

# UX Case Study

My Role UX/UI Designer and Researcher

Tags 2022 UX/UI Healthcare

Timeline 6 months (May - October 2016)

Tools Interviews Moderated Usability Testing Online Surveys Personas  
Prototype User Flows Design System User Journeys  
Competitive Analysis Affinity Mapping Wireframing Design Thinking  
Figma Procreate UsabilityHub Miro Zoom Google Sheets  
Google Forms



## In a nutshell

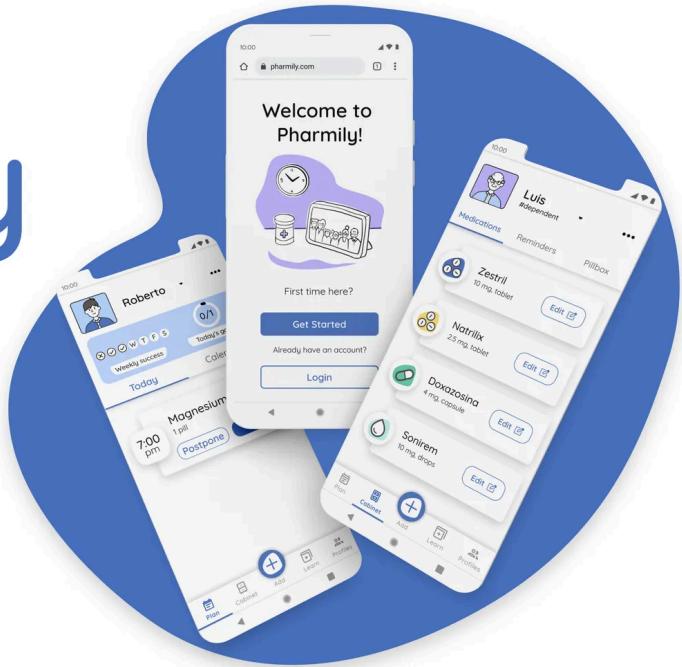
As people age, it's quite common to rely more on prescription medications, while also noticing that one's memory might not be as reliable as it used to be. It's therefore important to have strategies and tools in place to stay on track with medication routines.

In this project, I looked closely at how family members can make a difference in helping their loved ones manage their meds effectively. Pharmily is designed to allow users to keep track of their dependents' medications and provide reminders when needed.

Insights gathered from user research were instrumental in narrowing down and prioritizing needs to create an impactful solution.

# Pharmily

Empowering the whole family to stay on top of medications



## Project Overview

### Scope

Pharmily is a personal project I built as part of my UX Design Immersion Course at General Assembly. It's a conceptual project, not a shipped product.

### Objective

The project aimed to design a responsive web app while learning UX Design processes, tools, and methods, and creating an ambitious case study to add to my professional portfolio.

#### ❓ Why Pharmily

Pharmily is an app designed to help families track and remember medications. Among other options, I chose this topic motivated by the struggles that my own family is facing. As my grandparents age, their list of medications grows longer, and their ability to take them reliably and autonomously decreases. Fortunately, my father and uncles can devote a lot of effort to checking their medication intake daily and preparing weekly pillboxes. Since I live far away from them, I wanted to explore if there is already a solution available or what it might look like in the future.

### What I learned

The user research data I collected revealed that participants were inclined to assist acquaintances in managing their medication. This observation aligns with my analysis of competitors, indicating that existing apps enable the creation of profiles for dependents. However, a crucial aspect came to light: while users can create profiles for dependents to monitor their medications, there is currently no feature allowing direct reminders to be sent to these dependents. Given this insight, I believe that introducing the capability to send reminders directly to dependents could fill this gap and significantly increase user adoption.



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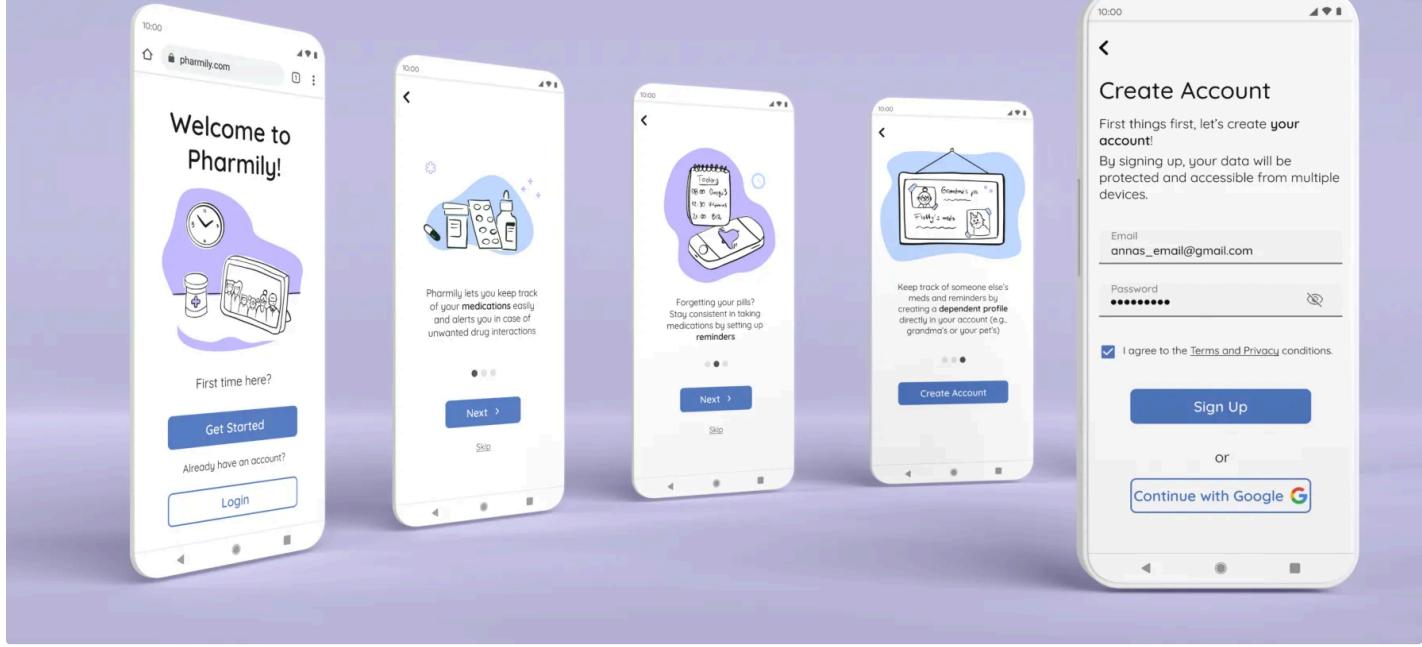
[Usability Study →](#)

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[Retrospective →](#)

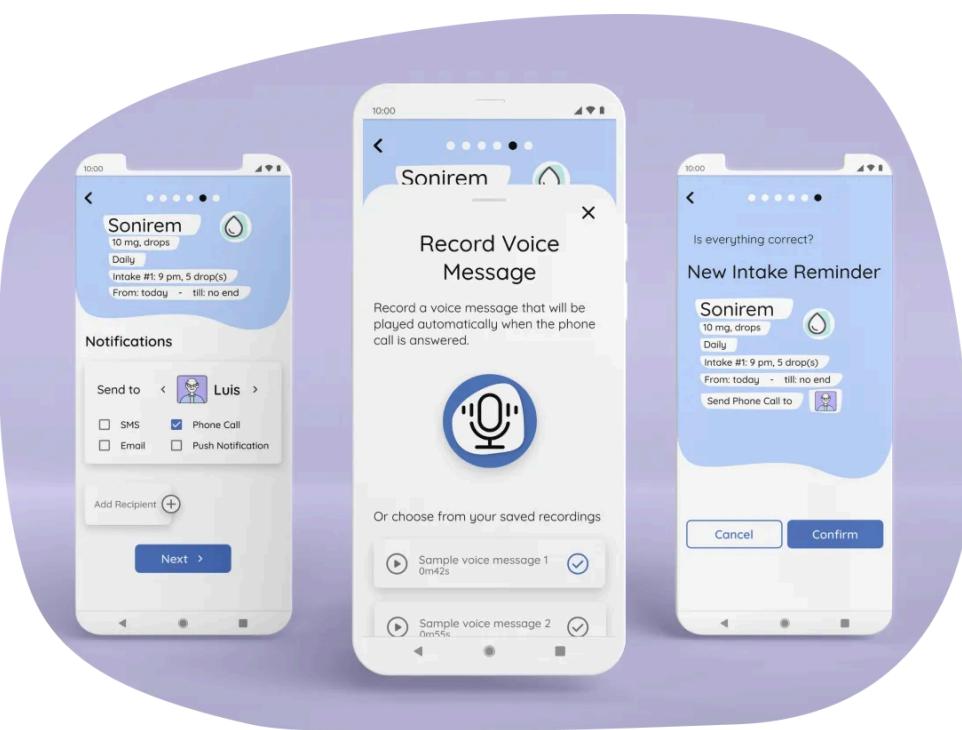
# Final Designs

# Onboarding and Create Account



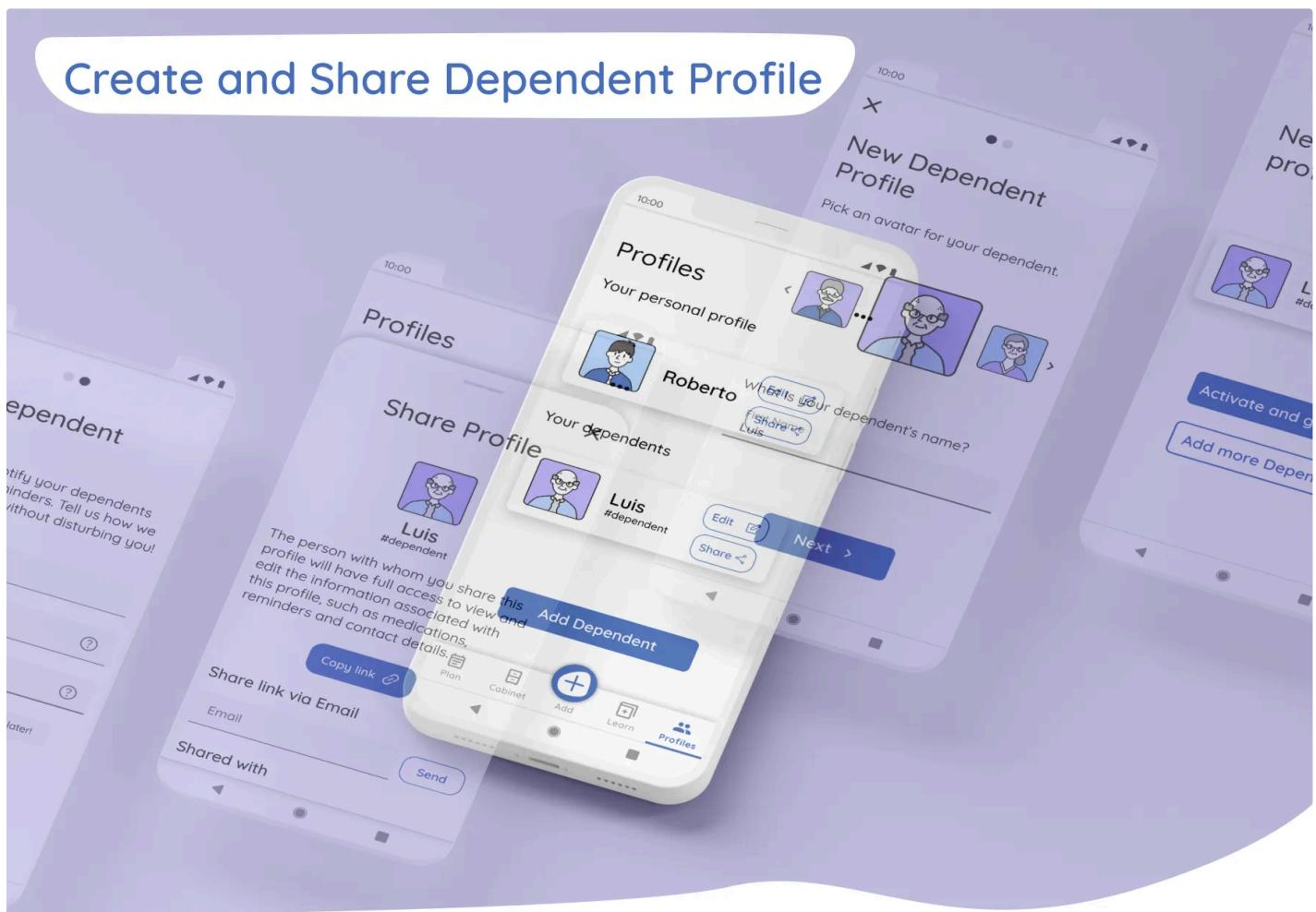
## Plan, Medications & Reminders





## Phone Call Reminders

### Create and Share Dependent Profile



## The Problem

Following the **Design Thinking** process, I began by seeking a deeper understanding of the problem.

- 💡 How can we use technology to support individuals on a treatment plan to be consistent with their medication intakes? How can we include individuals that are not familiar with technology?

## Problem Statement

People on daily pharmaceutical treatment need a way to track their medications and receive reminders for their intakes in an accessible, engaging, and resourceful manner. This is important because their health should not rely on a complex treatment plan that is solely committed to memory.

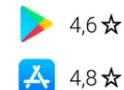
We will know this to be true when we see users logging their treatment plans and using reminders to stay consistent with their medication intakes.

## Competitive Analysis

Curious to see what solutions were already available and if I could make any suggestions to my family, I downloaded a few apps and conducted a competitive analysis on two specific apps.



My Therapy



## SWOT profiles

### Medisafe

Strengths	Weaknesses
<ul style="list-style-type: none"><li>Drug interactions alert, potentially life-saving</li><li>Missed medications are seen by connected caregivers (called Medfriends)</li><li>Possibility of dependent profiles</li></ul>	<ul style="list-style-type: none"><li>Some pages of the app are unstructured and contain a mixture of different topics. Could be confusing for the user</li><li>Free version only allows one dependent profile and one Medfriend connection</li></ul>
Opportunities	Threats
<ul style="list-style-type: none"><li>Provide drug interactions alerts in more languages other than English</li><li>Customize Medfriend connection to allow one-way sharing of info</li><li>Send notification to dependents' device</li></ul>	<ul style="list-style-type: none"><li>Apps that send notifications to dependent's device</li><li>Completely free apps, since the premium subscription is quite expensive (4.69 € / month) for the offer</li></ul>

### My Therapy

Strengths	Weaknesses
<ul style="list-style-type: none"><li>Completely for free</li><li>Available in 30+ languages</li><li>Strict data privacy policy</li></ul>	<ul style="list-style-type: none"><li>There's no FAQ in the app nor in the website</li><li>Navigation is sometimes not intuitive and features are not easy to find</li><li>People added as "safety net" cannot effectively act as remote reminders</li></ul>
Opportunities	Threats
<ul style="list-style-type: none"><li>Add dependent profiles</li><li>Add educational content</li><li>Add remote notifications to "safety net" people, and more detailed tracking of intake (currently, only a %value/week)</li></ul>	<ul style="list-style-type: none"><li>Apps that allow for multiple profiles on one device (or dependents' profiles)</li><li>Apps that send a remote notification to "safety net" people</li><li>Apps that can send reminders to dependent's device</li></ul>

# Key Insights

## 🔗 Good idea - to keep: Dependent Profiles

In line with my competitor apps, Pharmily's users should also be able to track and manage the medications of other people by creating dependent profiles.

## 💡 New idea - opportunity: Enable Remote Reminders

Pharmily's dependents should be able to receive notification of their reminders directly on their devices, decoupling them from their guardians.

## Initial Assumptions

Pharmily will be a medication tracker and reminder app specifically designed to meet the needs of the whole family. In addition to regular users with their own treatment plans, I envision the inclusion of different roles such as guardians, dependents, and caretakers to ensure efficient tracking and administration of medications.

## User Roles

### #Guardian

Someone who actively manages the medication schedule of another person, known as the dependent. A guardian can create a treatment plan for the dependent and has full access to all the features of Pharmily.

### #Dependent

Someone who, for any reason, cannot or should not actively manage their own med schedule, and thus relies on a guardian. Dependents can be, for example, elderly people with no direct access to the app, underage children, or even...a pet!

### #Caretaker

Someone who needs to view the dependent's med schedule but does not want the responsibility of actively managing med lists or reminders. A caretaker can be, for example, someone hired to regularly look after elderly people or a babysitter.

#### ⚠️ Spoiler Alert!

The role of #Caretaker will be archived after user research, as it was not found to be a common existing reality among the participants.

# User Research

With a deeper understanding of the problem, I reached out to potential users to learn about their goals and needs when it comes to regularly taking medications. I was particularly interested in exploring the role that friends and family can play in supporting medication adherence.

## Online Survey

I created a user survey to gather initial information from a large number of participants. I decided to have both an English and an Italian version to reach out to my international (mid-30s) network, as well as my father's Italian (mid-60s) network.

14

Questions

122

Participants

2

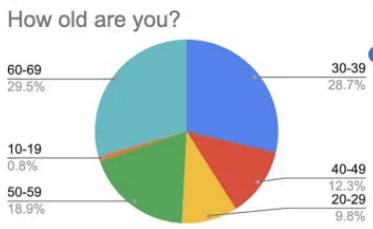
Languages

The screenshot shows a survey interface with three questions:

- Have you ever taken medications regularly over a period of time (for example antibiotics, vitamins, birth control pill, meds for a certain condition, others)?**  
Three radio button options:
  - No, never
  - Yes, currently
  - Yes, in the past
- Have you ever used any of the following strategies to remember taking your meds? (Select all that apply)**  
Six checkbox options:
  - Setting an alarm
  - Using a pillbox
  - Leaving all meds in sight
  - Asking someone else to remind you
  - None of the above
  - Other...
- Did you ever happen to forget restocking your meds before they run out?**  
A horizontal scale from 1 to 5 with the following labels:
  - 1: No, I always remember on time
  - 2
  - 3
  - 4
  - 5: Yes, I always forget

## Survey's Key Insights

I consolidated the results and visualized the data to generate findings. My objective was to grasp an initial direction to refine my interview questions for the upcoming research phase.

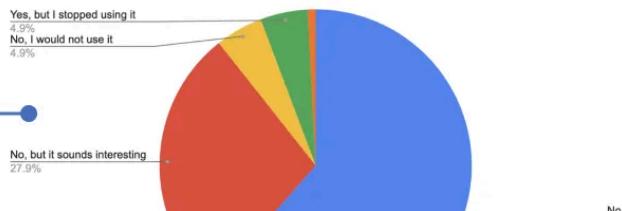


**Age Range**  
Most represented age groups are 60-69 and 30-39 years old

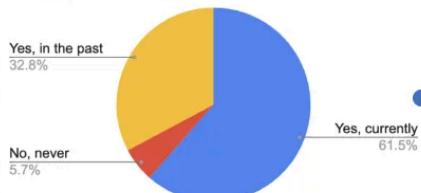
## App Usage

More than half of the participants never used a med reminder app

Have you ever used an app that can track your meds and remind you when it's time to take them?



Have you ever taken medications regularly over a period of time?



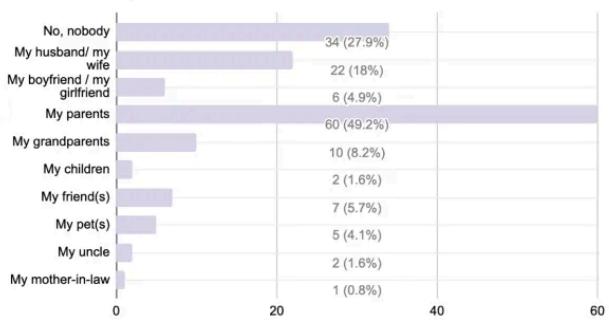
## Meds Intake

61.5% is currently taking meds regularly

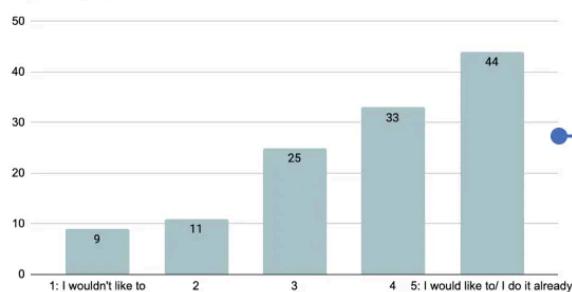
## Meds Intake among family

Almost half of the participants have parents on medication treatment

Do you have someone close to you who currently needs some meds on a daily basis?



Would you like to be able to help a loved one take medications?



## Helping Others

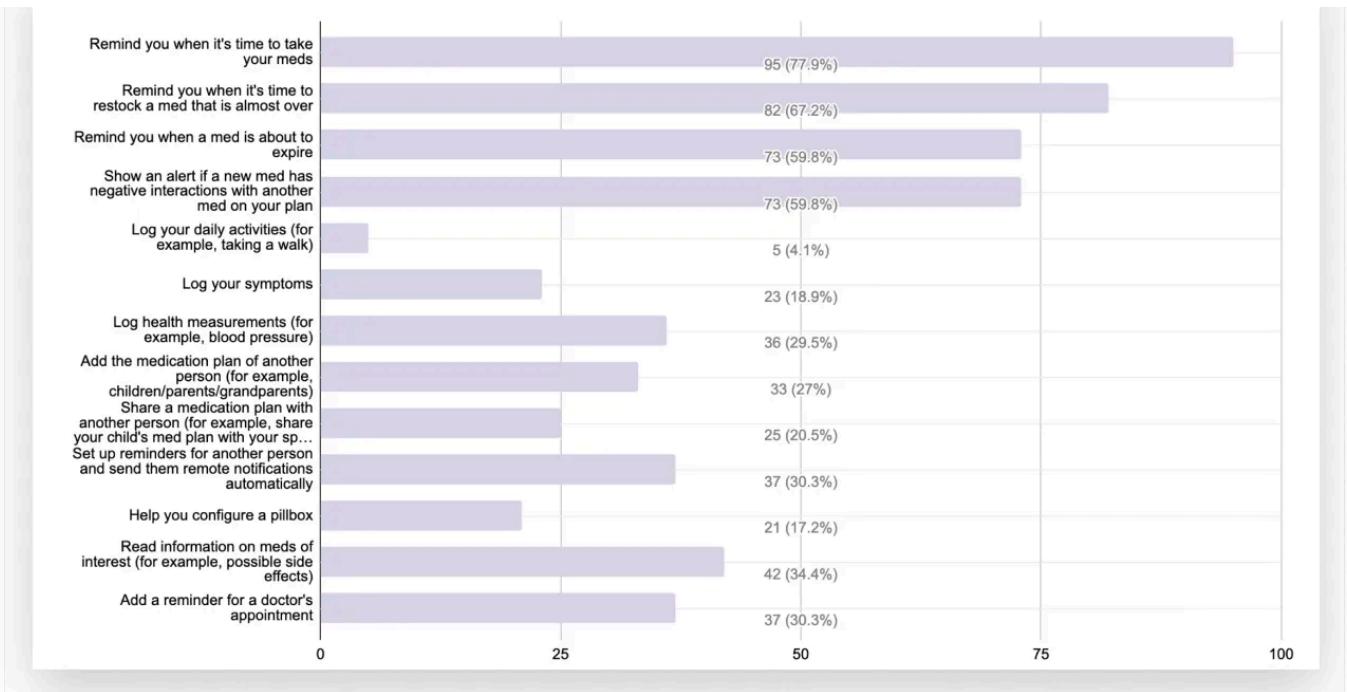
The majority reports being interested in helping their loved ones taking meds

## Feature Validation

The most popular features are reminders for med intakes, refills and expiration dates, and drug interaction alert.

The majority of the proposed features aren't interesting to most participants - simple is better.

If there was an app that could help you keep track of a treatment plan, what features might interest you?



## User Interviews

Using the findings generated from my spreadsheets and charts, I drafted an interview script. I wanted to find out any recurring patterns related to forgetting to take medications, as well as to understand the strategies, experiences, and frustrations associated with daily medication management. Additionally, I asked my participants about their experiences with having someone close to them on a medication plan: were they actively helping? If so, how? If not, why?

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Questions

5

Participants



Elisa  
60  
Teacher



Carlo  
61  
Sales Assistant



Fabrizio  
59  
Process Worker



Paola  
59  
Retired



Noemi  
31  
Research Assistant

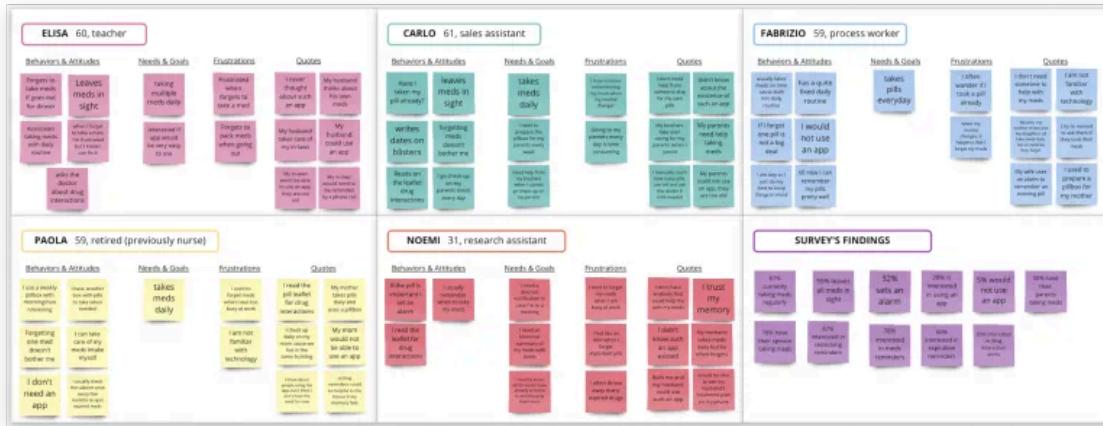
## Interviews' Key Insights

- One common issue seems to be having doubts about whether or not a pill has already been taken, which usually occurs when the daily routine is disrupted in some way.

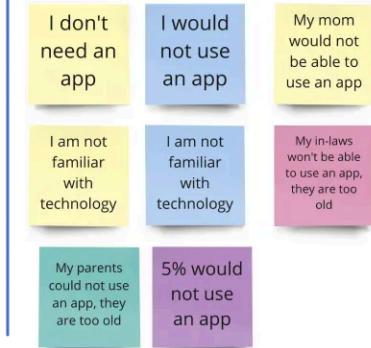
- 📞 Three interviewees expressed interest in tracking the treatment plans of others and sending them remote notifications. However, in certain cases, a phone call must be used as the notification method, as some individuals are unable to use an app or read a message.

## Affinity Mapping

To make sense of the abundance of information gathered, I used affinity mapping. This process generated additional insights that could assist me in refining the direction of my future designs.



### An app is not for everybody



### Need for targeted marketing strategy

### Recurring patterns of forgetting meds

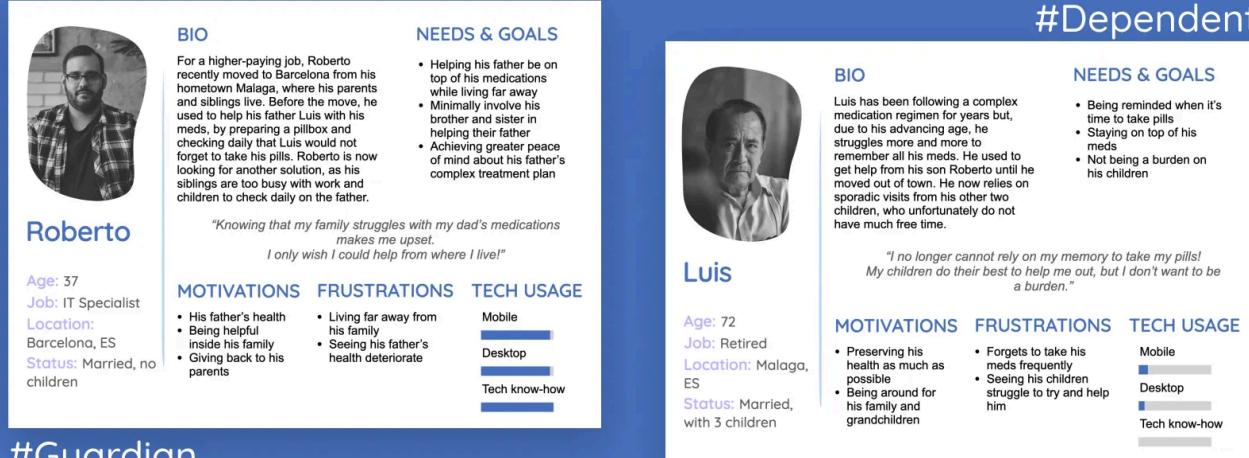


### Importance of daily routine

## User Personas

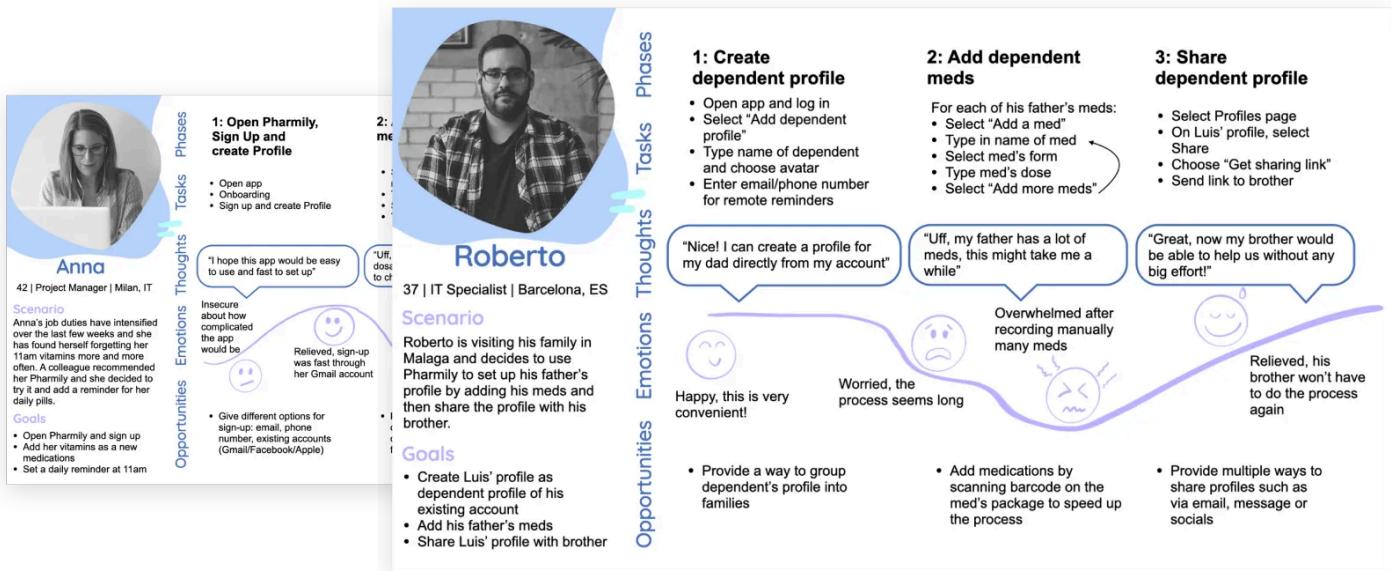
I created three design personas with characteristics that are supported by the key findings gathered. Each persona represents a specific group of users and gives voice to different needs.

Anna, Roberto, and Luis helped me empathize with users, prioritize features, and make design decisions that are based on real data collected from actual potential users.



## User Journeys

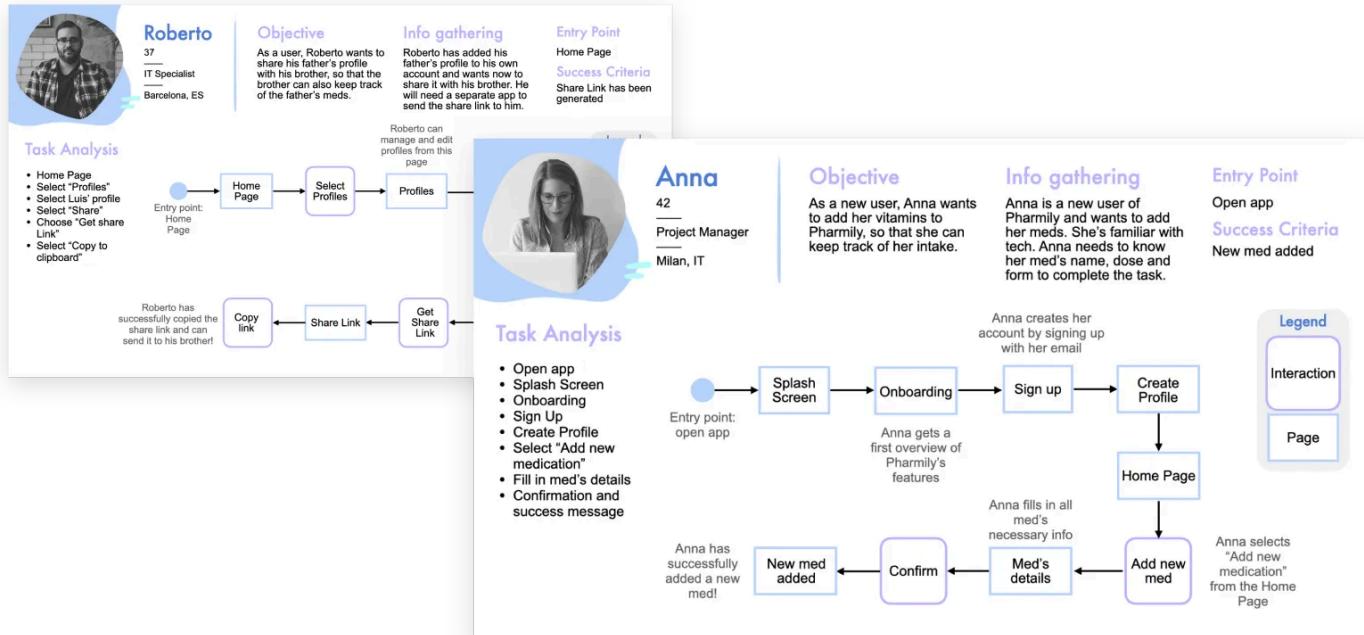
With my user personas in mind, I went on to consider the various scenarios they might encounter while trying to achieve a specific goal using Pharmily. In the case of Roberto visiting his father, his objective was to set up a dependent profile for Luis, add his father's medications, and then share the profile with his brother. By visualizing this process using a journey map, I was able to identify specific tasks, thoughts, and emotions of my persona: Roberto was quite overwhelmed by the manual recording of multiple medications. This led me to consider the idea of incorporating a barcode scanning feature to streamline the task.



## User Flows

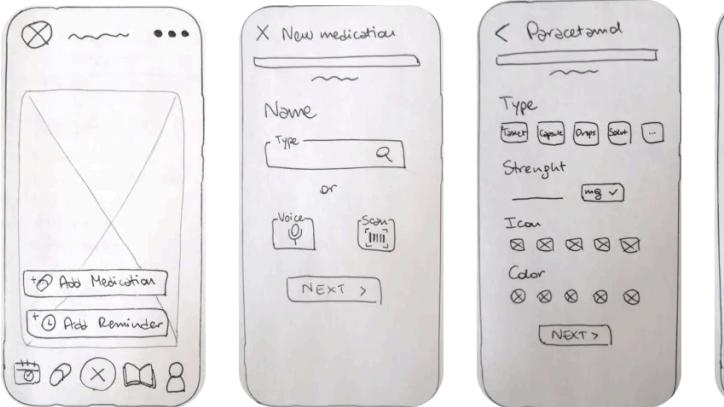
Next, I focused on relevant user stories to create user flows. These user flows helped me identify key components of the app and understand how users would interact with it. I found this process to be highly iterative, requiring multiple rounds of adjustments as I started to lay down Pharmily's sitemap.

For instance, I decided to split the sign-up and profile creation into two steps. This change was made to highlight the profile creation task better and create a parallel between creating a personal profile and a dependent profile.

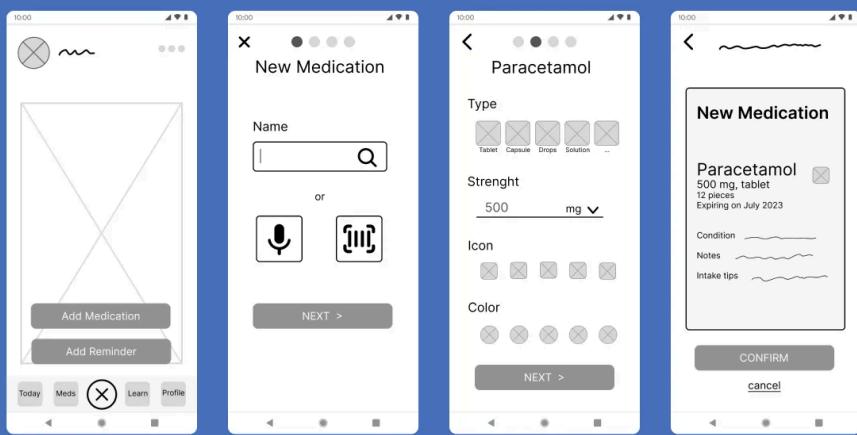


# Wireframing Evolution

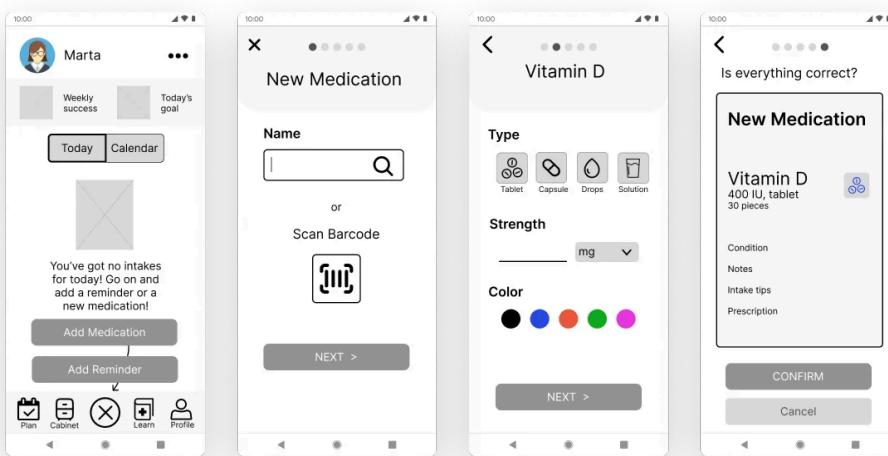
Below, you can see the evolution of my designs for adding a new medication.



Paper  
Wireframes



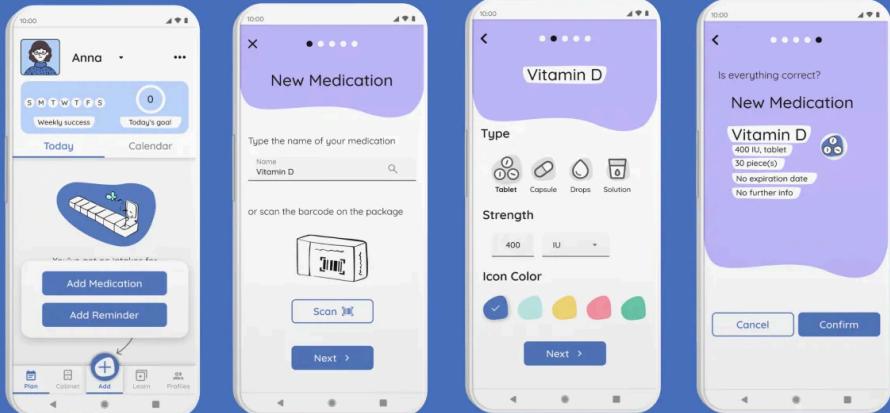
Digital  
Wireframes



High(er)-  
fidelity  
Wireframes

## High-fidelity Mockups

(Created after the Usability Study)



## Usability Study

To test the usability of my high(er)-fidelity prototype with potential users, I prepared four scenario tasks centered around the most important features of the app: (1) onboarding, sign-up, and profile creation; (2) adding a new medication; (3) setting an intake reminder; and (4) creating a dependent profile. I conducted six moderated remote tests, each lasting approximately 40 minutes.

## Scenario Tasks

In each test session, we presented the following tasks to the participants:

1

First of all, imagine that you're a new user who has just opened the app. You'd like to sign up and start using the app.

2

Next, imagine that you just got back from the pharmacy with a new package of vitamin D tablets that you would like to start taking regularly. How would you go about registering this medication in the app?

3

Now that you've added your first medication, you want to set up a reminder for your vitamin D to be taken daily at 9am.

4

Now, let's suppose there's an elderly person in your family (it could be your dad or your grandpa or an uncle or anyone else) named Giovanni, who needs to take medications regularly. Since you'd like to help him track his meds and intakes, you want to create a profile for this person and switch to his profile.

14

## Questions

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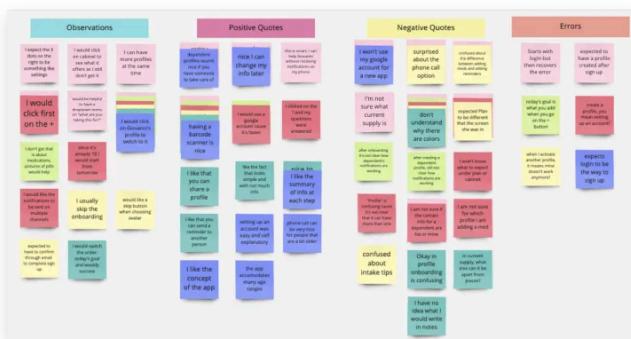
## Participants

2

## Languages

# Analyzing Results

Although all participants were able to successfully complete the tasks, I received valuable feedback on errors and pain points. I organized the feedback into an affinity map, categorizing observations, positive and negative quotes, and errors. Next, I transferred this information into a rainbow spreadsheet to prioritize issues and plan for future steps.



I decided to prioritize 5 issues that were either errors (of varying severity levels) or problems encountered by most participants. For example, I improved the bottom navigation bar by adding a visual indicator to highlight the selected page, and I made labels and copy more intuitive.

**Issue 1**

High Severity - Participants were confused by the app navigation and were not sure on which screen they were.

**Suggested Change:** Visually identify the current page in the navigation bar by highlighting the icon.

**Evidence:** this is an established design pattern that would be immediately recognized by the users.



None
Plus
Plan
Cabinet
Learn
Profiles

**Issue 2**

Medium Severity - Participants were confused by the terms "active" and "dependent" in relation to a profile.



Before	After
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**Issue 3**

Low Severity - Participants expected to have created a Profile after signup

**Suggested Change:** Improve the writing by highlighting that an account would be created on signup and specifying that a dependent profile can be created inside the account.

**Evidence:** mentioning the dependent profile in recruitment right before

**Issue 4**

Low Severity - Participants used the "Login" option instead of the "Get Started" to create a new account.



Before	After
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**Issue 5**

Low Severity - Participants were confused by the "Color" option during the task Add a new Medication

**Suggested Change:** Change the label to "Icon color".

**Evidence:** participants were not sure what "color" would refer to.



Before	After
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# Design System

## 01 - Typography

### Headers

**Header 1** - Quicksand, **SemiBold** 40px  
Header 2 - Quicksand, Medium 32px  
Header 3 - Quicksand, **SemiBold** 24px  
Header 4 - Quicksand, Medium 24px  
Header 5 - Quicksand, Medium 20px

### Bodies

Body 1 - Quicksand, Regular 20px  
Body 2 - Quicksand, Regular 18px  
Body 3 - Quicksand, Regular 16px  
Body 4 - Quicksand, Regular 14px  
Body 5 - Quicksand, Regular 12px

## 03 - UI Elements

### Navigation Bar



### Tab Bars



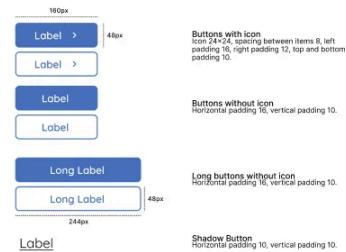
### Radio Buttons



### Checkboxes



### Buttons



## 02 - Color Palette

### Primary



### Secondary



### Accent



### Neutrals

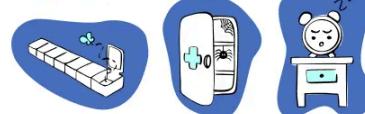
#FBF8F8	input text field, background for empty states
#EOE0E0	circles onboarding, meds icons
#707070	tab bars unselected, navigation icons unselected, input text field label and replacer
#464449	circles onboarding, shadows button, meds icons

## 04 - Illustrations (self-drawn)

### Splash Screen and Onboarding



### Empty States



### Others



# Retrospective

## What went well

I loved being able to **use data and insights** from User Research to guide my design direction. Although there is room for improvement in terms of the number and demographics of my respondents, the data I collected allowed me to **prioritize** features and narrow my focus to what appeared to provide the most value to the end users.

## What I'd do differently next time

Considering the tight timeline I had for this course, I noticed that the prototype I tested in the usability study had some easily solvable issues. These problems were solely a result of the limited time available before the test. Therefore, in the future, I will ensure that I arrive at the usability test with a more **refined prototype**, devoid of oversights caused by a rushed finalization.

**Thanks for reading!**