Phase 2: Needs and Requirements

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Problem Space

The problems I've come across with the user experience of existing products are:

- Lack of personalized reminders

- Limited tracking and progress visualization

- Complicated interface.

- No longevity

These problems are a result of not enough engaging mechanisms to encourage the user to use the app for a long time. Many existing apps have generic reminders that aren't made for the specific individuals needs, they lack an intuitive design to keep users engaged and make the features of the app easy to use.

That being said, my proposed design includes personalized reminders based on each individual's health needs and preferences, visual progress tracking with rewards and streaks, a simple user interface accessible for people who aren't as tech-savvy.

My idea of integrating addiction recovery, health progress tracking and customized notifications expand the health management experience. When a user receives a reminder, depending on what preferences they have set, the reminder will be related to what the user is doing currently. For example, constant motivational reminders throughout the day to keep going especially at times where withdrawals are the highest. The user will be able to pick these times themselves so it is more tailored towards them. The app goes beyond motivational reminders as the UI provides a game-like environment to keep the user engaged for the long term.

Assumptions

Some assumptions of this project are that users would want an app that helps them manage their medications and deal with addictions. The target user is assumed to be individuals with chronic

conditions, complex medication schedules, and addiction recovery. A key feature in the app is personalized reminders and notifications, however we are assuming that this will motivate users to stay on track and use the app longer. Every individual is different so accounting to every single user's needs isn't possible, however with these assumptions, it makes it clear where exactly I need to focus on in gathering data. I am also assuming that the UI will make users use the app for a longer period of time.

Conceptual Model

Description**:** The app is like a digital assistant that helps users manage medication, supplements and health habits. It uses a streak-based game like system that motivates the user to use the app long term with milestones and rewards for those milestones. As the user completes milestones and their streak grows, they are actively recovering from their addiction. As the user doesn't miss reminders, they are actively remembering to take their medication.

- Reminders - Users can create and manage notifications for medication, supplements, and health activities. Notifications for streaks, motivation are created based on the user's preferences.
- Health Logs - Users can log their medication intake, daily routines, and other habits.
- Streak Tracker - The system will be similar to Duolingo, the user can set a goal and the system keeps track of the days until the user reaches the goal. There will be milestones that give the user rewards for motivation.
- Dashboard - A dashboard showing user information.

Relationships**:** Completing the reminders contributes to the user's streaks. When the user logs a health activity, it updates the dashboard. Users receive notifications warning them when they miss tasks.

Mapping: The streak tracking forces habit reinforcements on the user. The notification system ensures they are reminded constantly about their medical and health goals. The dashboard helps them understand how their decisions are broken down and analyzed.

Interface Metaphors

- Streak bar for continuous days of recovery

- Medication bottle for medication scheduling

Interaction Types

- Notifications:

    - Notifications for scheduled medications, Instructing

    - Notifications for motivation in addiction recovery, Conversing

Data Gathering for Requirements

Goals

The main goal is to come up with features to best engage the user and encourage consistent medication intake and healthy habits. The goal of gathering this data is to understand how users manage medication, track progress, and respond to reminders.

Participants

Target users: Adults with chronic conditions, people in addiction recovery, medical professionals that care for elderly people.

Stakeholders: Health professionals, Investors

Data Gathering Techniques

Survey/Questionnaire: Distribute an online survey to a wide diverse audience to get quantitative data on their health management behaviors and tech preferences. I'll share the survey online on my social media. This narrows down the population but promotes diversity since I have many different demographics on my social media. The questions I will be asking will be both quantitative and qualitative.

Introduction

- *What is your age group? (18-24, 25-34, 35-44, 45+)*

- *How often do you use health-related apps? (Daily, Weekly, Rarely, Never)*

- *Are you currently using any health related apps or addiction recovery now? (Yes, No)*

Usability and Learnability (If answered yes)

- *How easy is it to navigate through the app? (1-5)*

- *How long did it take you to understand how to use the key features of the app?*

Features and Effectiveness

- *What features were most and least useful?*

- *How often do/did you use the app?*

- *How often do you ignore a reminder?*

Performance

- *How often did you encounter errors? Did these errors affect whether you can use certain features?*

- *How satisfied are you with the app?*

(If answered no)

- *What methods do you use to manage your health? (Notebook, Calendar, Reminders, Nothing, Other (specify)*

- *Have you considered using a health app? Why or why not?*

- *What features would encourage you to start using a health management apps (List features)*

- *Do you have any concerns using health related apps? (List concerns)*

Interviews: The online questionnaire allows for the demographic of the subjects to be randomized. I don't control the gender, age, or any characteristics of any of the people who answer the questionnaire. I can only control the platform I share the questionnaire on. Interviews allow me to control the specific demographic of the sample.

- Background Information (Age range, Daily routine)

- What are the biggest challenges you face in maintaining a healthy routine?

- Can you tell me about how you currently manage your medication/Supplements?

- Have you forgotten to take your medication or supplements before? What happened?

- Have you used an app for addiction recovery before? If so, why?

Gatherings - Interviews

Interviewee	Age range	Daily routine	Biggest challenge in maintaining a healthy routine?	Method of managing medication	Ever forgotten to take medication	Addiction Recovery App
Sara	18-24	She's a university student full time and currently works part time as well.	No time with school and work schedule. Recently I have been trying and	Clock app on phone for reminders.	Many times.	None

			improving.			
Emmanuel	45+	Works a hybrid job. Wakes up early, commutes to work, spends most of his time with coworkers and friends.	Difficult to prioritize health with work and family.	Relies on memory, Apple watch for running and cycling.	Frequently	None
Tina	45+	Spends most of her time with her husband and family.	Consistency	Apple watch for running, Apple fitness for exercises	Frequently	None

These specific people were chosen to emphasize habit tracking and the older generation. The online survey is anonymous so users might feel less pressure to open up about their current or past addictions. An interview setting can put a lot of pressure for users struggling with addiction and they may not be willing to share. Based on these findings, having a busy schedule makes it hard to keep track of an individual's health even if they have constant reminders. The app should make the user want to open the reminders instead of it feeling like a chore.

Gatherings - Surveys

There were in total 24 responses to the survey over a 24 hour period. The survey was distributed on my personal social media pages (Instagram and Snapchat) as well as the TRU snapchat public story. Before analyzing the data, several responses indicated fabrication in these responses. Especially considering the informality of the survey, these responses included people stating they were over 45+ years old even if that demographic didn't fit the sample space.

How often do you use health-related apps?

24 responses
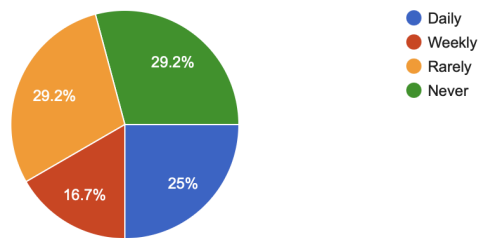
Based on the cleaned up data, 29.2% of users said they have never used health-related apps. So more than 71% of the states used any form of health management or addiction recovery app. The most used apps were Apple health, Quit Vaping, How we feel, Kinder World, I am Sober, Strong, Calorie Counter, Opal and Grounded. For those who said they don't use any apps, the main response to how they manage their health was that they do it themselves. The responses indicated users want to see a day counter, simpler UI, games, free options, journaling options, suggestions, help tips and videos, and links to other resources. Over 47% of the responses often forget reminders. These findings indicate that current notifications may not be as effective and solutions to personalize them need to be drawn. The responses also indicated a streak based system for addiction recovery isn't effective. Therefore the app will focus more on health management, the streak based system will be used for logging medication. This way the user will be more inclined to return to the app to log their medication.
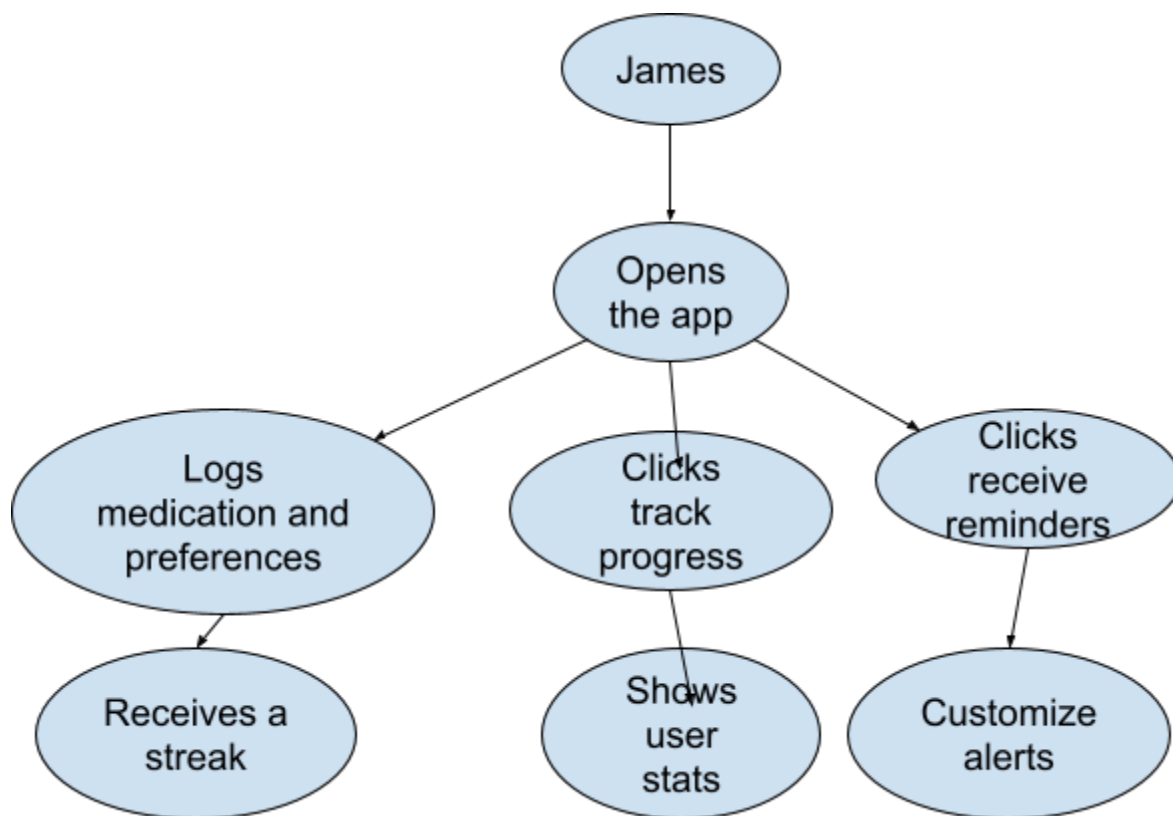
Scenario

User: James

Scenario: James is a software engineer who works from home. He works during the day, exercises in the evening, and spends time by himself at night gaming. James has an illness that causes him to take medication at 7pm everyday but often forgets or ignores the reminders he has

set on his phone. His pharmacist tells him ignoring these reminders can be fatal and he needs to

take the medicine. James decides to try a health management app that offers customized

reminders and a streak counter. He downloads this app. James enters his preferences (time of the

day he takes his medicine, motivation) and the app sends a gentle notification. Instead of

dismissing it, James interacts with it earning a badge. Now he is motivated to keep interacting

with notifications.

Use Case Diagram

Essential Use Case

Use case	Actors	Trigger	Scenario	Outcome
Log medication	User	From a reminder or manually.	James opens the app, clicks log medication, and enters the dose. The app updates	Medication is logged and streak is updated.

			with a streak.	
Track progress	User	The user wants to see their progress.	James opens the app and clicks track progress. Views streak count, missed doses and trends.	James knows more about how he's using the app and his medication adherence.
Receive reminder	System	The scheduled reminder time has reached.	App sends a notification, James ignores or interacts with the notification. If ignored, a follow up is sent. If interacted with, it leads to log medication.	James is reminded to take his medicine.

Key Requirements

Type	Requirement
Functional Requirements	- The system should provide a day counter to track streaks and progress. - The system should include customizable reminders for medication. - The system should provide links to external resources.
Data Requirements	- Store user progress data (streaks, goals) - Collect user preferences (reminder types)
Environmental Requirements	- Offline access - Available on different types of devices
User characteristics	- The primary users are users who are recovering from addiction or managing health habits - The secondary users are accountability

	partners, caretakers or anyone using the app for another person.
Usability and UX goals	● Users should learn all functional requirements of the app within minutes of using the app. ● Key features will be done under 30 seconds (setting reminders, storing user progress). ● Users should undo options that they are not satisfied with. ● The habit-tracking feature should keep the user coming back to the app through motivation. ● The app should have a stress-free UI that doesn't overload the senses of the user.