

Hi-fi Prototyping

 Understanding Voice-First Daily Companion

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Value Proposition

Make medication social, not solo.

Pill Pal transforms medication tracking into a shared, encouraging experience through voice reminders and community support.



Problem & Solution

Problem

People managing chronic conditions often struggle to stay consistent with their medications, especially when they **feel isolated, overwhelmed, or lack a supportive care network.**

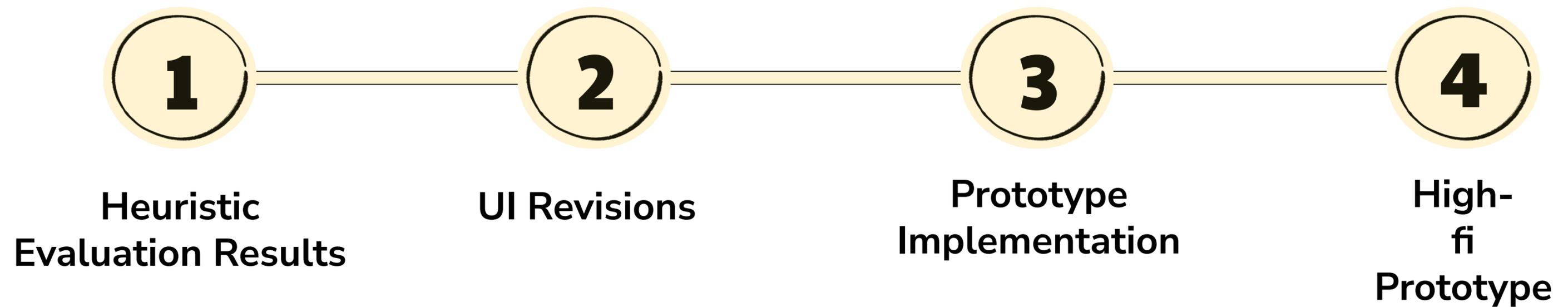
Their medication routines become a solitary burden, leading to **missed doses and declining health.**

Solution

Pill Pal turns medication adherence into a supportive, social experience instead of an isolated task.

- Users log medications easily through **voice assisted tracking**
- Care Circles let **family & friends** support each other's routines
- **Personalized** reminders, streaks, and insights encourage consistency
- A welcoming **Community** Circles helps users feel connected, not alone

Presentation Outline





Heuristic Evaluation Results

Overall Heuristic Evaluation

Heuristic	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of System Status	0	1	14	3	2	20
H2: Match b/w System & World	0	0	4	3	0	7
H3: User Control & Freedom	0	0	1	0	2	3
H4: Consistency & Standards	0	4	5	0	0	9
H5: Error Prevention	0	0	2	0	1	3
H6: Recognition not Recall	0	0	4	1	0	5
H7: Flexibility & Efficiency of Use	0	1	7	2	1	11
H8: Aesthetic & Minimalist Design	0	20	1	1	0	22
H9: Help Users with Errors	0	0	0	0	0	0
H10: Help & Documentation	0	0	2	1	0	3
H11: Accessible Design	0	0	3	4	2	9
H12: Value Alignment & Inclusion	0	0	2	5	2	9
Total Violations	0	26	45	20	10	101

Summary of Results

Most Common Violations

Severity 3 & 4 =
30 violations

Severity 1 & 2 =
71 violations

H1: Visibility of
System Status

20 violations

H8: Aesthetic &
Minimalist Design

22 violations

Summary of Results

Total UI revisions to be made

Severity 3 & 4 = 10

- a. Reflect system change failure/success
- b. More functionality

Severity 1 & 2 = 8

- a. Consistent rounding corners
- b. Bigger text size
- c. More professional tone

Severity 3 & 4 :
30 violations

Severity 1 & 2 :
71 violations

on Violations

H8: Aesthetic & Minimalist Design

22 violations



UI Revisions

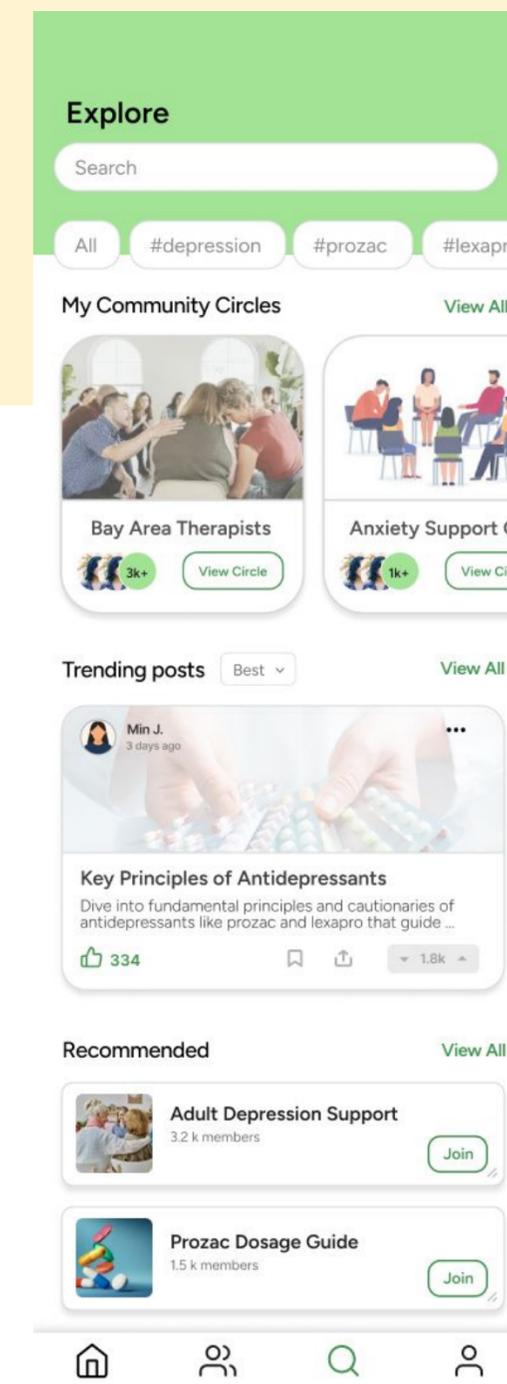
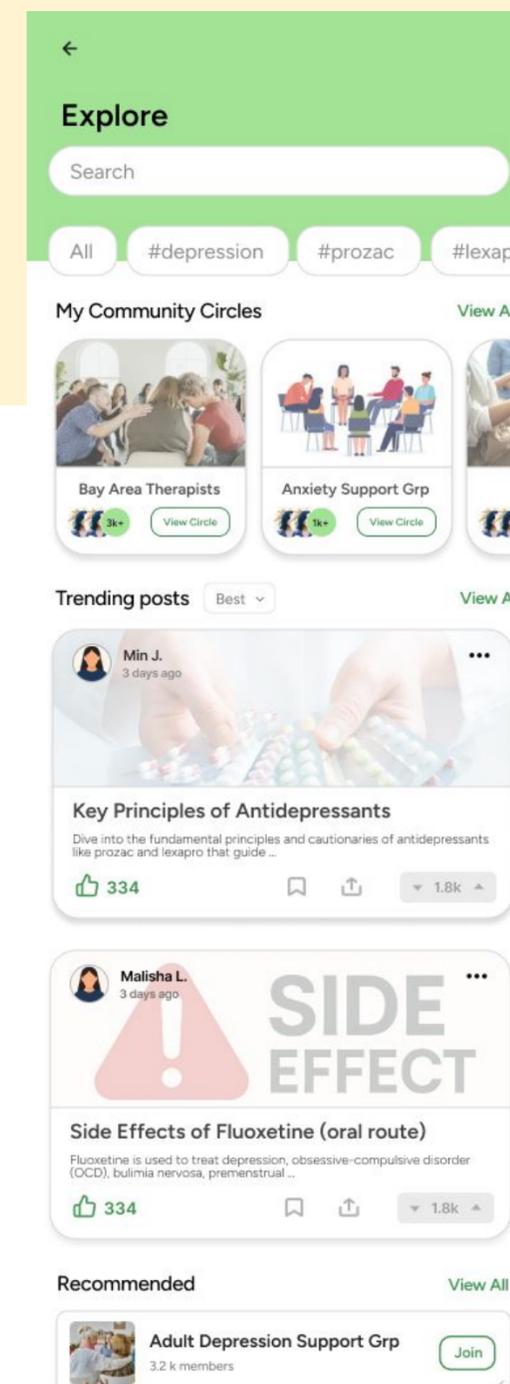
Severity 4 - *Increase Text Size*

H11: Accessible Design

H12: Value Alignment & Inclusion

Increased all body text to **at least 14 pt** for greater user accessibility

- For an app that may be used by older adults, these small details significantly impact usability and comfort.



Before



After

Severity 4 - *Reflect System Change for Joining*

Community Circles

H1: Visibility of System Status

Changed **background color** and stroke of "Join" button and its wording "**Joined**"

Before



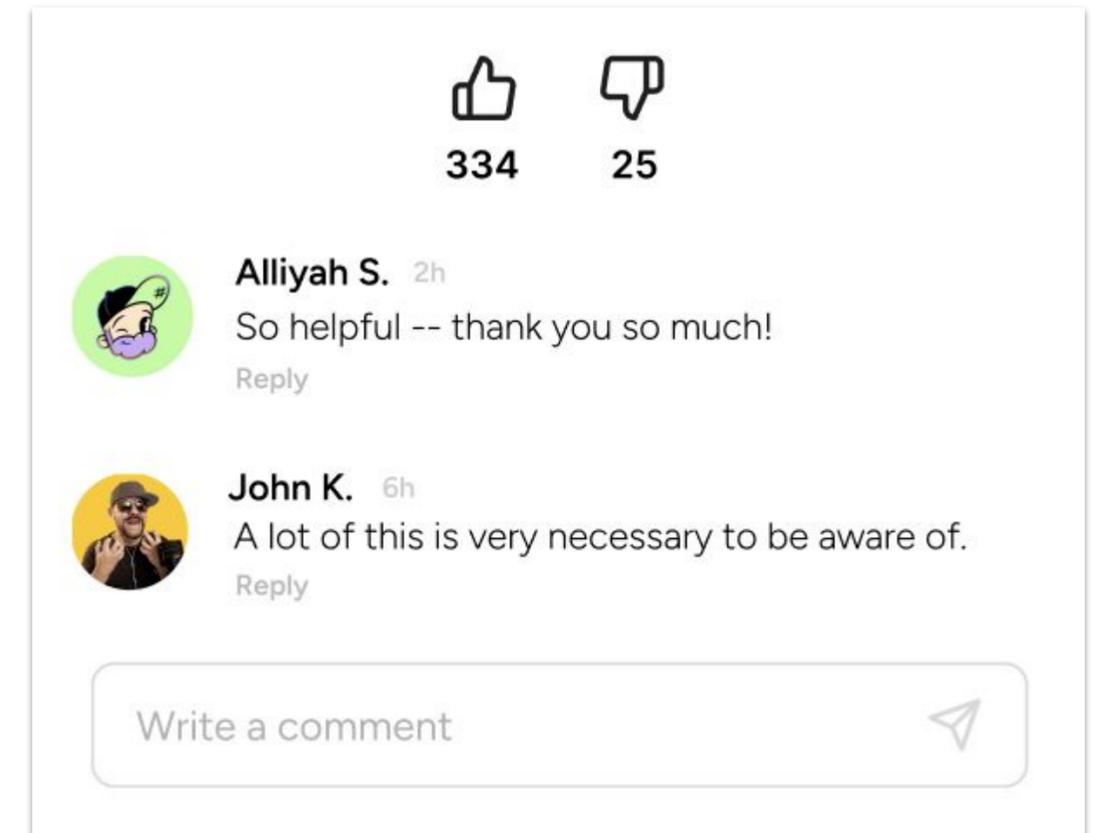
After



Severity 4 - *Commentability of Community Posts*

H3: User Control & Freedom

Added a **comment section** to allow users to comment on a post

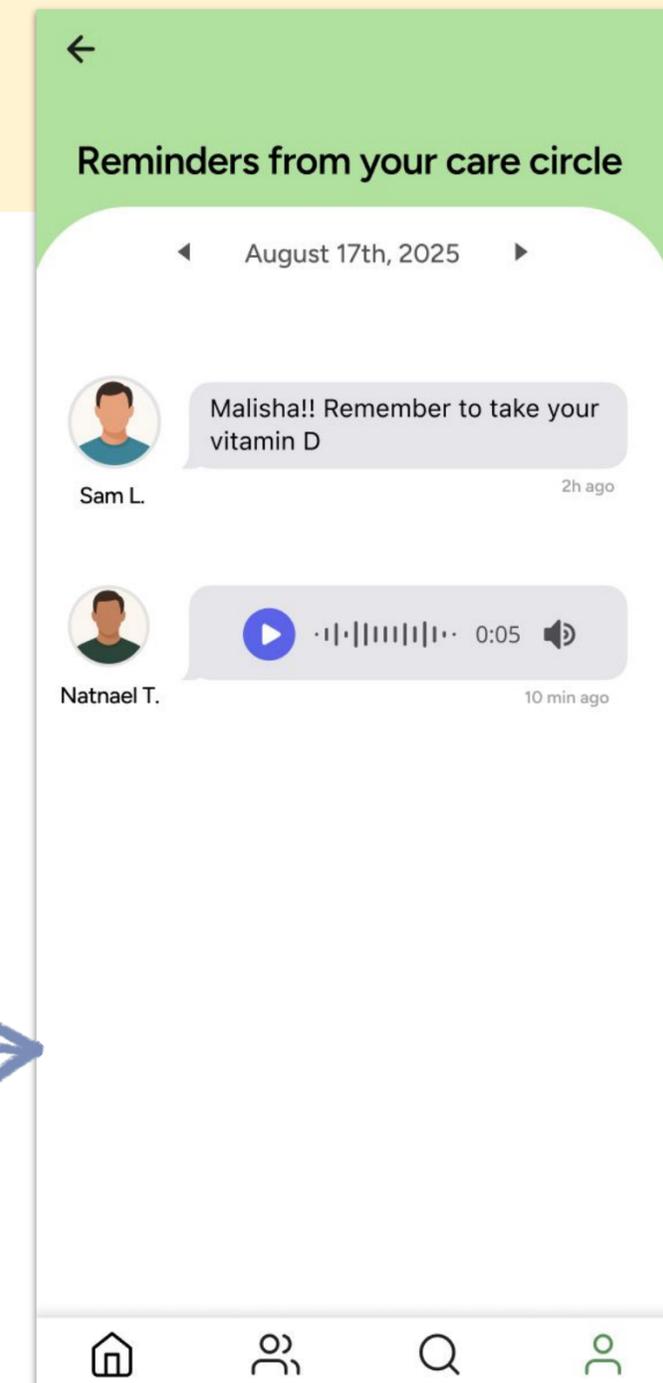
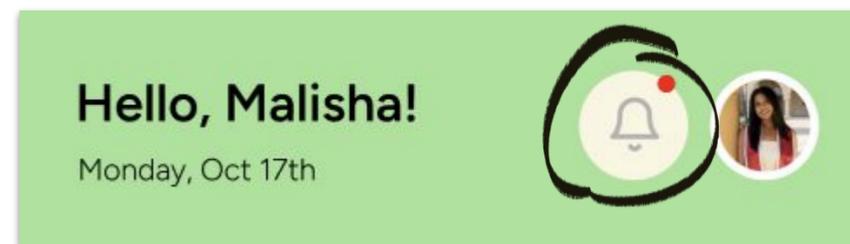


Severity 4 - *New Screen to Reflect the Bell Icon*

H6: Recognition Not Recall

Added a screen that integrates all **reminders the user received** from their Care Circle

- Directed to this screen by clicking the bell icon on the top right corner of main screen



Severity 4 - *Reflect Which Screen on Navigator*

H1: Visibility of System Status

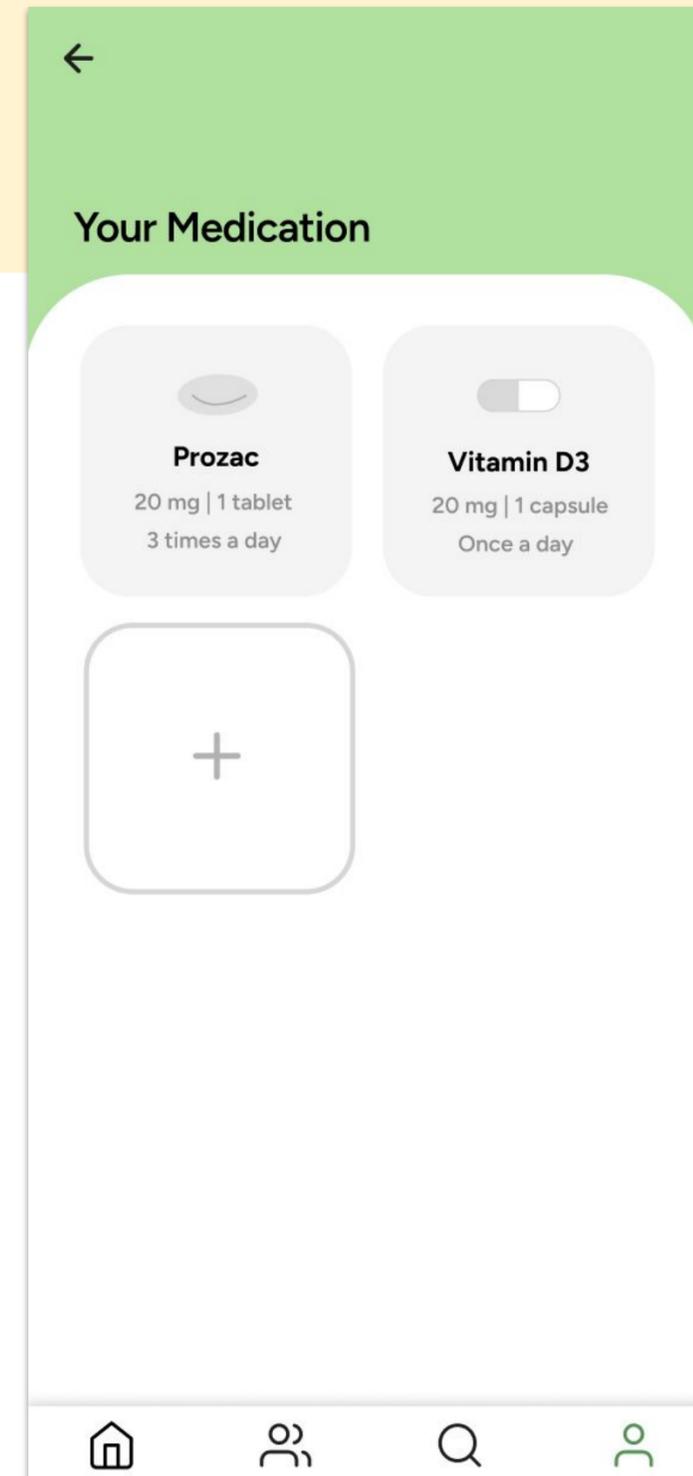
Increased icon **size** and
changed **color** for each tab



Severity 4 - *Add a medications list*

H1: Visibility of System Status

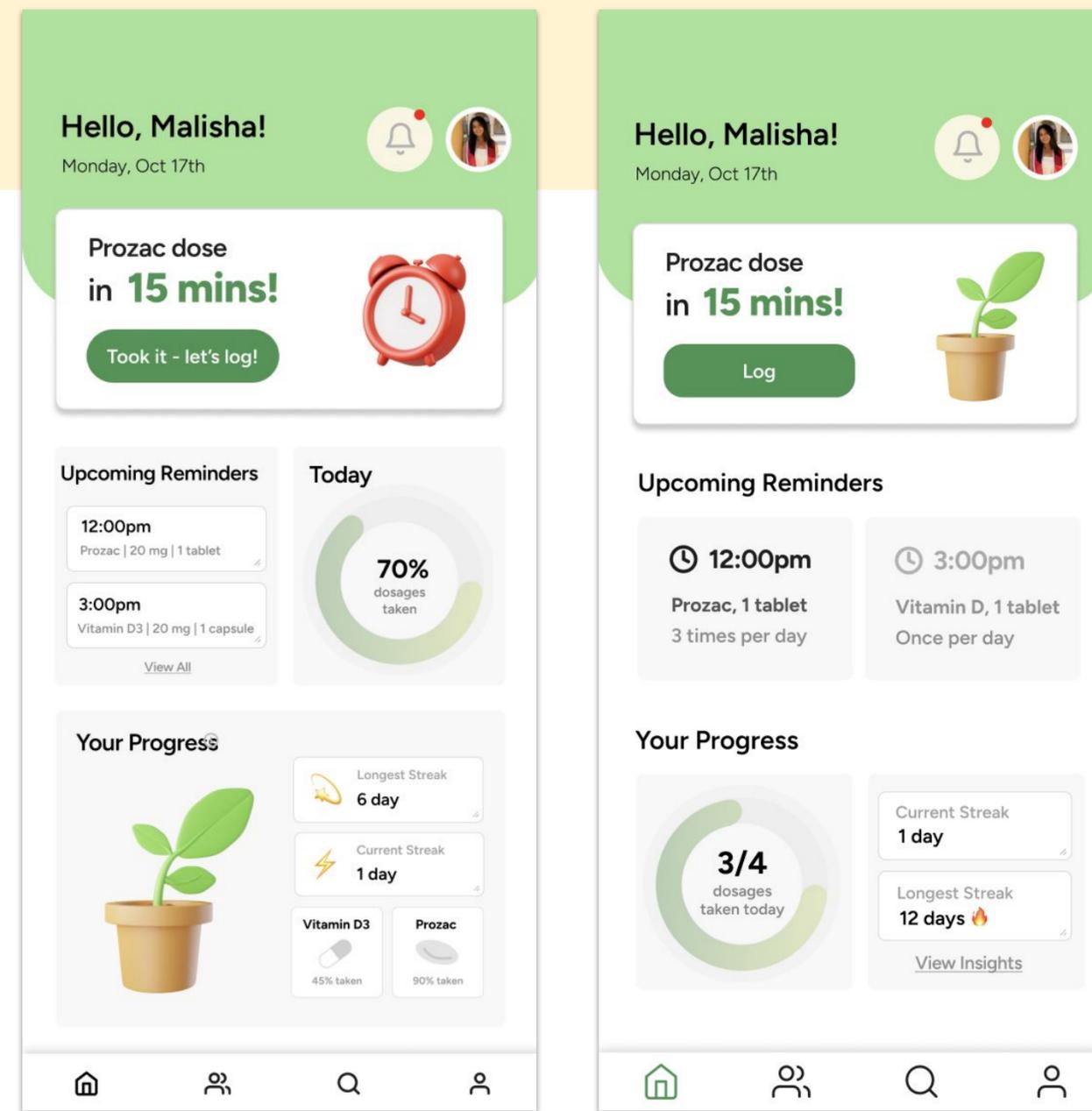
Added a new screen for users to easily see **all of their medications**



Severity 3 - Overall Hierarchy of Main Screen

H11: Accessible Design

Higher importance for **reminders section** and replaced unnecessary clock icon to the plant for progress tracking



Before



After

Severity 3 - *Managing privacy of medication info*

H11: Accessible Design

Allow user to **set sharing preferences** who might feel uncertain sharing medication data

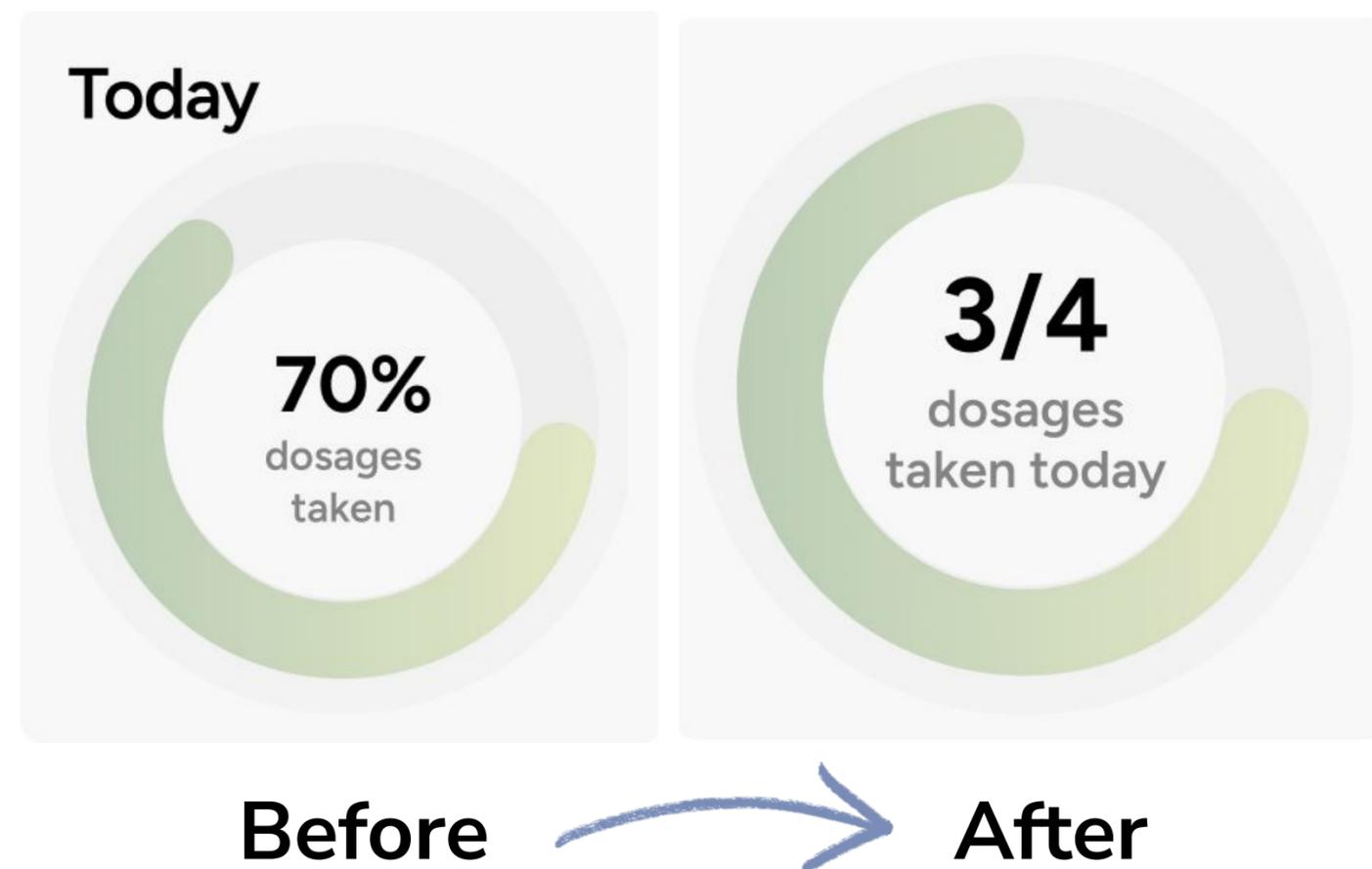
- Especially those **managing stigmatized conditions** like schizophrenia, bipolar disorder, or certain physical illnesses

The screenshot shows a mobile app interface for setting sharing preferences. At the top, there is a navigation bar with a back arrow, the text 'Previous', four numbered tabs (1, 2, 3, 4), and the text 'Next' with a forward arrow. The number '4' is highlighted with a green border. Below the navigation bar, the title 'Set Your Sharing Preferences' is displayed in bold. Underneath, the question 'How much would you like to share with your Care Circle?' is shown. There are two options, each with a checked checkbox: 'Limited Sharing' and 'Full Sharing'. The 'Limited Sharing' option includes the text 'They'll only see whether you've completed your dose. Medication names and details stay private to you.' The 'Full Sharing' option includes the text 'They can view your medication names, schedule, and daily progress.' At the bottom of the screen, there is a green button with the text 'Next'. A note at the bottom of the screen states '(Your choice is completely optional and can be changed anytime.)'

Severity 3 - *Clarity on Pill Dosage Progress*

H2: Match b/w System & World

Changed pill dosage description to **discrete** numbers using division (e.g., $\frac{4}{5}$) as naming it in terms of percentages makes it is confusing



Severity 3 - *Confirm Adding a New Reminder*

H1: Visibility of System Status

A **confirmation screen** after successfully adding a new reminder for user confirmation

Before

Two side-by-side screenshots of the 'Add New Reminder' form. The left screenshot shows the form with empty input fields. The right screenshot shows the form with filled-in fields: Name (vitamin D3), Description (vitamin D supplement; For absorption, it is best to take it with a meal or snack that contains fat.), Type (tablet), Dosage (Once a day), Medicine time (03:00 pm), and Time Duration (Indefinitely).

After

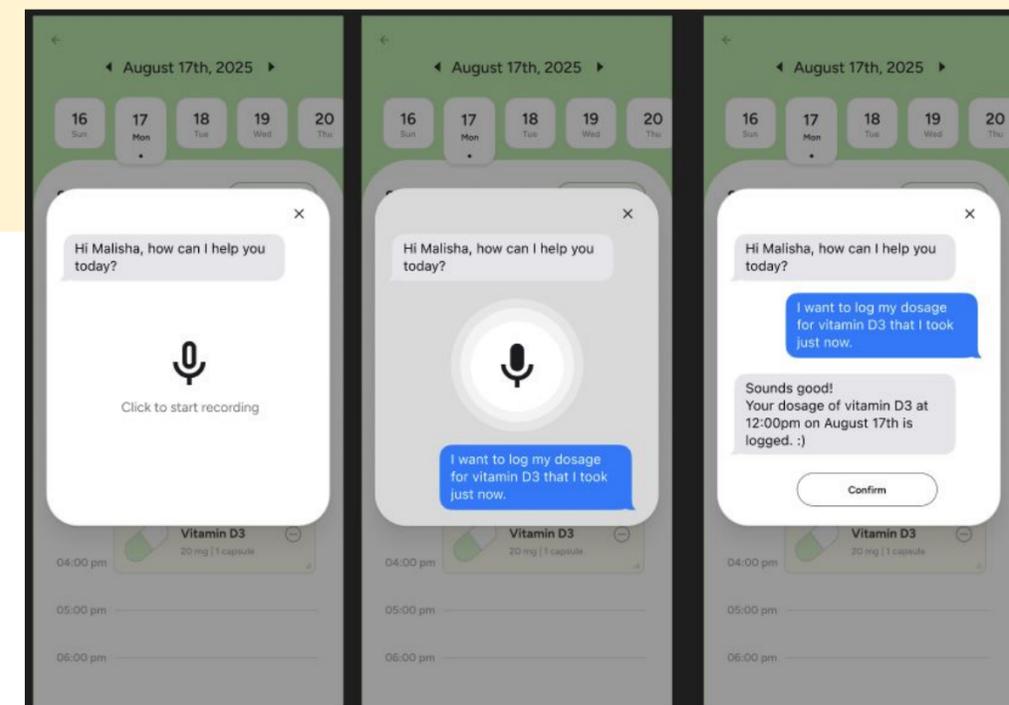
Three side-by-side screenshots of the 'Add New Reminder' form. The first two are identical to the 'Before' state. The third screenshot shows a confirmation dialog box overlaid on the form. The dialog box contains the text: "You have successfully added a new reminder for **Vitamin D3**, **one tablet at 3pm**. Keep up the good work!" and a "Confirm" button.

Severity 3 - *Confirm Logging Dosage (Voice AI ver.)*

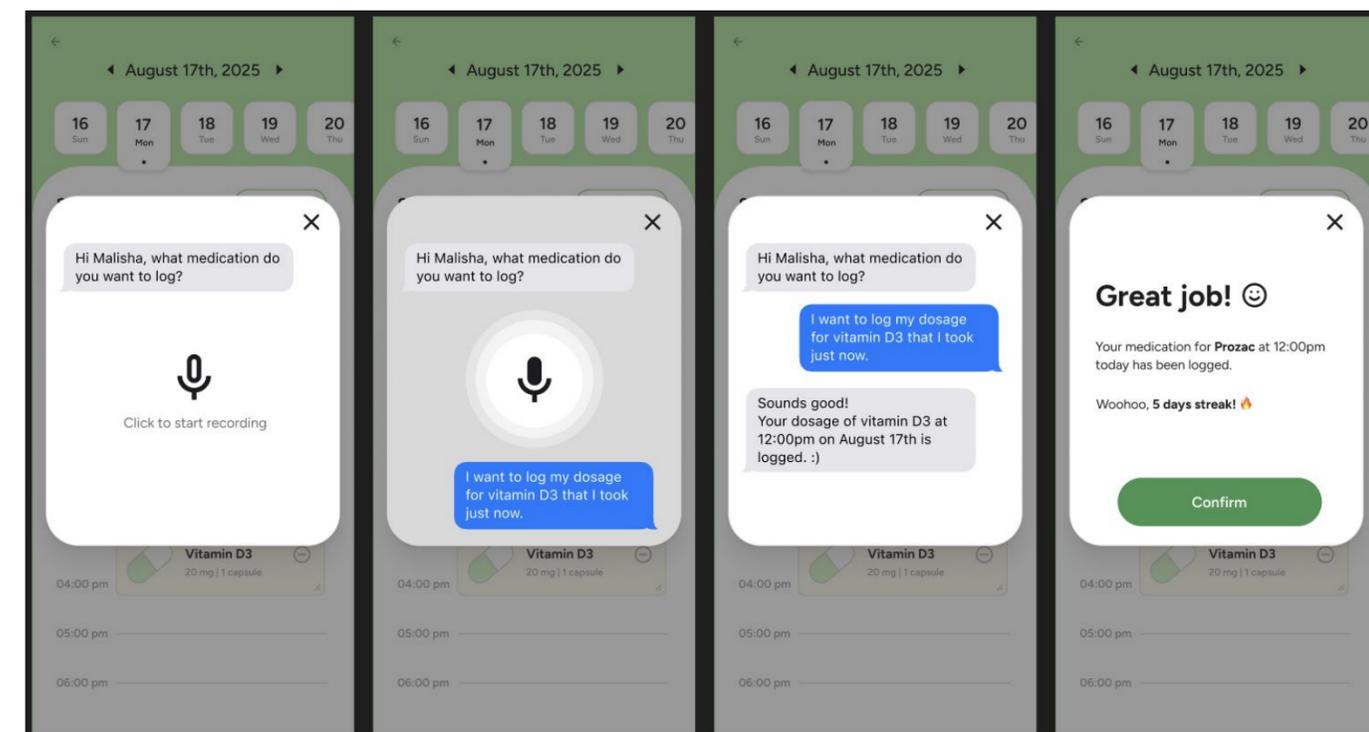
H1: Visibility of System Status

A **confirmation screen** after successfully logging a medication intake when users are using Voice AI

Before



After



Severity 1 & 2 Changes Summary

Severity 1

- Increase size of texts & interactive elements across screens to **at least 14 pts**
- Consistent **alignment of elements**
- Consistent rounding corners of rectangular elements
- Conscious **color choice** & increased **contrast**
- Fixed minor grammar errors

Severity 2

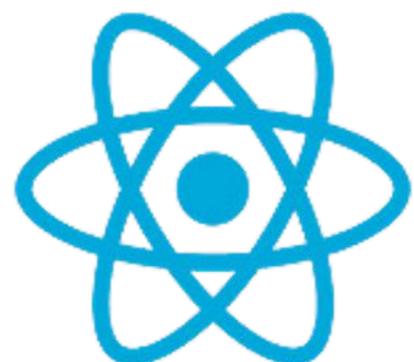
- Instead of left/right arrows, **minus/plus sign** to adjust pill #s
- Changed the **tone to more professional**
 - "Congrats for joining XYZ group!" to "You have successfully joined xyz group."
 - "What can I help you to day" to "What medication do you want to log"



Prototype Implementation Status

Framework & Tools

Application Framework



React Native



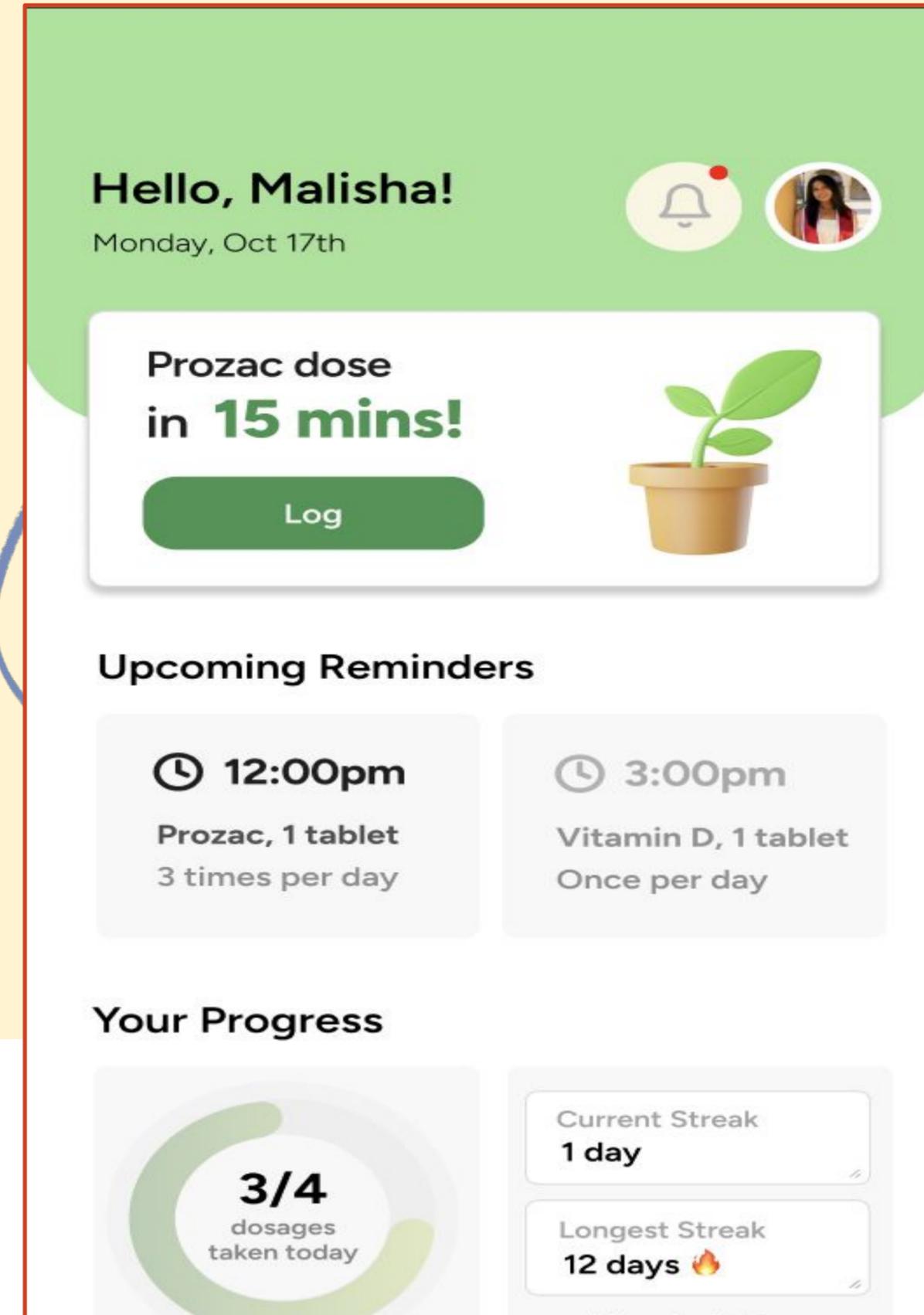
Navigation



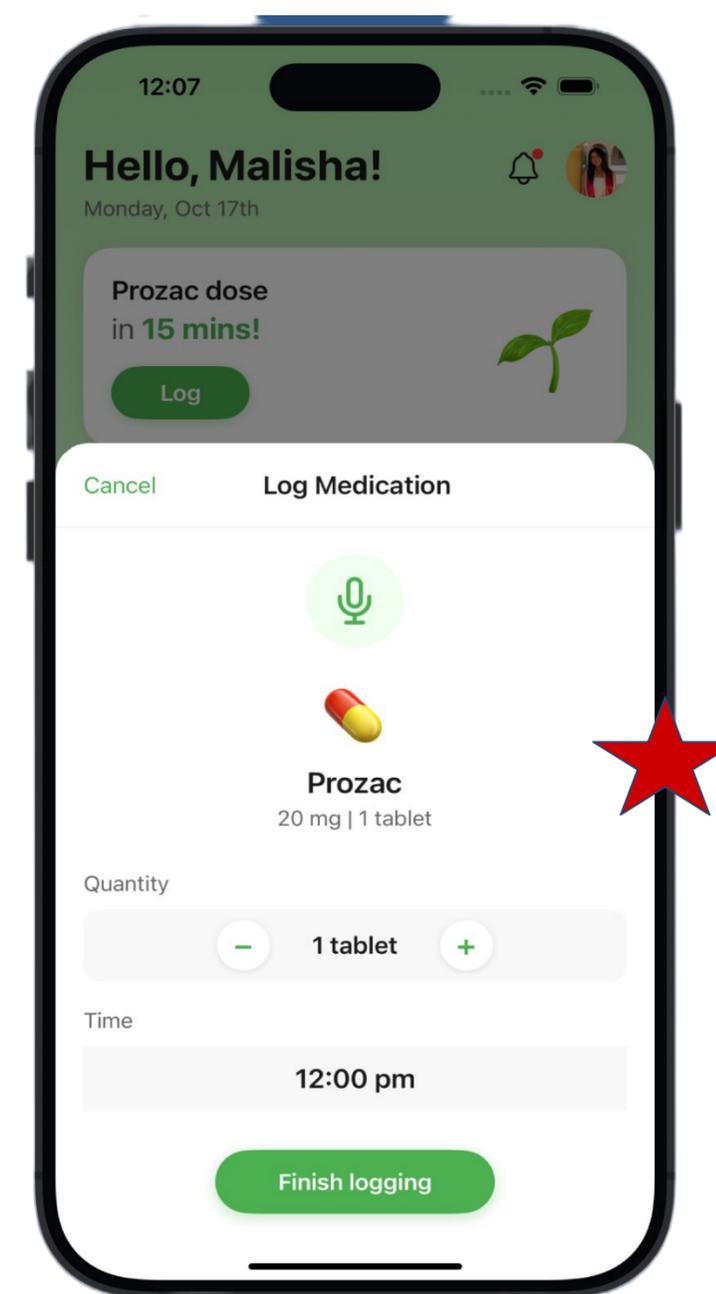
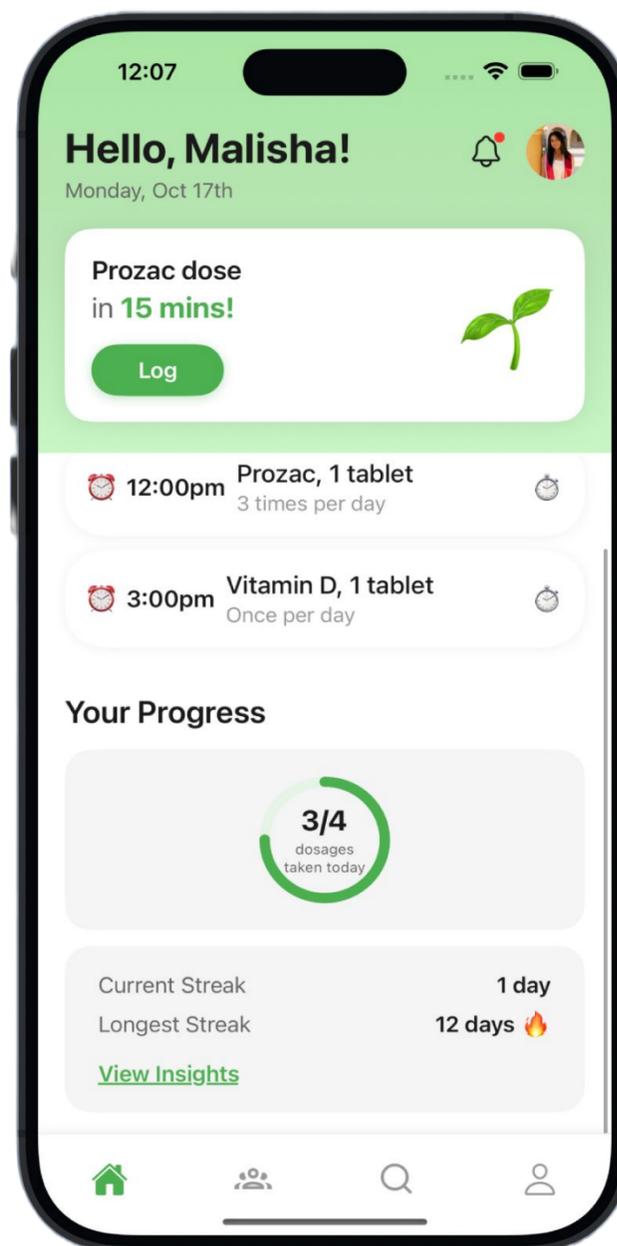
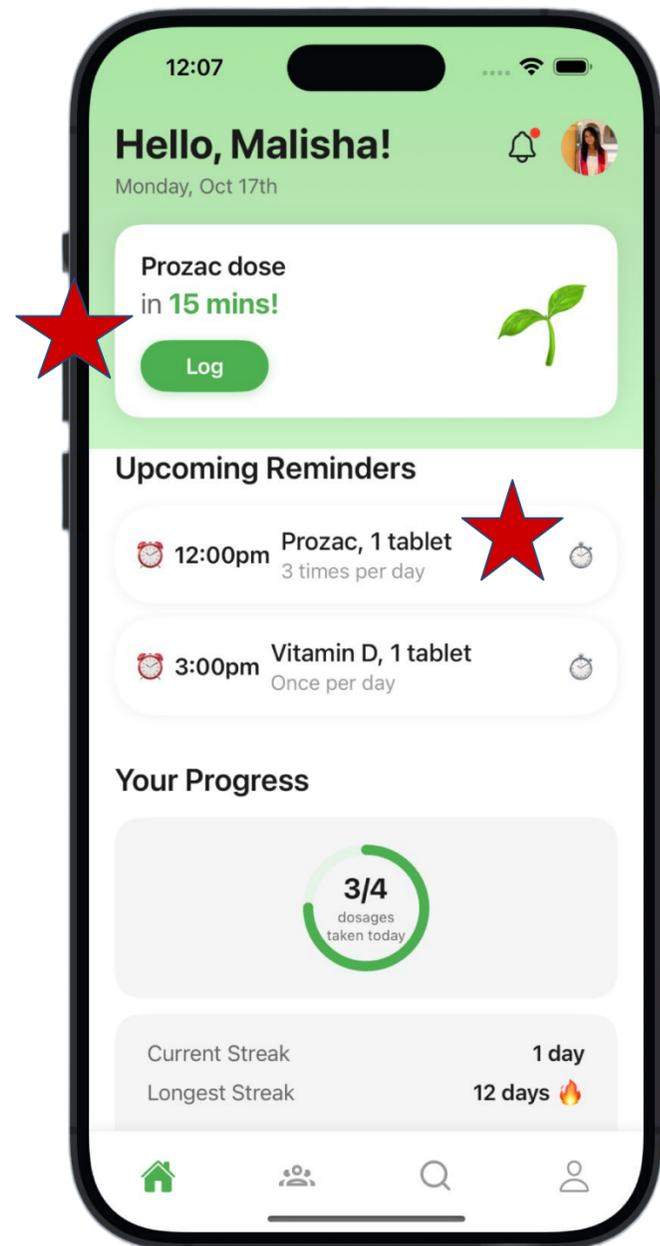
Expo Router

Implemented Simple Task

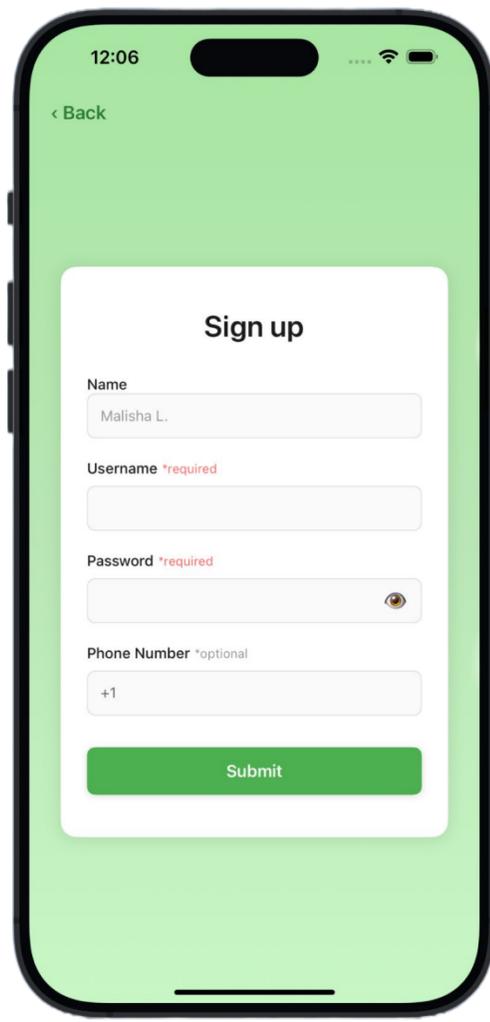
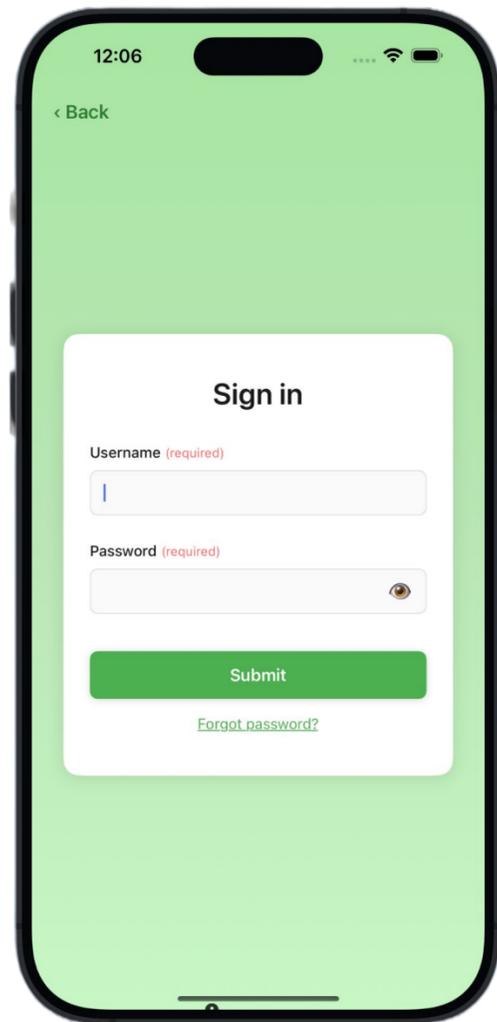
Simple: User *logs their medication* on the **home screen**



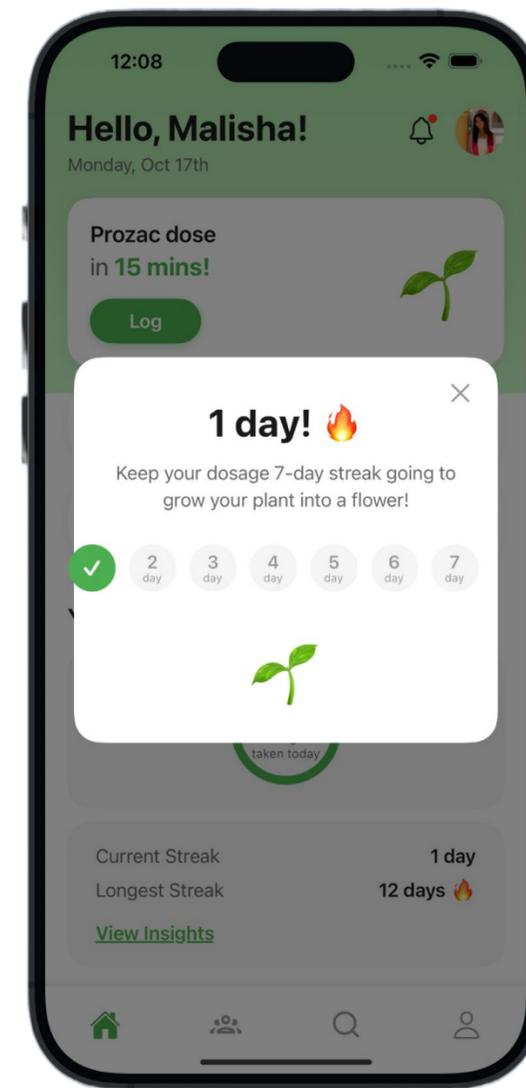
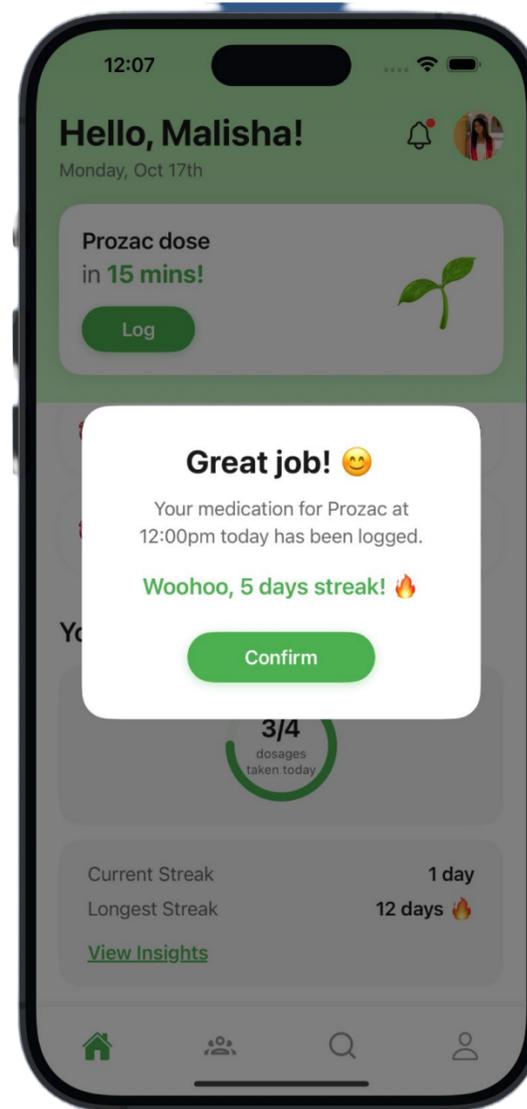
Implemented Simple Task



Additional Implementations

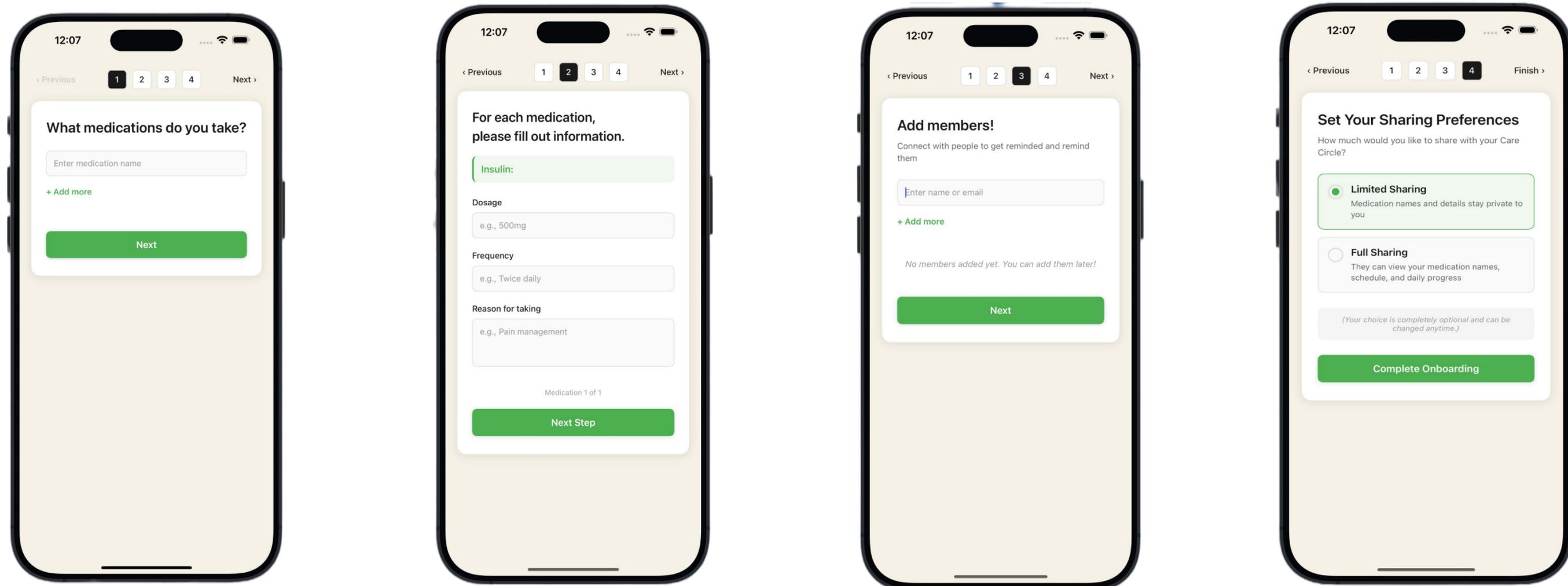


Sign up / Sign In Flows



Streaks

Additional Implementations



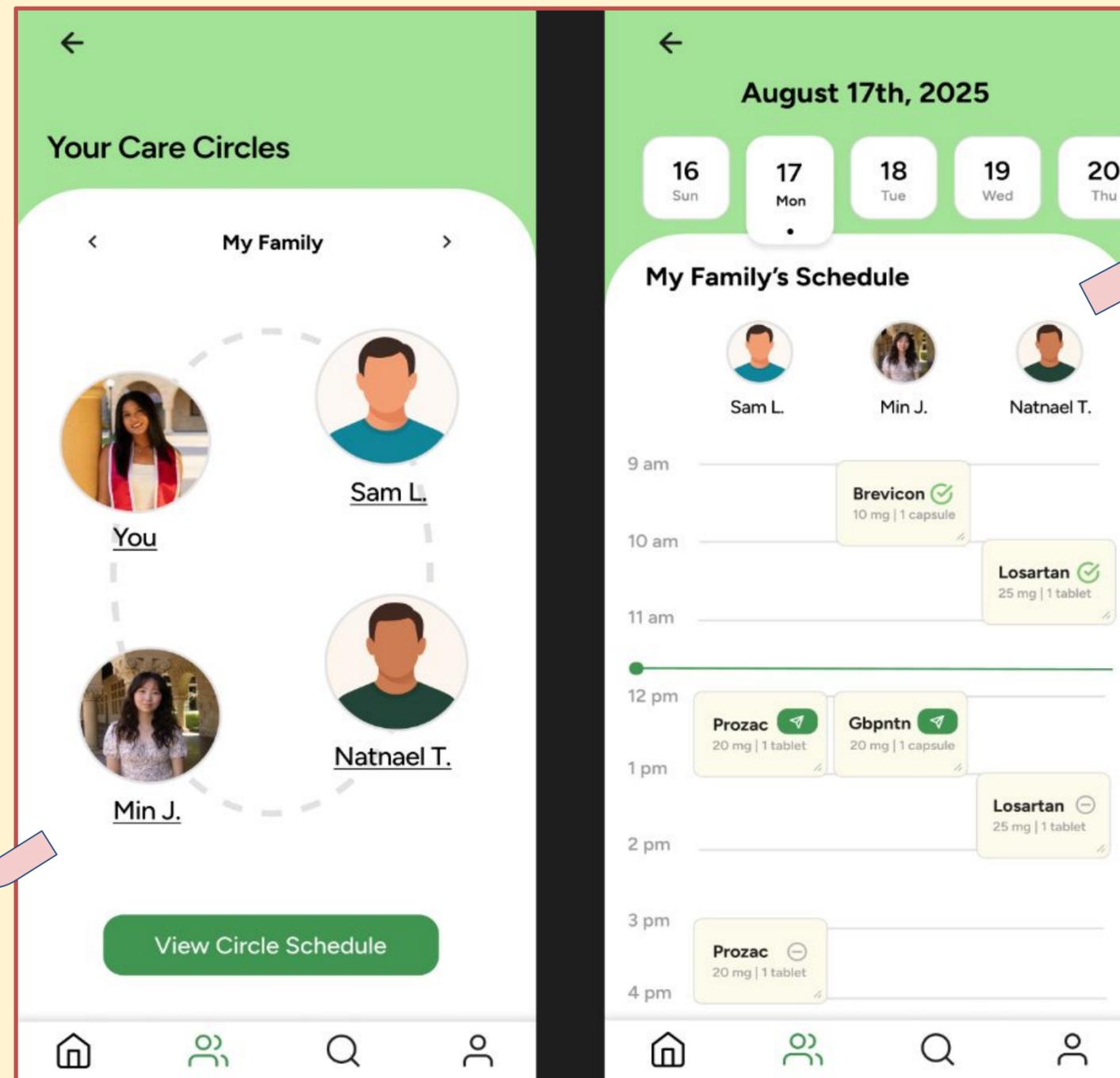
Onboarding Flow

Unimplemented Features - Moderate Task

: Sending a reminder to a user within the Care Circle

Plan to finish:

- Implement “View Care Circle” page

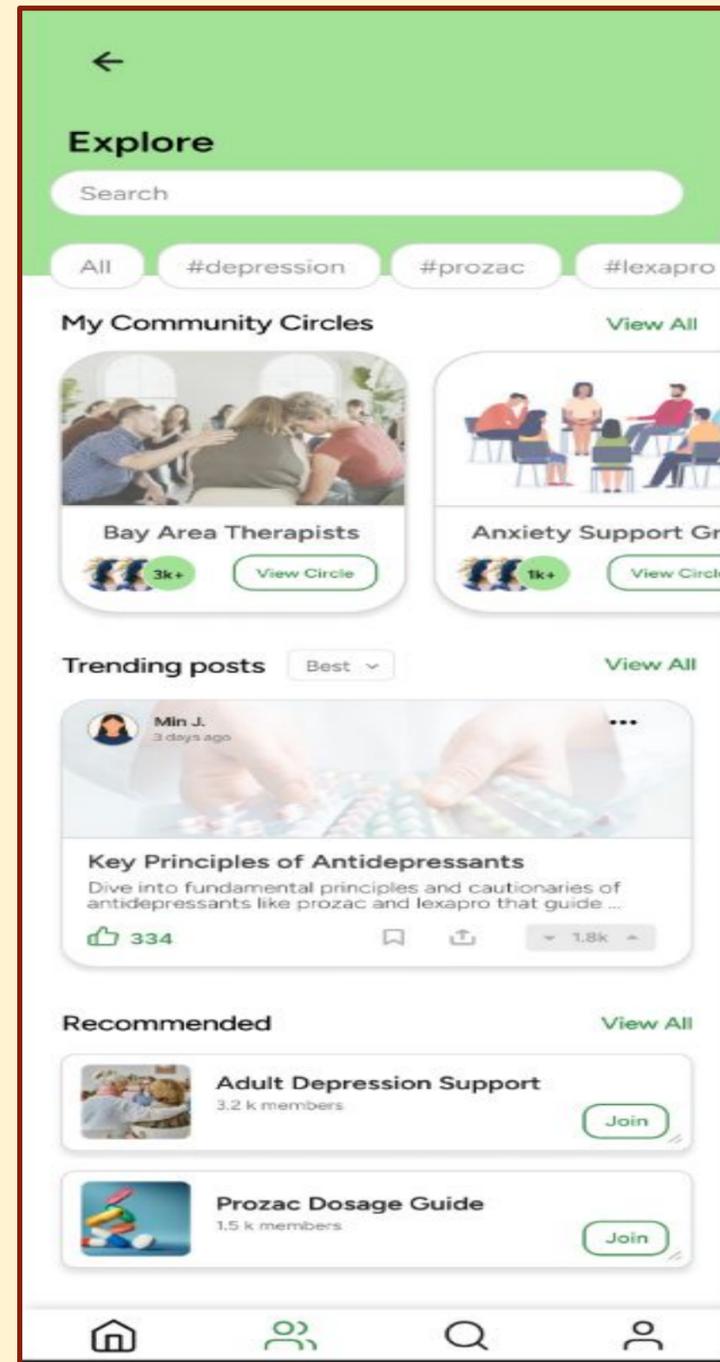


Plan to finish:

- Implement calendar view system for others' schedule
- Implement “nudge” feature on calendar
- Implement Voice-AI component to log medications on calendar

Unimplemented Features - Complex Task

: Viewing different Community Circles from “Explore” page

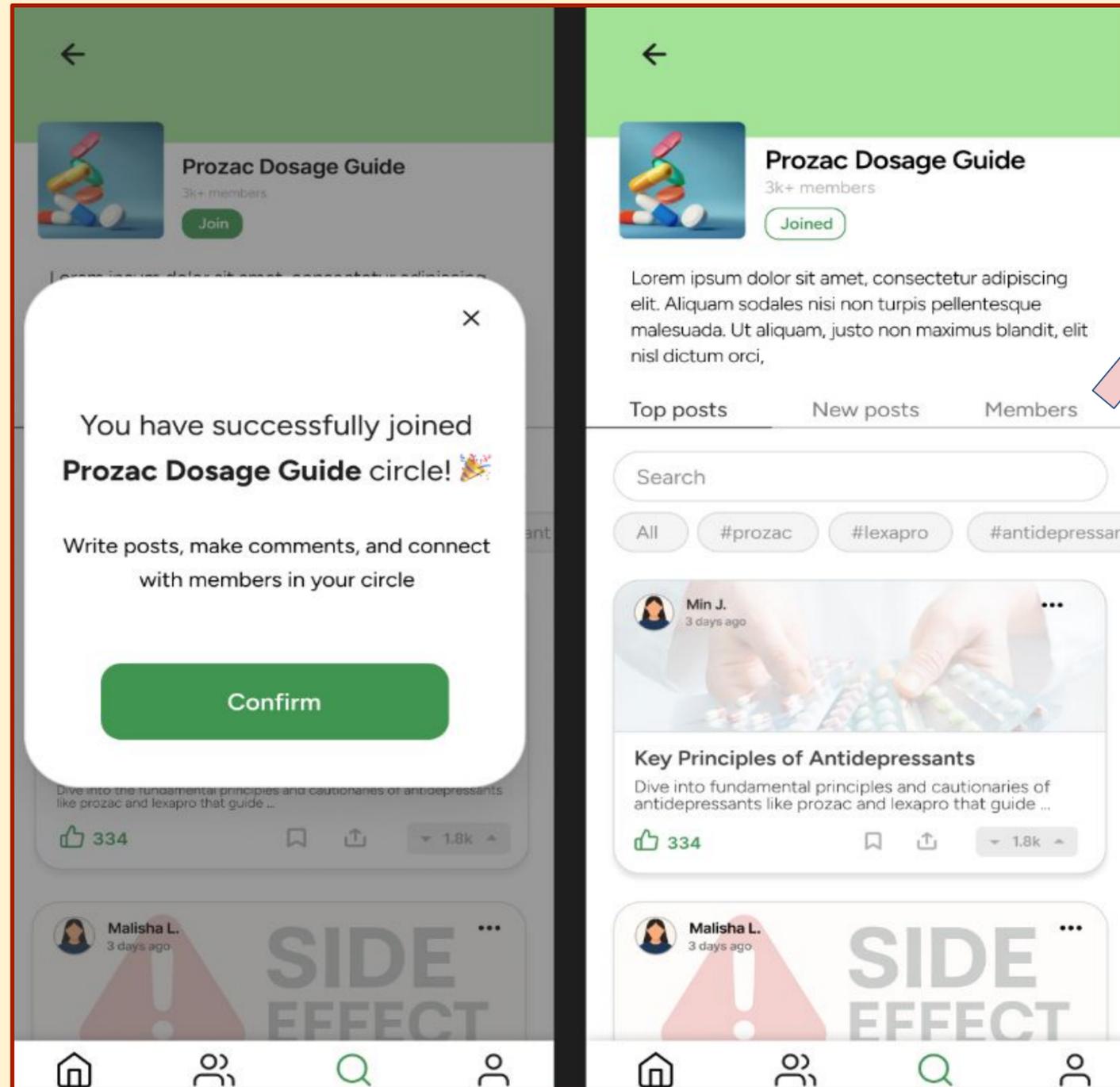


Plan to finish:

- Implement “Explore” Page for Community Circles

Unimplemented Features - Complex Task

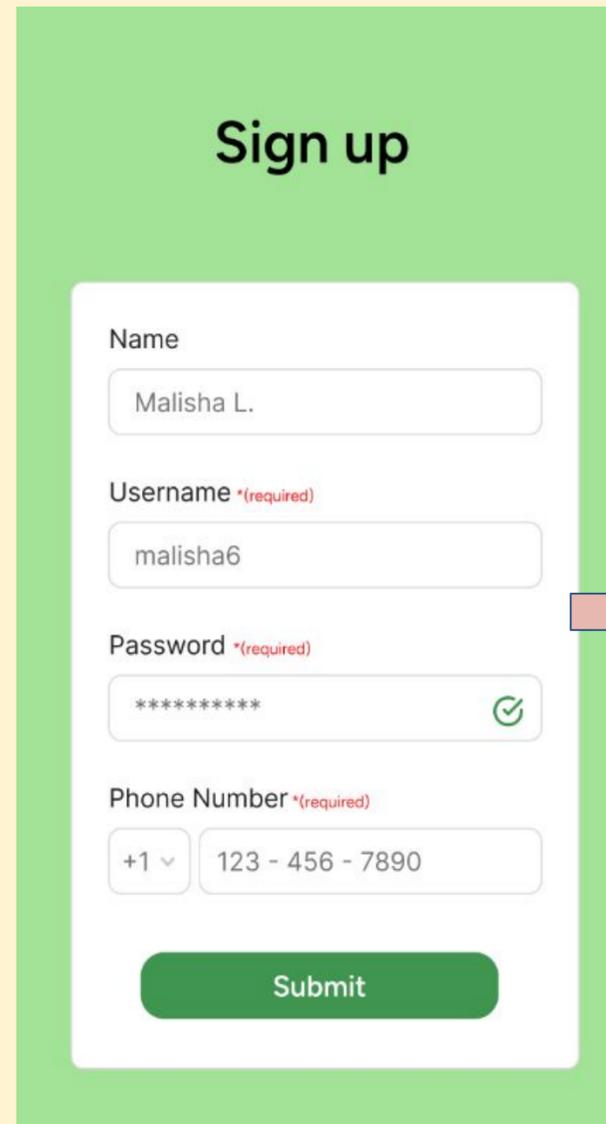
: Joining Community Circle & making a post



Plan to finish:

- Implement "Community Circle" Page
- Create page for users to interact with posts

Additional Unimplemented Features



Sign up

Name
Malisha L.

Username *(required)
malisha6

Password *(required)

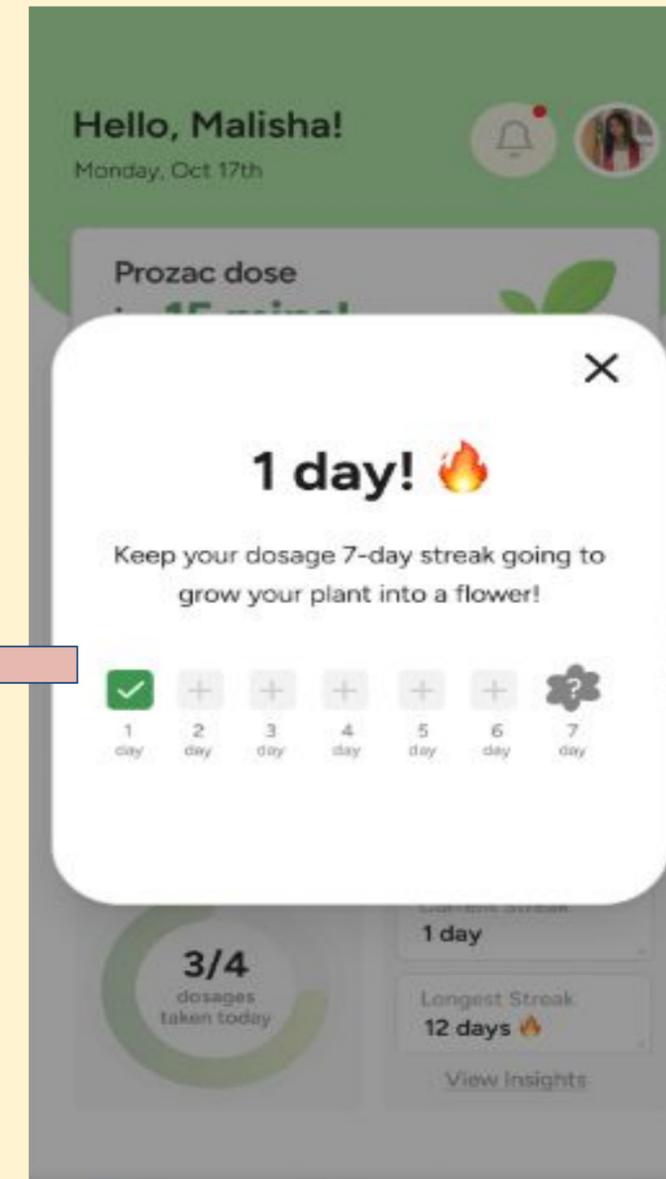
Phone Number *(required)
+1 123 - 456 - 7890

Submit

Onboarding Flow

Plans to finish (if time allows)

- Set up supabase authentication & database of user profiles
- Save user profiles and medication schedules from signup
- Connect streak + calendar to real data



Home Page

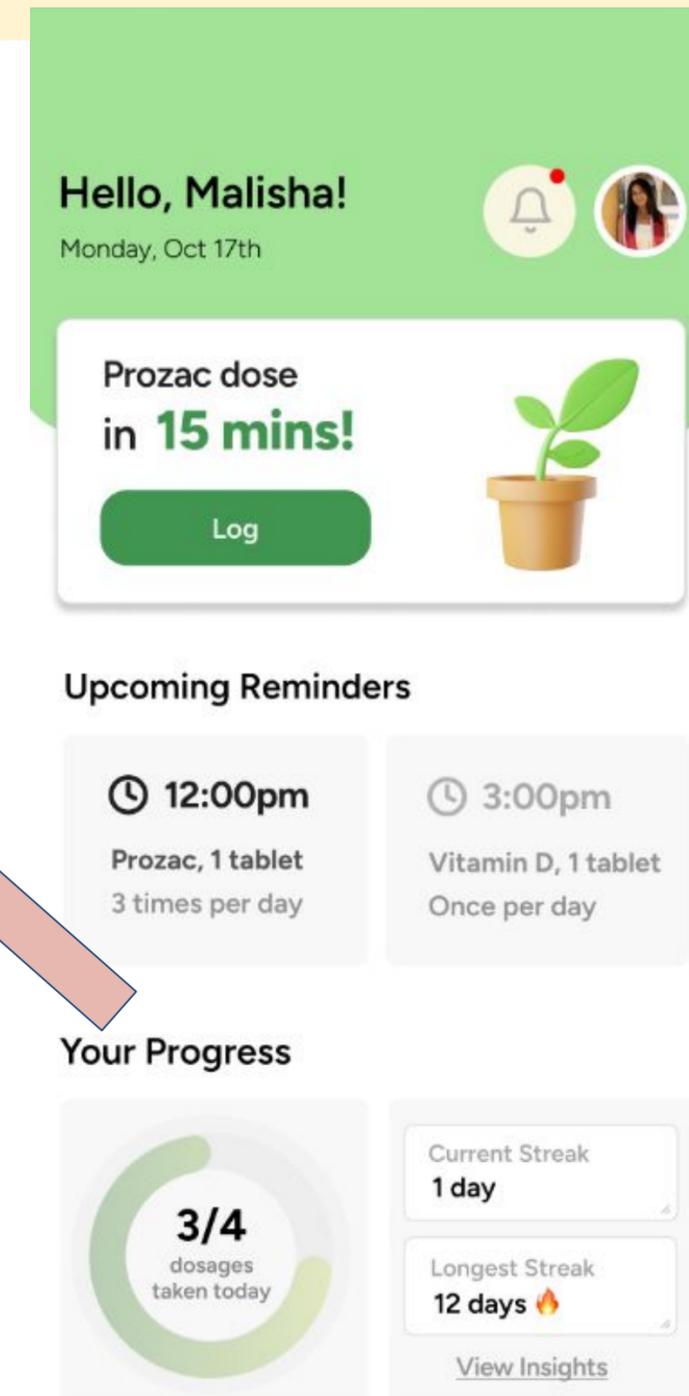
Wizard of Oz techniques

Simulated Progress Tracking

- The progress module appears as if live-tracked despite not storing any logs or tracking real completion

Why?

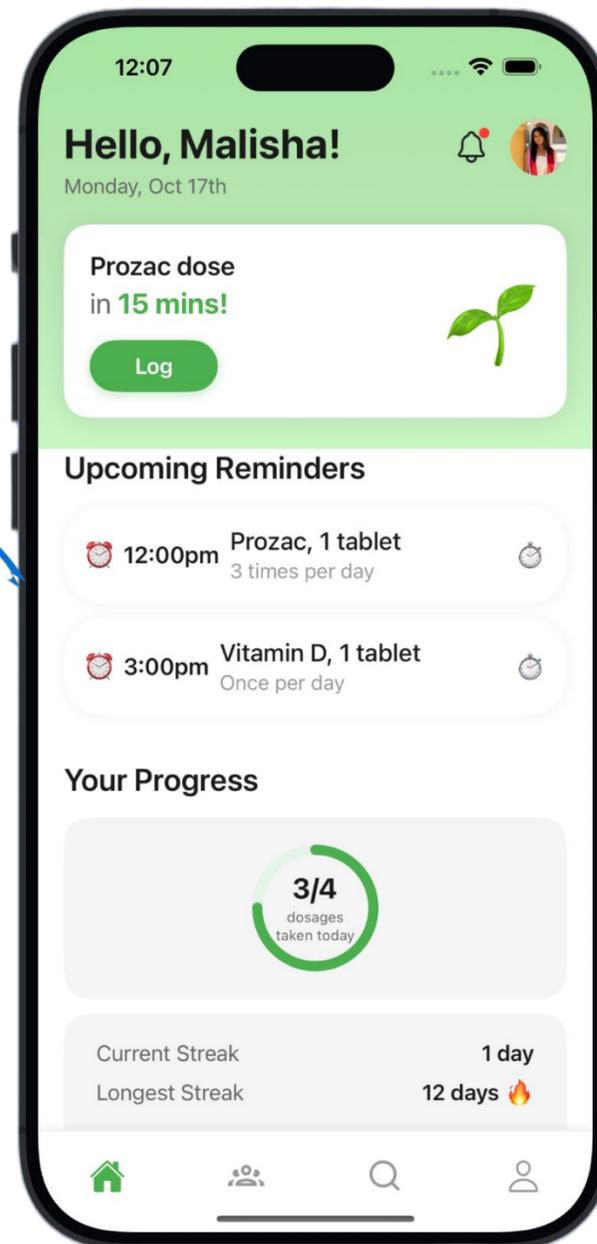
This effectively mimics the Wizard-of-Oz's experience so we can test how users interpret the progress rings and whether streak feedback motivates them.



Hard-Coded Aspects

Home Page

- Photo
- Name
- Date
- Medication Details (Schedule, Name, Timings)
- Progress Bar (Streaks, Dosage recorded)



These elements were **hard-coded** to let us test the full home-screen experience (medication data, reminders, and progress feedback) without building the backend

Issues/Questions

1

Care Circle Onboarding: It's unclear how we would get real caregivers or family members to join, accept requests, so the Care Circle data would likely need to be hard-coded.

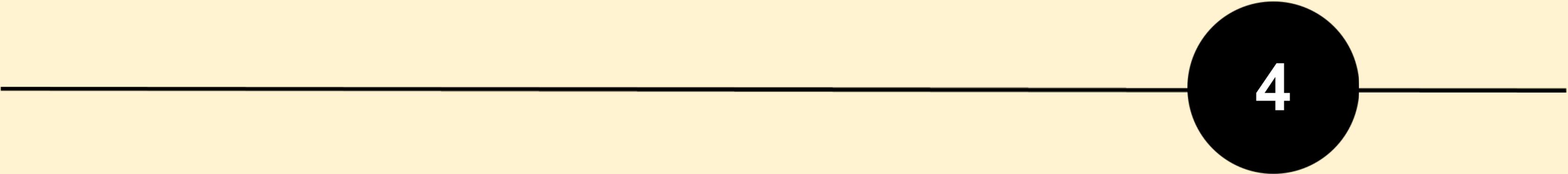
2

Community Circle Integration: We're unsure how to structure real community membership, posting, and moderation flows, so the current Community Circle screens rely on static data and simulated interactions.

Plan for Finishing

- 1** **Prioritize completing the Care Circle and Community Circle flows**, starting with the moderate-task calendar view and reminder-sending interactions, then moving to Explore + community-posting features
- 2** **Polish UI features** by standardizing colors, typography, and components, fixing spacing and layout issues with proper margins and alignment.
- 3** Decide **which features should rely on Wizard-of-Oz behavior, hard-coded data, or actual implementation**, and move forward with developing each part accordingly.

Demo!



4

Appendix



AI Usage in Implementation

- **Code Debugging:** AI assisted in designing React Native components, particularly complex UI elements
- **Visual Mockups:** generating profile images for fictional Care Circle members
- **Tools used:** ChatGPT, Claude Code

Why?

AI accelerated development by handling boilerplate code, allowing the focus on user experience design.

Links

1

Figma Prototype:

<https://www.figma.com/design/CJEoHTdfWY0r80fqVcecek/147-A6-Med-Fi-Protoype?node-id=0-1&p=f&t=fZHeomqFdHiRC9Y2-0>

2

Heuristics Evaluation Spreadsheet:

<https://docs.google.com/spreadsheets/d/1pBxUkbZpIZHWv5fBbf048wm5BskIVuXpOQbwAs3CJx8>

3

Read me Doc:

<https://docs.google.com/document/d/1YIkq7adSm1JmYiQ5ihfh70LIUoXXhmvobGEJWmP33Wk>

4

Pill Pal website:

<https://web.stanford.edu/class/cs147/projects/DesigningVoiceAIforEverydayValue/PillPal/>