Group 7 - Health Portal

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CS 352 - Intro to Usability Engineering

Usability Problem: The usability problem our project seeks to address is, despite the advances within the healthcare and wellness industry, such as monitoring personal heart rate on a smartwatch or consulting with a doctor 24/7 from your phone, healthcare data infrastructure remains fragmented and outdated. Patients often find their own medical information inaccessible, and medical providers deal with incompatible interoperability between hospital systems. Current healthcare systems primarily accept data from providers, limiting patient input and offering minimal support for integrating data from wearables or patient reports. This creates a focus on fighting illness rather than preventing illness and maintaining wellness.

Target Audience: The target audience that our project is designed for are adults that are aged 25–55, are in the middle to upper-middle class, have a high school level or above education, live in urban or suburban areas with stable internet access, are web-savvy, are comfortable with apps and connected devices, and are interested in long-term health, preventative care, and optimizing well-being through self-tracking.

Project: Our project consists of a platform that reimagines how people engage with their health. Rather than passively receiving care, users will actively manage, understand, and contribute to their health profiles. Some features included are a personalized health dashboard adaptable to user priorities, secure APIs to import/export data from/to multiple platforms, suggestions powered by machine learning based on trends in the user's data, a mode where users log contextual data to improve predictions, and give users control over what data to share, with whom, and when.

General Design

Provides user a way out of the page at any point on the platform (Heuristic #3: User Control and Freedom)

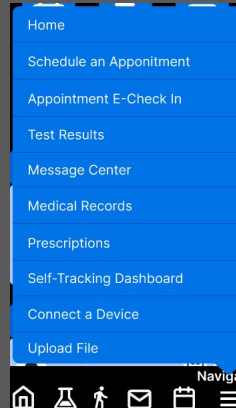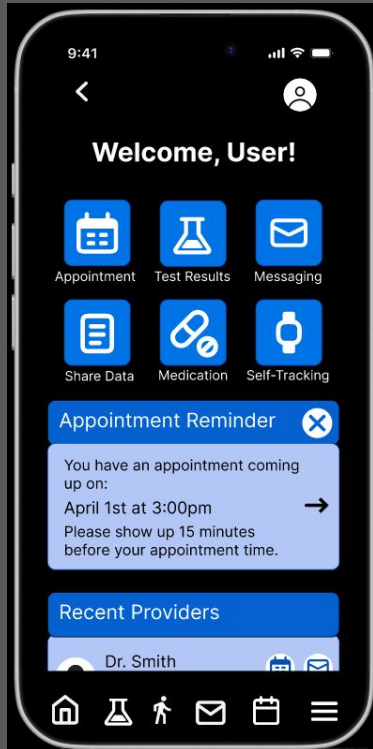Icons include text to provide clarity of function (Heuristic #6: Recognition rather than Recall and walkthrough participant recommended)

Standard icon styles e.g. airplane for send, trash for delete, etc.(Heuristic # 4: Consistency and Standards)

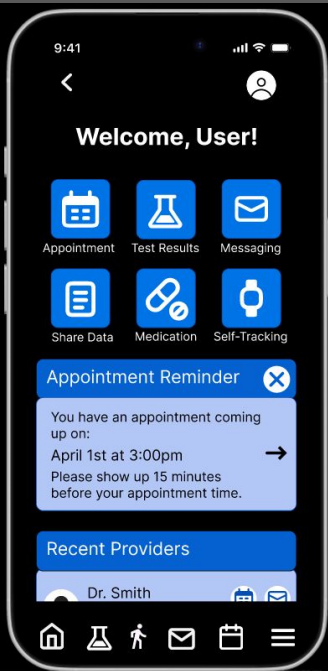Multiple routes for tasks (Heuristic #7: Flexibility and Efficiency of Use)

Navigation dropdown:

Navigation Bar (each page):

Buttons on page:

Visually accessible font - "Verdana"

Visually accessible colors - Monochromatic palette with dark mode active

#B3C7F7	#8BABF1	#0073E6	#0461CF	#054FB9

9:41

Welcome, User!

Appointment Test Results Messaging

Share Data Medication Self-Tracking

Appointment Reminder ✕
You have an appointment coming up on:
April 1st at 3:00pm
Please show up 15 minutes before your appointment time. →

Recent Providers
Dr. Smith

Home
Schedule an Appointment
Appointment E-Check In
Test Results
Message Center
Medical Records
Prescriptions
Self-Tracking Dashboard
Connect a Device
Upload File
Navigat

Appointment Test Results Messaging

Appointment Test Results Messaging

Share Data Medication Self-Tracking

Messaging Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)

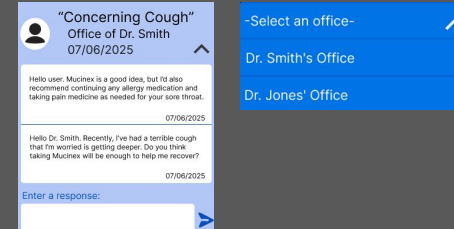📧 or ✉ ->"Messages"
- Also on nav options

[Send a Message] -> draft

Fast route autofils office selection and goes to "Send a Message" page (recommended by participant):
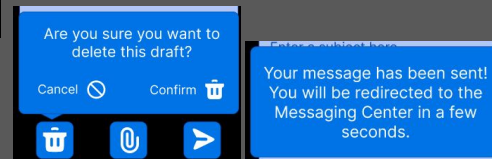
Dropdown menu to reduce clutter but available if helpful (Heuristic # 8 Aesthetic and Minimal Design)
- Participant loved this

Messages pop up to confirm delete and to confirm message was sent (Heuristic #5 Error Recovery and #1 Visibility of System Status)

9:41
Welcome, User!
Appointment | Test Results | Messaging
Share Data | Medication | Self-Tracking

Appointment Reminder
You have an appointment coming up on:
April 1st at 3:00pm
Please show up 15 minutes before your appointment time.

Recent Providers
Dr. Smith

Recent Providers
Dr. Smith
Primary Care Provider
Family Practice
Dr. Jones
Specialist Provider
Obstetrics and Gynecology

9:41
Messages
Send a Message
Previous Messages
"Concerning Cough"
Office of Dr. Smith
07/06/2025
"Medicine Issues"
Office of Dr. Jones
06/15/2025
"Test Result Question"
Office of Dr. Smith
12/01/2024
"ER Follow-Up"

Are you sure you want to delete this draft?
Cancel | Confirm

"Concerning Cough"
Office of Dr. Smith
07/06/2025
Hello user. Mucinex is a good idea, but I'd also recommend continuing any allergy medication and taking pain medicine as needed for your sore throat.
07/06/2025
Hello Dr. Smith. Recently, I've had a terrible cough that I'm worried is getting deeper. Do you think taking Mucinex will be enough to help me recover?
07/06/2025
Enter a response:

-Select an office-
Dr. Smith's Office
Dr. Jones' Office

Your message has been sent! You will be redirected to the Messaging Center in a few seconds.

9:41
Send a Message
Office to contact:
-Select an office-
Category of purpose:
-Select a category-
Subject:
Enter a subject here
Message:
Enter the message here

Scheduling Design

Standard options expected of a scheduler (Heuristic # 4 Consistency and Standards)

Multiple routes(Heuristic #7: Flexibility and Efficiency of Use) 📅 or 📅 -> "Appointment Info" or use navigation options menu.

Fast route autofils office selection and goes to "Schedule" page (recommended by participant):

Confirmation message after "Schedule Appointment" button and after clicking "Sign" button on E-Sign In (Heuristic # 1 Visibility of System Status)

On E-Check In: Confirm button -> "Verified" (Heuristic # 1 Visibility of System Status)
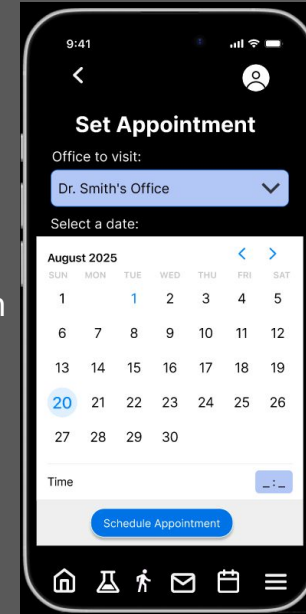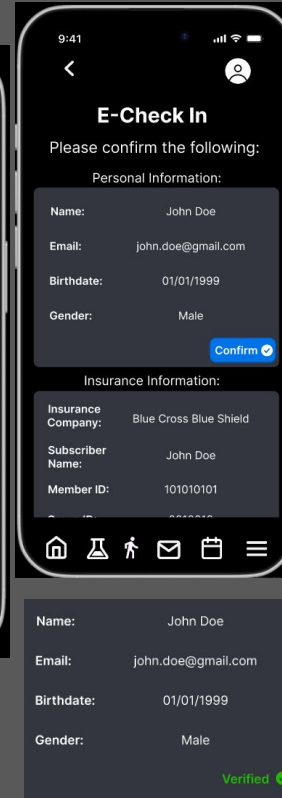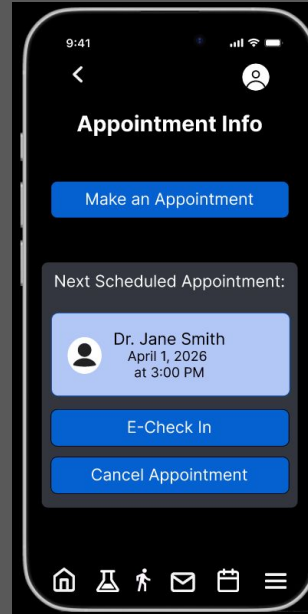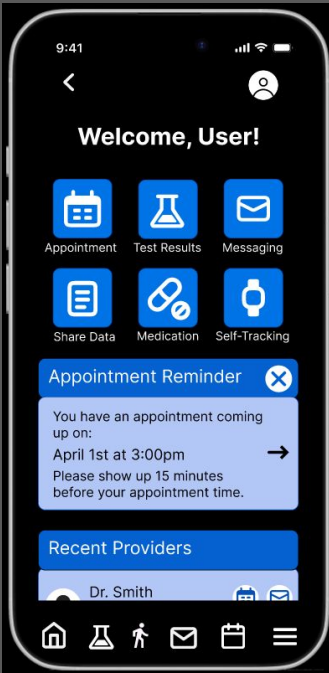
Personal Biometrics Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)

 or -> "Biometrics"

or use navigation options menu or click arrow on AI warning message
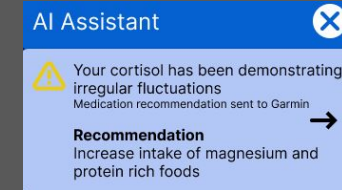
The watch and running icons represents fitness, eluding to biometrics (Heuristic #4: Consistency and Standards
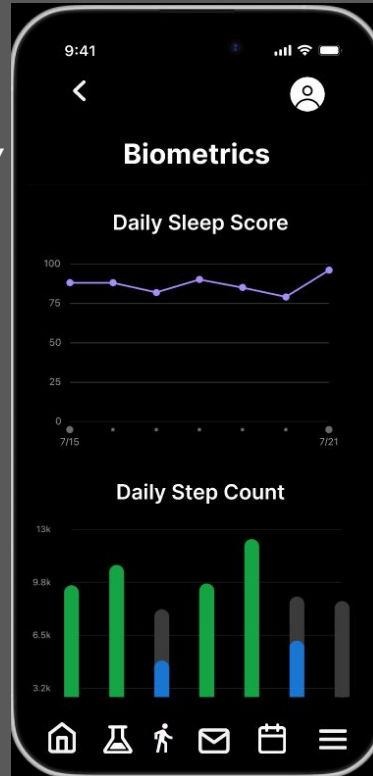
Can access "Health Dashboard" from navigation options menu, but limited to biometrics from home (Heuristic #8 Aesthetic and Minimal Design)

Graphs help users see information in a non-technical way. (Heuristic #2: Match Between System and Real World
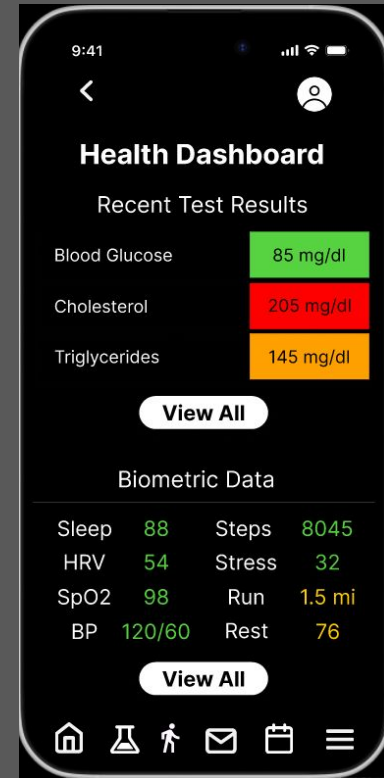
Connect a Wearable Device - Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)

on "Biometrics" -> Add a Device
on navigation options -> Connect a Device

Updates home page to reflect connected device status (Heuristic #1 Visibility of System Status)
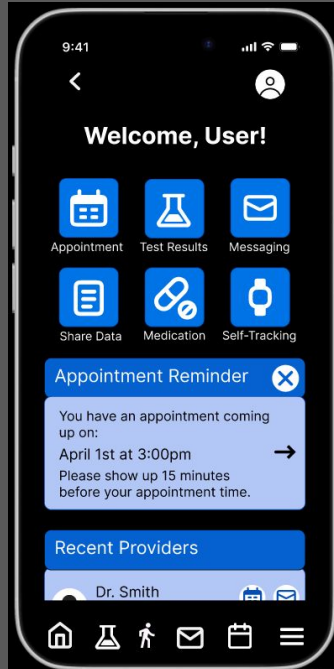
Separates prompts into small, digestible pages (Heuristic #8 Aesthetic and Minimal Design)
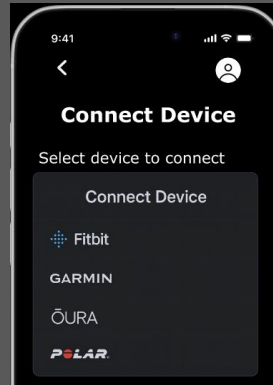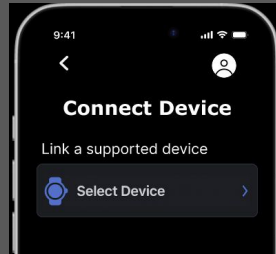
Contains limiter for sharing data due to data concerns expressed during interviews.
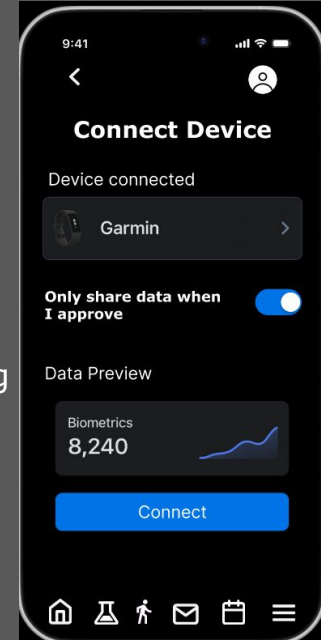
Upload Data - Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)
"Medical Records" on navigation dropdown   Medical Records

on "Records" ->   Upload File
on navigation options ->   Upload File
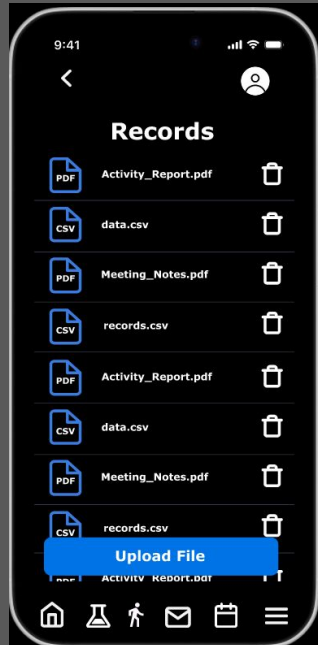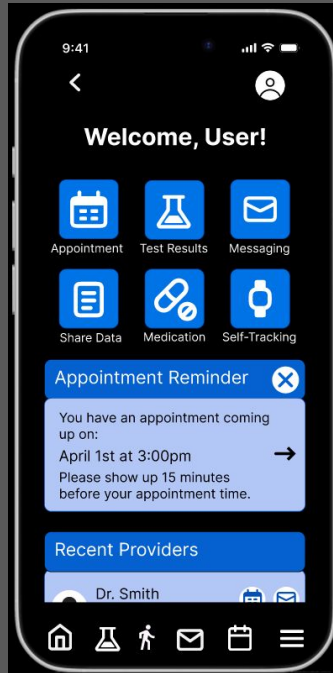
Uses "uploading" pop-up to visually represent the action (Heuristic #2: Match Between System and Real World)

Prevents submission until a document is attached (Heuristic #5: Error Prevention)
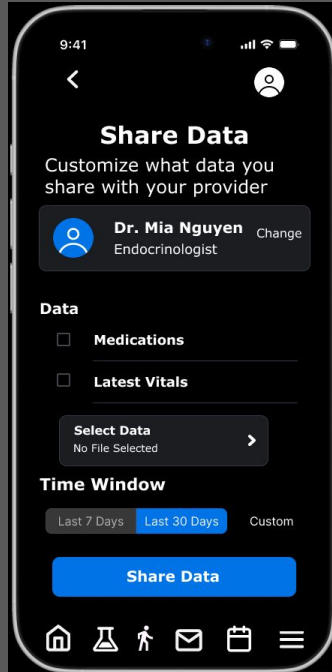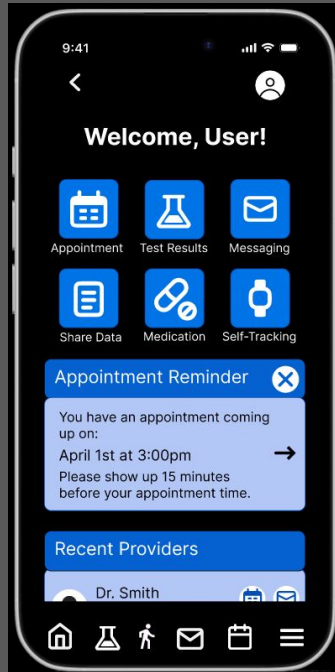
"Upload Successful" message confirms the upload (Heuristic #1: Visibility of System Status)
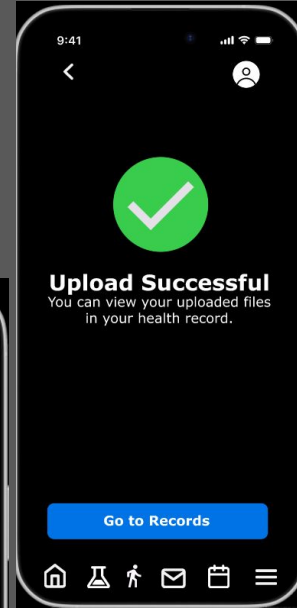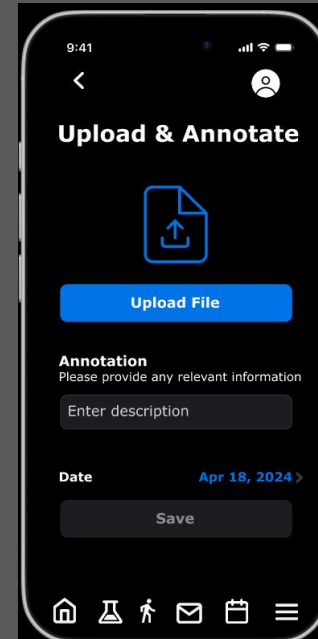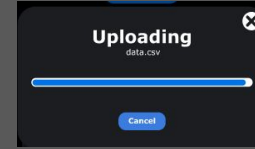
Share Data - Design

Route = 📄 -> "Share Data"

"Success" message page reassures users that the system shared the data (Heuristic # 1: Visibility of System Status)

Checkbox selection allows user control and prevents sharing data they don't select (Heuristic #3 User Control and Freedom)
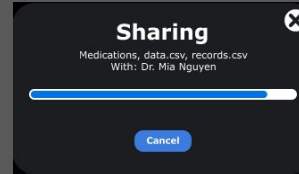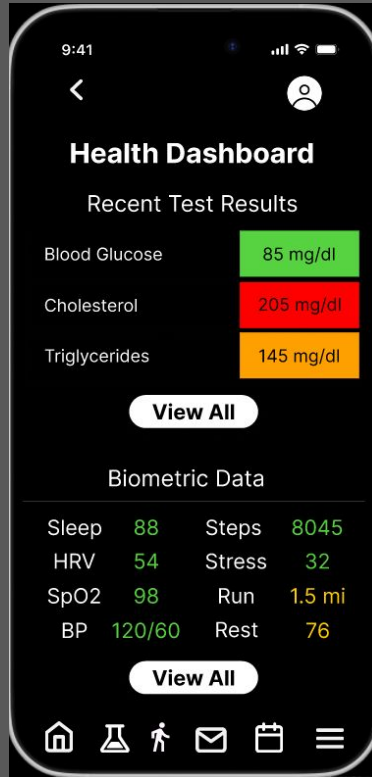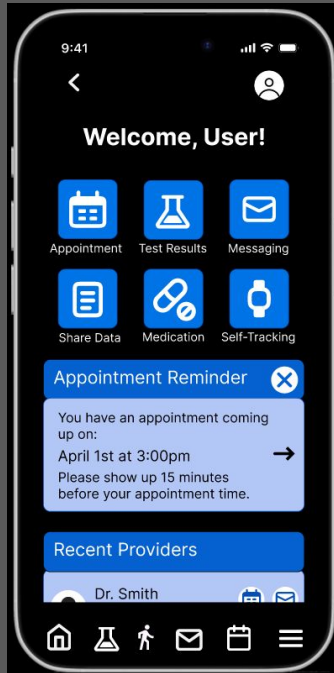
"Sharing" pop up loading bar shows the action being completed (Heuristic #2 Match Between System and Real World)
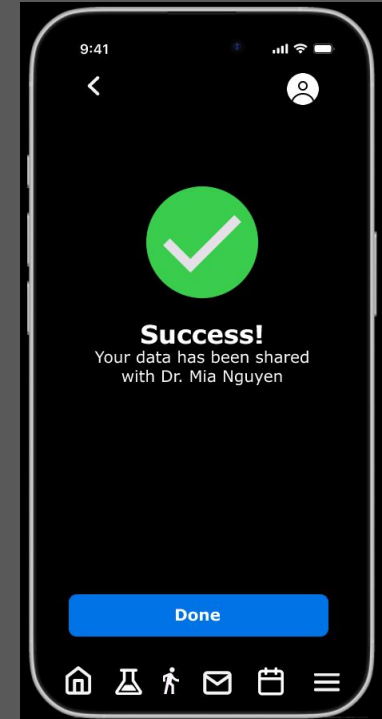
Test Results Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)

[flask icon] or [home icon] -> "Test Details"
or use navigation options menu
or "Self-Tracking Dashboard" -> View All

Comparisons to normal ranges are a consistent feature in health portals (Heuristic #4: Consistency and Standards

Graphs and charts help users see information in a non-technical way with comparisons to normal ranges. (Heuristic #2: Match Between System and Real World)
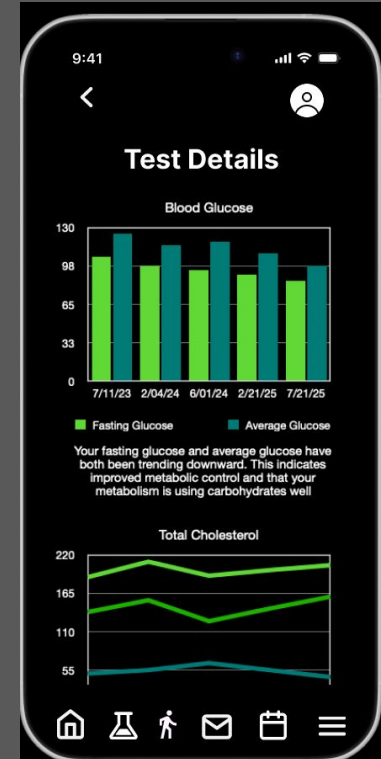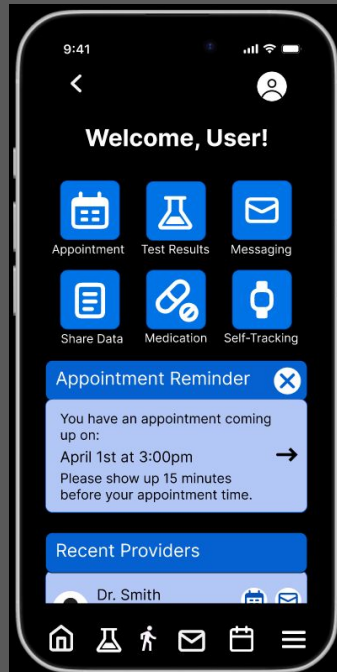
Send Doctor Documents/Images Design

Multiple routes (Heuristic #7: Flexibility and Efficiency of Use)

Upload data -> Select Data -> Share (previously discussed)
Messages -> Send a Message -> 📎 -> Select option -> Send

Used icons paired with text to help with language-barrier accessibility, as research indicated this to be an issue.

During my walkthrough, my user indicated they liked many options for upload, especially Google Drive.

During my interviews, my users indicated the usefulness of sending medical records/info from outside sources to doctors.
- Upload data is for documents
- Sending through messages is for self-tracking and perhaps a specific relevant document

"Selection attached" message helps user confirm attachment has been made (Heuristic #1: Visibility of System Status)
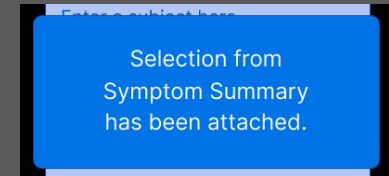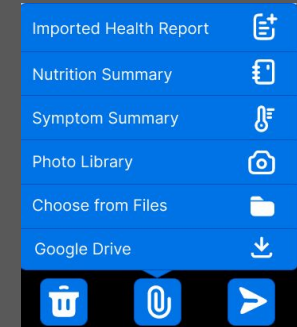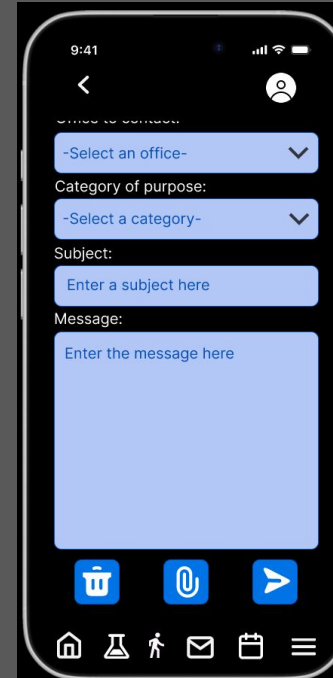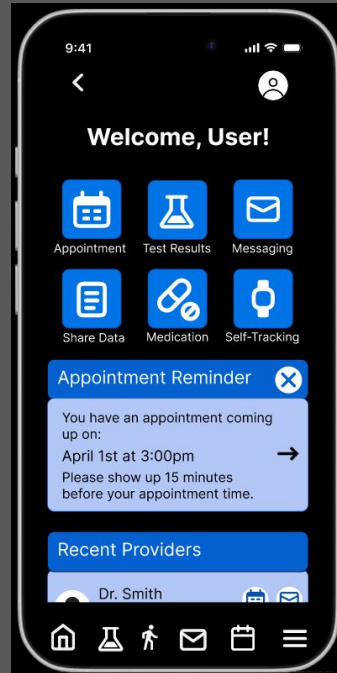
Prescription Info Design

 used to provide optional explanation of medication to users (Heuristic #10: Help and Documentation)

Multiple routes for navigation and refills (Heuristic #7: Flexibility and Efficiency of Use)

on home, -> "Prescriptions"
on navigation option dropdown -> Prescriptions

Confirmation messages (Heuristic #1: Visibility of System Status)

Press plus button for refill:

Medication	Dosage	Refills	
Metformin	500 mg	2	+
Albuterol	2.5 mg	1	+
Lisinopril	10 mg	3	+

Your request to refill Lisinopril has been sent.

| Psyllium Husk Fiber | 15 g | N/A | |

Complete form:

Your request to refill Metformin has been sent.
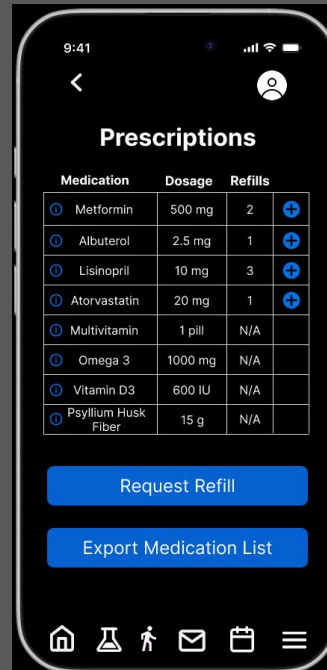
Your export has been saved to this device.

Exporting options recommended by peer on Discussion Post for printing

9:41

Prescriptions

Medication	Dosage	Refills	
Metformin	500 mg	2	+
Albuterol	2.5 mg	1	+
Lisinopril	10 mg	3	+
Atorvastatin	20 mg	1	+
Multivitamin	1 pill	N/A	
Omega 3	1000 mg	N/A	
Vitamin D3	600 IU	N/A	
Psyllium Husk Fiber	15 g	N/A	

Request Refill

Export Medication List

Export as PDF

Export as CSV

Export as DOC/DOCX

Export as PNG

Export as JPG

Export Medication List

9:41

Request Refill

Please select the medication to refill:

-Select a medication-

(Optional) Please explain why you are requesting a refill:

Enter the explanation here

Request Refill

Welcome, User!

Appointment

Test Results

Messaging

Share Data

Medication

Self-Tracking

Appointment Reminder ✕

You have an appointment coming up on:
April 1st at 3:00pm
Please show up 15 minutes before your appointment time.

Recent Providers

Dr. Smith

References

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