Today's Availability
Upcoming Availability
Logout
Appointments
Patient List
Profile
Patient Profile
Patient Name
32 years | 10:00 AM
Details
Appointments
04:00 PM
Tue, 12 Feb 2024
04:00 PM
Tue, 12 Feb 2024
04:00 PM
Tue, 12 Feb 2024
New Appointment
Enter Mobile No
Full Name
Age
Gender
Address
Medical History
Select Date
Save
Success
Appointment scheduled successfully for:
Sat 12 Jul 2024, 10:00 PM
Close
Appointment Details
Wed, 12 May 24 | 10:00 AM
Cancel
Done
Resch.
Patient Details
Full Name: Anupama Gurung
Age: 32 years
Gender: Female
Phone No: 7500190739
Address: 2/4 ST. Tilak Road, Dehradun
Medical History: No
Prescriptions
Save

Design System

A design system is a comprehensive set of guidelines, patterns, and reusable components that establish consistency and coherence in design across an organization or project. It encompasses visual styles, typography, and color palettes.

Typography

I have picked clean and trendy font that goes with simple and flat app design

Inter

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

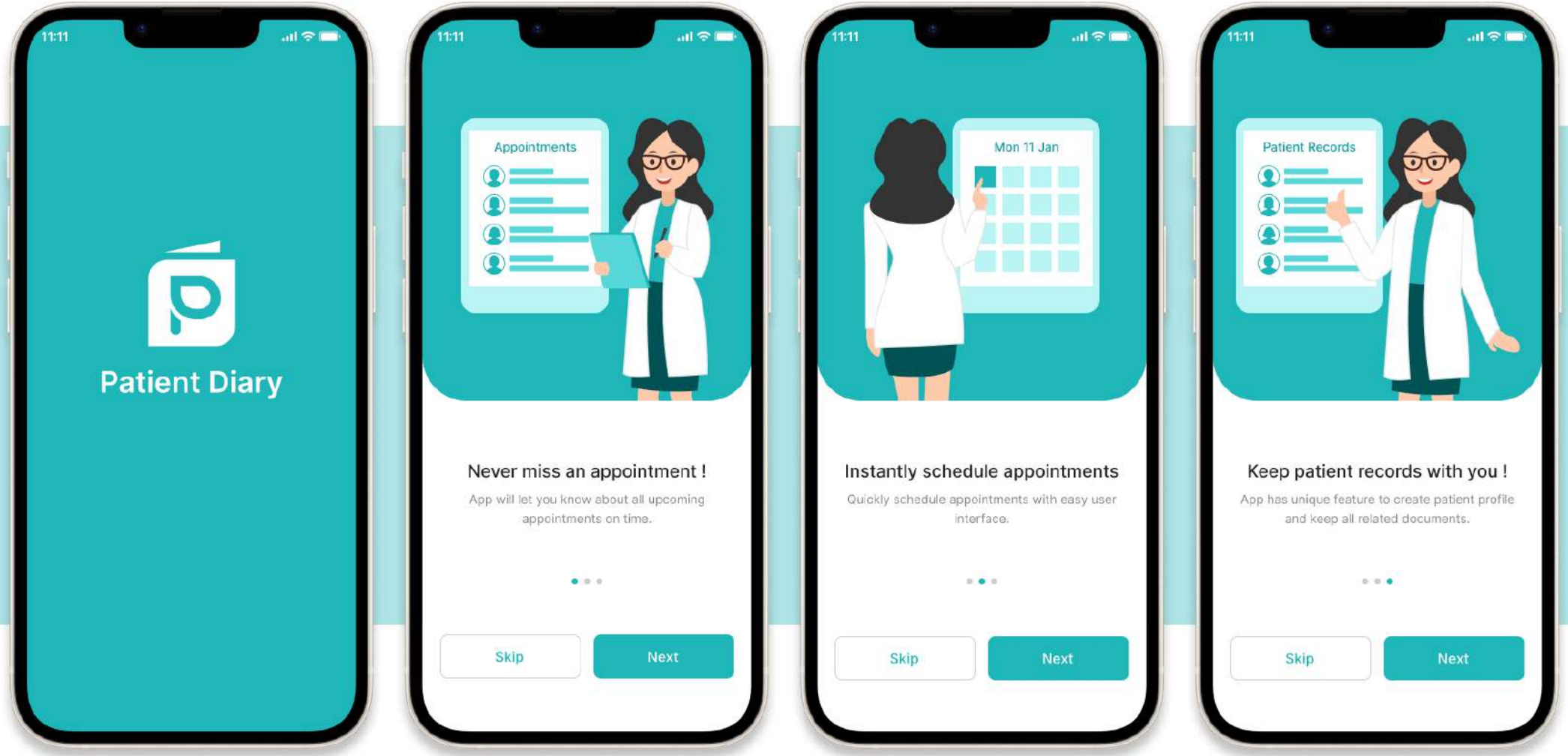
Medium | Regular

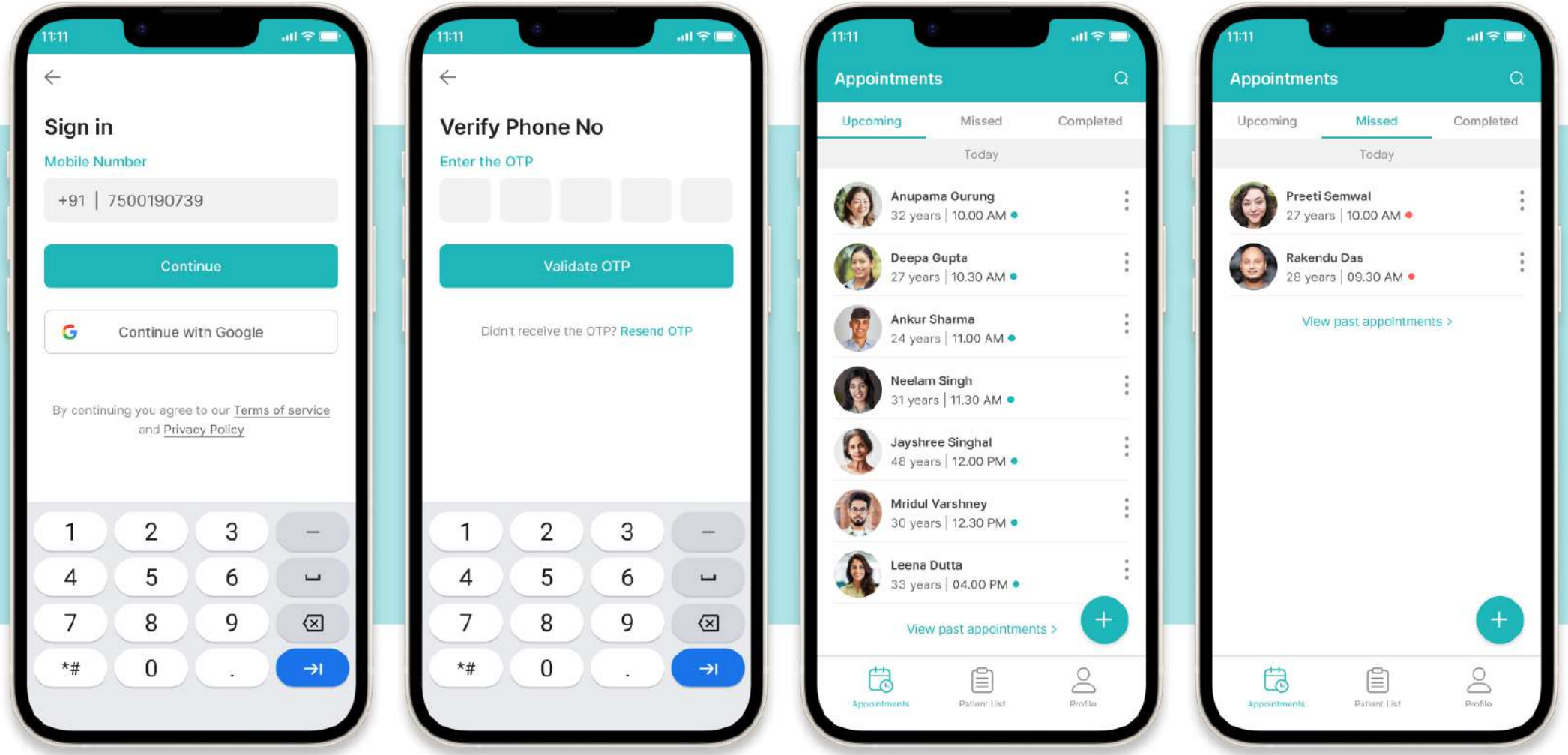
Icons

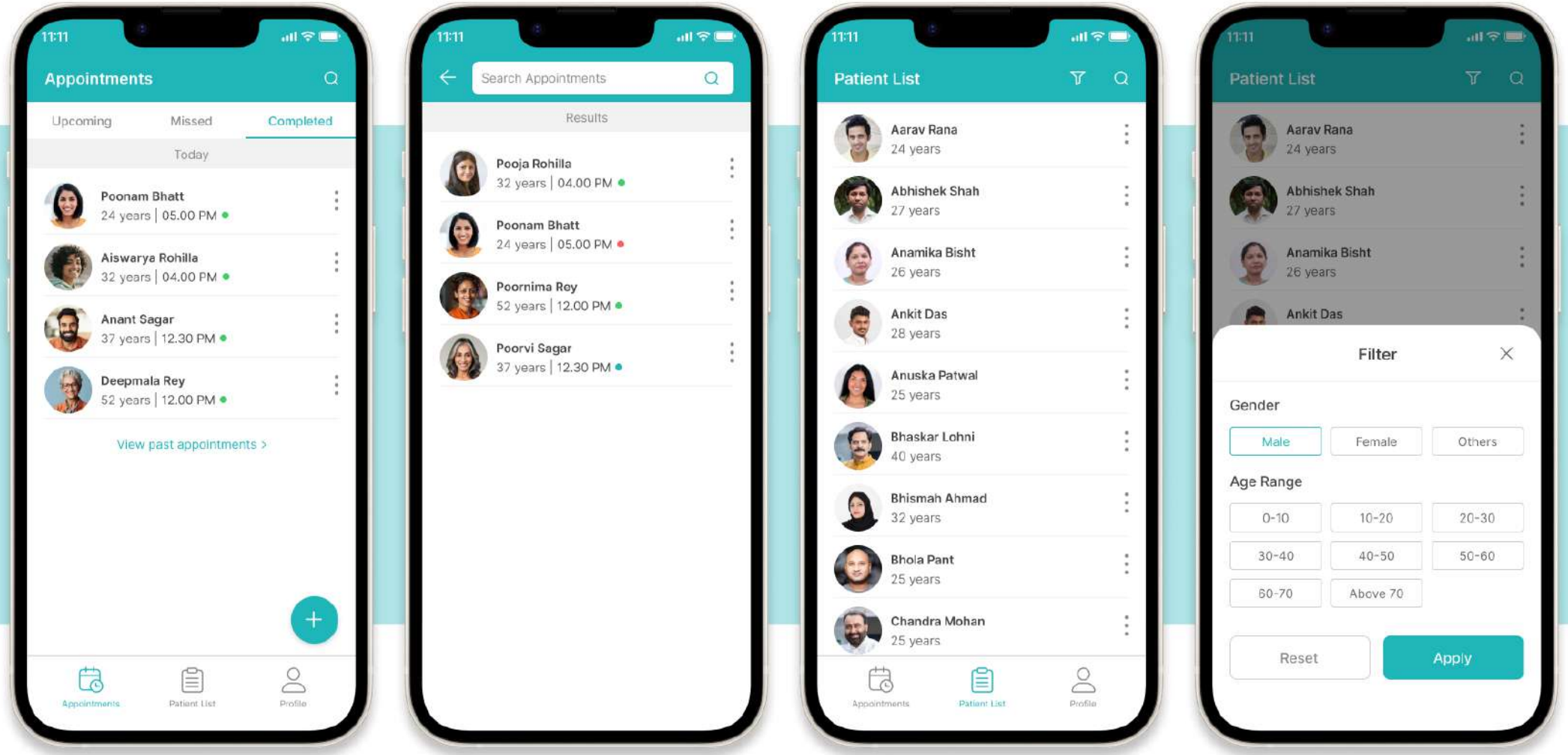
Colors

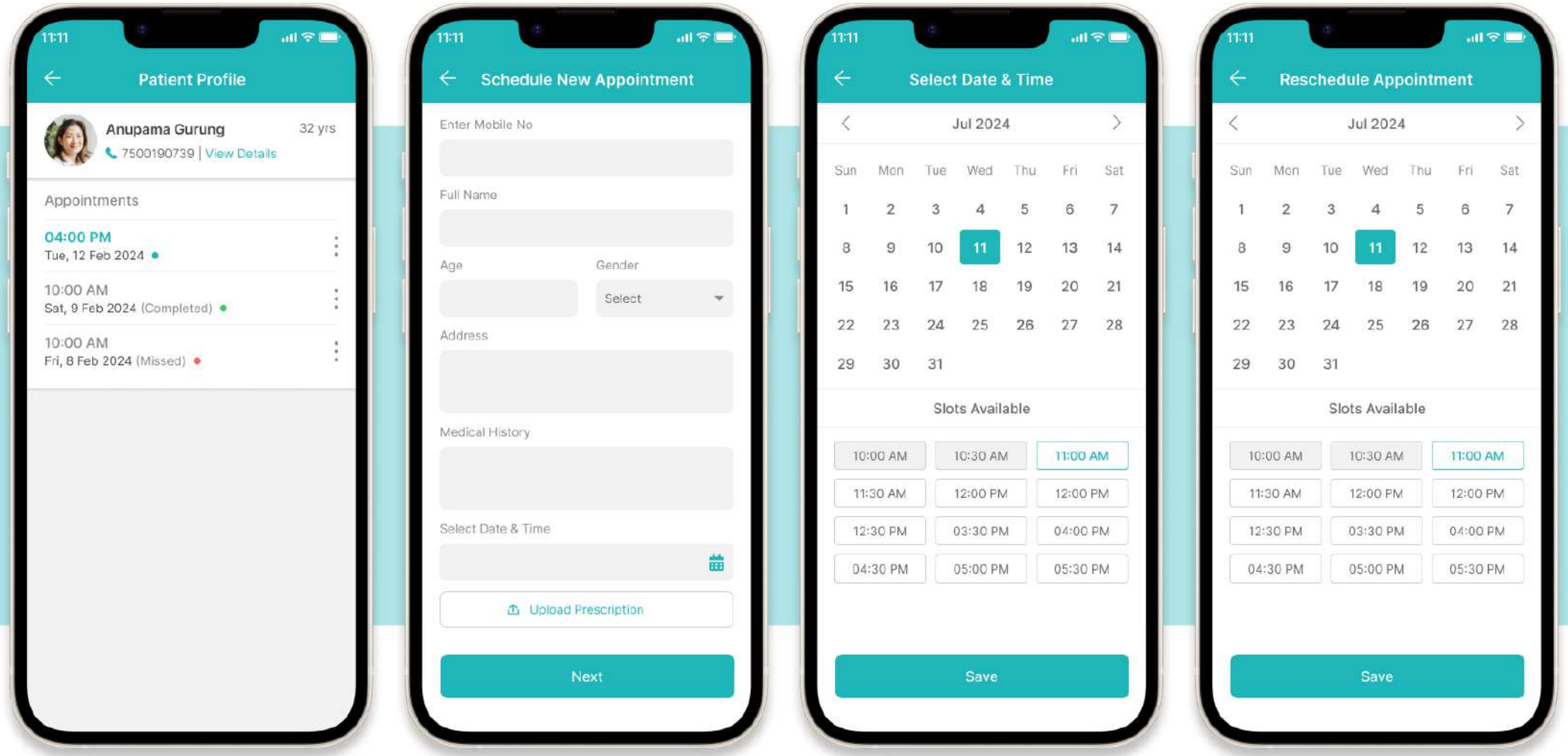
#1EB6B9	#FF6161	#42CD69	#222222	#666666

Visual Design




11:11
Sign in
Mobile Number
+91 | 7500190739
Continue
Continue with Google
By continuing you agree to our Terms of service and Privacy Policy
11:11
Verify Phone No
Enter the OTP
Validate OTP
Didn't receive the OTP? Resend OTP
11:11
Appointments
Upcoming
Missed
Completed
Today
Anupama Gurung
32 years | 10.00 AM
Deepa Gupta
27 years | 10.30 AM
Ankur Sharma
24 years | 11.00 AM
Neelam Singh
31 years | 11.30 AM
Jayshree Singhal
48 years | 12.00 PM
Mridul Varshney
30 years | 12.30 PM
Leena Dutta
33 years | 04.00 PM
View past appointments >
Appointments
Patient List
Profile
11:11
Appointments
Upcoming
Missed
Completed
Today
Preeti Semwal
27 years | 10.00 AM
Rakendu Das
28 years | 09.30 AM
View past appointments >
Appointments
Patient List
Profile


11:11
Appointments
Upcoming
Missed
Completed
Today
Poonam Bhatt
24 years | 05.00 PM
Aiswarya Rohilla
32 years | 04.00 PM
Anant Sagar
37 years | 12.30 PM
Deepmala Rey
52 years | 12.00 PM
View past appointments >
Appointments
Patient List
Profile
11:11
Search Appointments
Results
Pooja Rohilla
32 years | 04.00 PM
Poonam Bhatt
24 years | 05.00 PM
Poornima Rey
52 years | 12.00 PM
Poorvi Sagar
37 years | 12.30 PM
11:11
Patient List
Aarav Rana
24 years
Abhishek Shah
27 years
Anamika Bisht
26 years
Ankit Das
28 years
Anuska Patwal
25 years
Bhaskar Lohni
40 years
Bhismah Ahmad
32 years
Bhola Pant
25 years
Chandra Mohan
25 years
Appointments
Patient List
Profile
11:11
Patient List
Aarav Rana
24 years
Abhishek Shah
27 years
Anamika Bisht
26 years
Ankit Das
Filter
Gender
Male
Female
Others
Age Range
0-10
10-20
20-30
30-40
40-50
50-60
60-70
Above 70
Reset
Apply


11:11
Patient Profile
Anupama Gurung
32 yrs
7500190739 | View Details
Appointments
04:00 PM
Tue, 12 Feb 2024
10:00 AM
Sat, 9 Feb 2024 (Completed)
10:00 AM
Fri, 8 Feb 2024 (Missed)
11:11
Schedule New Appointment
Enter Mobile No
Full Name
Age
Gender
Select
Address
Medical History
Select Date & Time
Upload Prescription
Next
11:11
Select Date & Time
Jul 2024
Sun Mon Tue Wed Thu 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 31
Slots Available
10:00 AM
10:30 AM
11:00 AM
11:30 AM
12:00 PM
12:00 PM
12:30 PM
03:30 PM
04:00 PM
04:30 PM
05:00 PM
05:30 PM
Save
11:11
Reschedule Appointment
Jul 2024
Sun Mon Tue Wed Thu 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 31
Slots Available
10:00 AM
10:30 AM
11:00 AM
11:30 AM
12:00 PM
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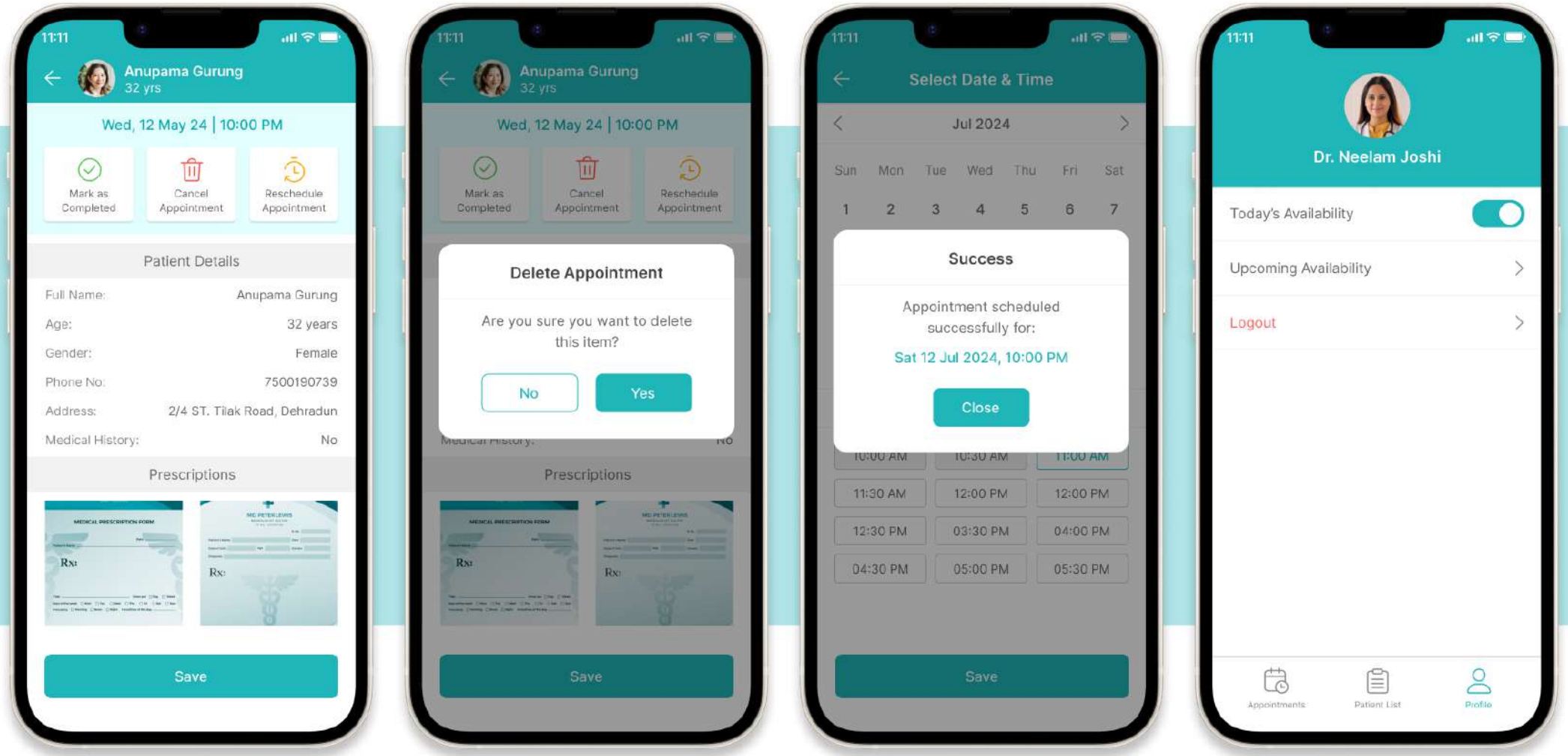
12:30 PM
03:30 PM
04:00 PM
04:30 PM
05:00 PM
05:30 PM
Save


11:11
Anupama Gurung
32 yrs
Wed, 12 May 24 | 10:00 PM
Mark as Completed
Cancel Appointment
Reschedule Appointment
Patient Details
Full Name: Anupama Gurung
Age: 32 years
Gender: Female
Phone No: 7500190739
Address: 2/4 ST. Tilak Road, Dehradun
Medical History: No
Prescriptions
Save
Delete Appointment
Are you sure you want to delete this item?
No
Yes
Select Date & Time
Jul 2024
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
11:30 AM
12:00 PM
12:00 PM
12:30 PM
03:30 PM
04:00 PM
04:30 PM
05:00 PM
05:30 PM
Success
Appointment scheduled successfully for:
Sat 12 Jul 2024, 10:00 PM
Close
Dr. Neelam Joshi
Today's Availability
Upcoming Availability
Logout
Appointments
Patient List
Profile

Test Phase

Usability Testing

After the visual design was complete, I tested the prototype with 4 people (2 doctors, neurotherapists), who served as representative users, to assess the user-friendliness of the application. The test was carried out through Google Meet video calls, wherein participants were assigned specific tasks. I systematically observed and analysed their navigation and interactions within the application.

Findings

The participants liked the application, finding it easy to use. They used all the features well and had a positive experience. Importantly, there was no feedback indicating problems, and in general, they were very satisfied with the app prototype.

My Learning

- Enjoyable and challenging project experience
- Recognized the significance of user research in ensuring product success
- Applied familiar processes from previous projects and introduced new ones (e.g., card sorting, information architecture)
- New processes significantly contributed to the product's value
- Conducted live video interviews to gather firsthand insights
- Engaged doctors with questions, adding a fun and informative dimension to the research

Thank You