

# Doc.**One**

Service Design  
Lia Hergenrother

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# project brief

Go to one of the surrounding major cities (Hamilton, Dayton, or Cincinnati) and go to a location that attracts lots of people throughout the day. This place can be an attraction, like the Red's stadium, Cincinnati Zoo, or Newport Aquarium, or it can be a more business or transit-focused location, such as an airport, hospital, or parking garage.

## Observe:

While at your chosen location, look around and observe what issues people around you are having and/or what can be done to enhance the usability and experience of the space. The challenges they face will become the base of your project.

## Research:

Take the time to look into other locations, attractions, or cities that have faced and solved similar problems. Is there something you can learn from or make better?

## Ideate and Test:

Develop design outcome types based on people's unique needs in the space and your intended-use scenarios. Based on the need, pick the medium and content that is necessary for your designs and develop into a testable prototype. As you go, make logical, design and people-driven decisions not just eye candy!



# Process

**1**  
**research**

- problem statement
- how might I
- research questions
- user interviews
- user research
- market research

**2**  
**define**

- user personas
- redefine problem statement

**3**  
**ideation**

- rapid prototyping
- user feedback
- paper wireframes

**4**  
**design**

- low-fi wireframing
- user testing
- prototype
- final design



# **Phase 1: Research**

Problem Statement

How might I  
Research Questions

User Interviews

User Research

Market Research



# **Problem statement**

Within the hospital setting, every provider plays a crucial role in the care for patients. However, with the rise of technology, communication is spread through various platforms (and often unauthorized ones) that communication is not as efficient as it should be in this fast-paced environment.

**How might we create a streamlined means of communication for healthcare providers?**



# How might I reframe the project brief to propel my research?

“Design an experience for healthcare providers to communicate and connect with hospitals and already existing healthcare apps.”

How might I...

**communicate:** give healthcare providers the opportunity to connect with other providers, but also nurses and hospitals.

**connect:** create a funnel for healthcare apps to send information to to make a simpler experience for providers.



# Research questions

These research questions created a framework for me when undergoing online research and user interviews.

## Communicate

- How often do you message other providers throughout the average work day?
- How often do you message nurses? In turn, how much do the nurses message you?
- Is communication always authorized/ HIPAA protected?
- What is the user journey throughout the current means of communication within healthcare?

## Connect

- How many apps do you use in the average work day?
- How often do you have to sign in?
- Do all hospitals use the same programs?
- With growing technology, are there more growth opportunities to connect healthcare professionals
- Is there a disconnect with different age groups in regards to means of communicating?



# User interviews

Listening and engaging with users through interviews enabled me to fully empathize and provided me with a deeper understanding of the journey and pain points of their experiences. I interviewed two physicians at Christ Hospital, a cardiologist and nephrologist. Below are my key insights from these interviews:

## User Interview Key Insights

- Providers need a “universal remote” to communicate
- Needs to be HIPAA compliant
- Guiding the correct information to the best-suited person
- Filtering Feature: messages from nurses vs providers
- Providers need to quickly switch hospitals depending on schedule
- Biggest want/need: ease of integration
- Many apps with great features -- to complex
- Simpler is better because some doctors are now texting orders, which is an unauthorized form of communication.



# User research

From my online research and user interviews, I compiled a list of the biggest pain points for users. This was very helpful for me to look back on throughout my process to ensure I was deriving the best solution for the user.

## User Pain Points

- Too many apps for communicating amongst healthcare professionals
- Have to re-sign in each time
- Nurses, providers, medical administrators all use
- Messages not going to the correct person or provider “on call”
- Providers are receiving messages when off work or on vacation
- Different hospitals use different apps
- Providers have to sign-in to all of these apps individually and change their status each time



# Market research

After the initial interviews and research were conducted, I completed a competitive analysis of the services already available. What I found was that many apps provided a lot of the same features, but there was not one that ingrated all the apps. Every hospital has a different app or platform that the providers must learn; therefore, there is a current need for one that serves as a universal remote.

## Competitor 1: Epic Haiku

**Pros:** Links to Epic's Electronic Health Record, shows clinic schedules and patient lists

**Cons:** Provides patient information; too multi-faceted, only some hospitals use



## Competitor 2: PerfectServe

**Pros:** Secure communication, just physicians, can set when you are available, text directs you to on call person

**Cons:** App crashes, has patient data and provider information, only some hospitals use



# **Phase 2: Define**

User Personas

Redefine problem statement



# User personas

I decided to utilize user personas to further help me understand the problem by identifying user needs and pain points through persons to fuel my ideation.

## ABOUT



**Dr. Marcus Smith**  
59 y/o Radiologist

## BIOGRAPHY

Dr. Marcus Smith has been in practice for 29 years, but he is having trouble keeping up with all the technological advancements

## MOTIVATIONS

- He wants to keep up with technology, but is overwhelmed with the amount of apps and information.
- Wants to be able to see all his messages in one place

## FRUSTRATIONS

- Different Hospitals ask him to download different apps & he cannot remember all his passwords.
- It is difficult for him to know which of his partners are on call and who to contact for certain information



**Dr. Lena James**  
33 y/o ER doctor

Dr. Lena James is a new physician, he never dealt with pagers. She loves technology but it is far too confusing so she resorts to simply using iMessage.

- She wants to be able to see who is working and be able to efficiently contact them when needed.
- Her fast-paced environment does not allow for technology to load or re-signing in.

- Cannot securely call doctors
- Takes too long to sign-in and navigate through apps
- Doesn't like having to manually change availability status

# **Re-defining the problem**

Healthcare providers need a transparent platform to centralize communication between hospitals, current apps and other providers because while there are many apps that provide these services, their accessibility is limited, contributing to a lack of use.



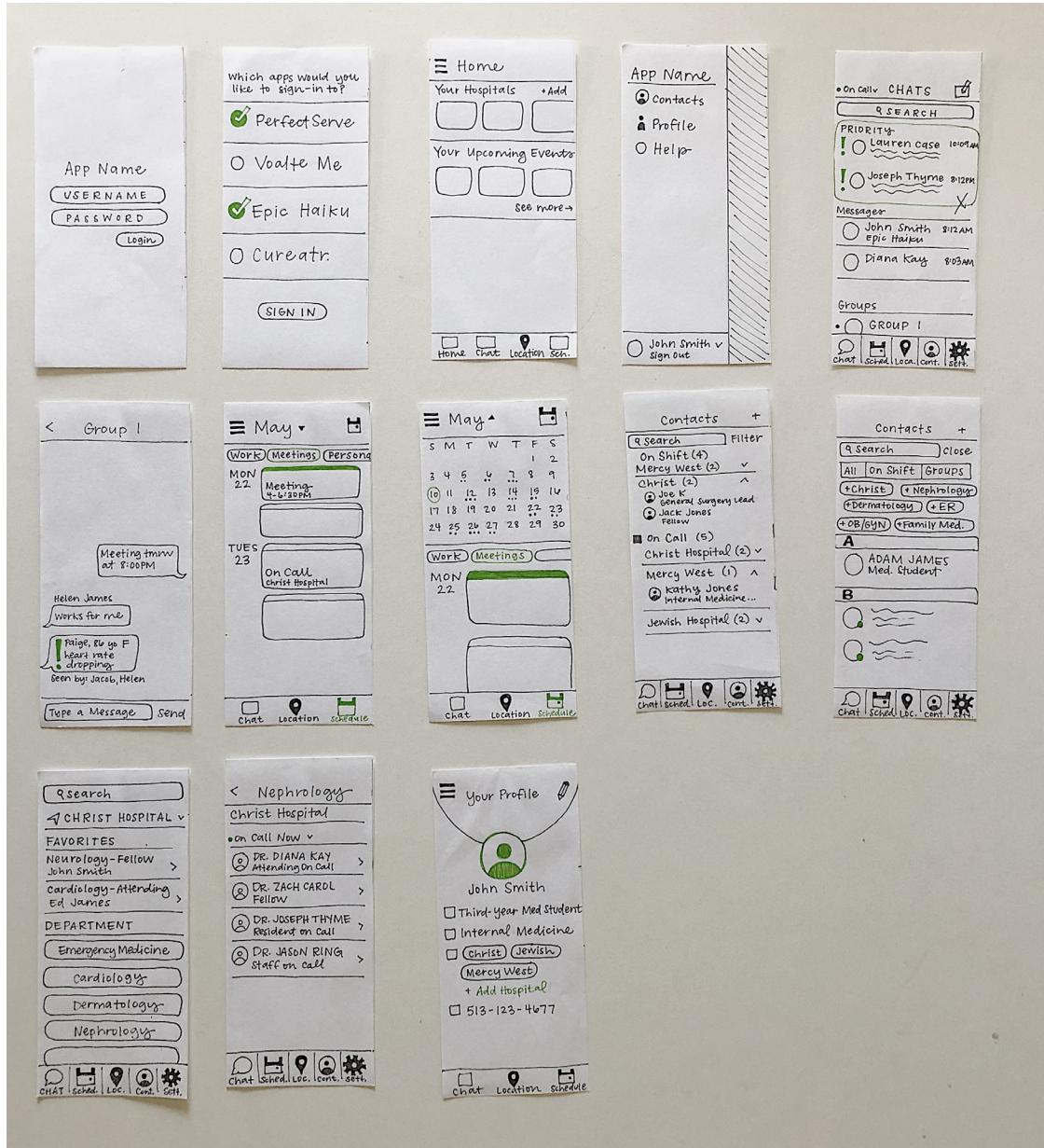
# **Phase 3: Ideation**

Rapid prototyping  
User Feedback  
Paper wireframes



# Rapid prototyping

First iteration



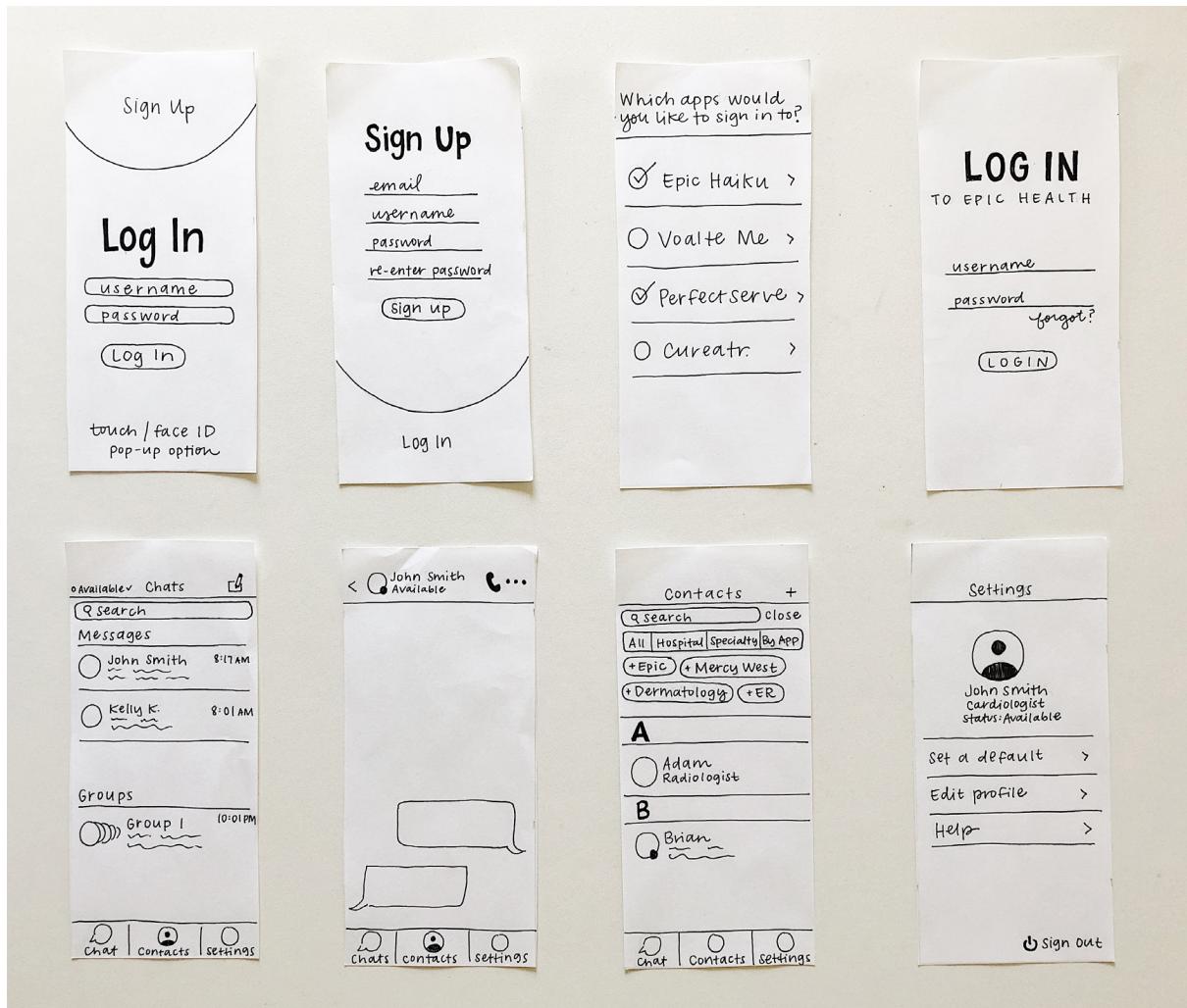
# User feedback

After creating my first iteration, I went to the users to receive feedback. I went to the same doctors that I interviewed initially. Their insights were very helpful as they liked the app, but thought it was incorporating too much and could get confusing. They said their main need was an app to funnel all the information from the other apps. They suggested I keep it simple and do away with the schedule and home page. So I continued to iterate. This was the second (much simpler) solution.



# Final paper iteration

After deciding and pinning down functionality, I created my final paper iterations before digital lo-fi. It was at this point I decided on the name for the app: Doc.one. It is a hub for doctors to log-in to to access all of their important information in *one* app.



# Phase 4: Design

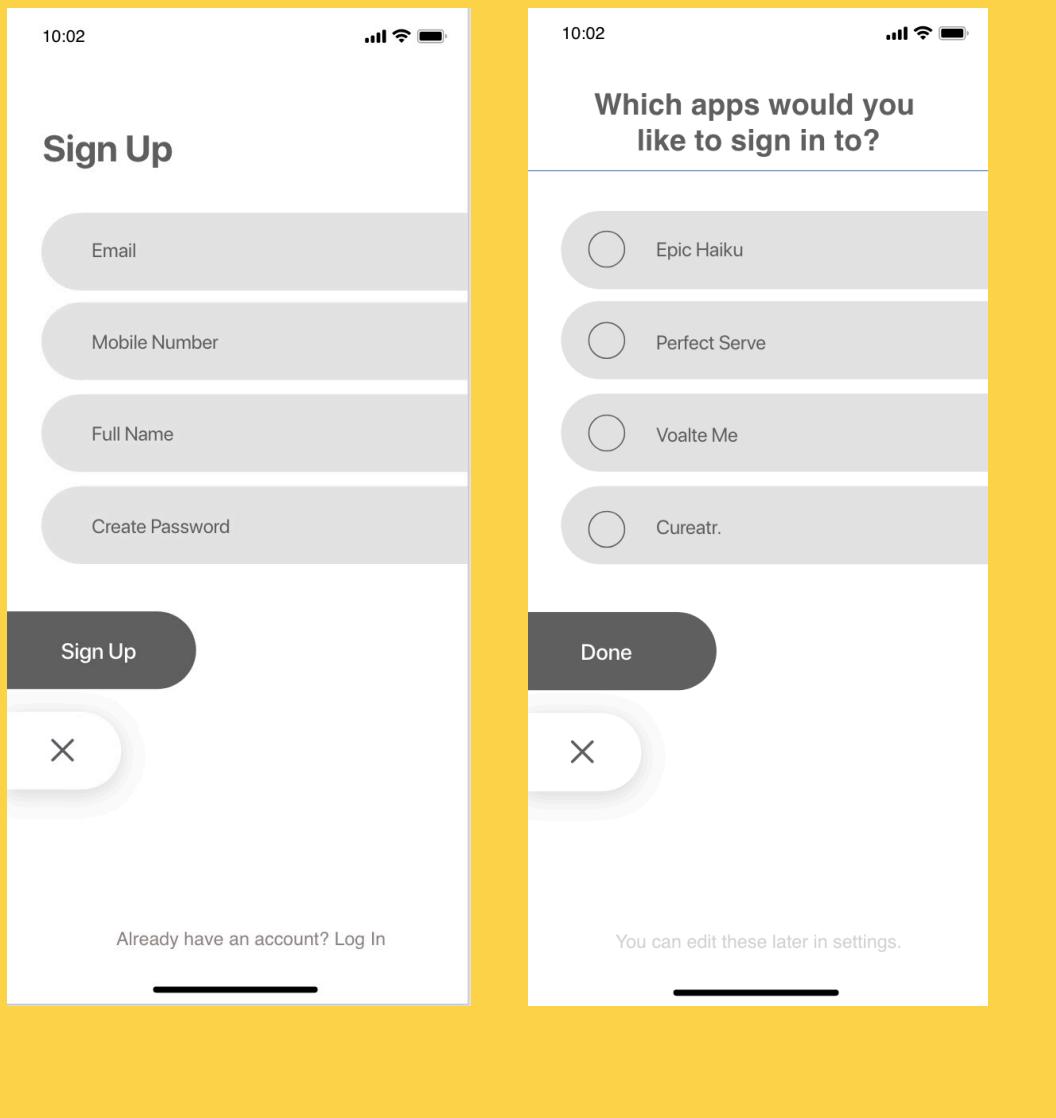
Digital low fidelity prototype

High fidelity prototype

Final design



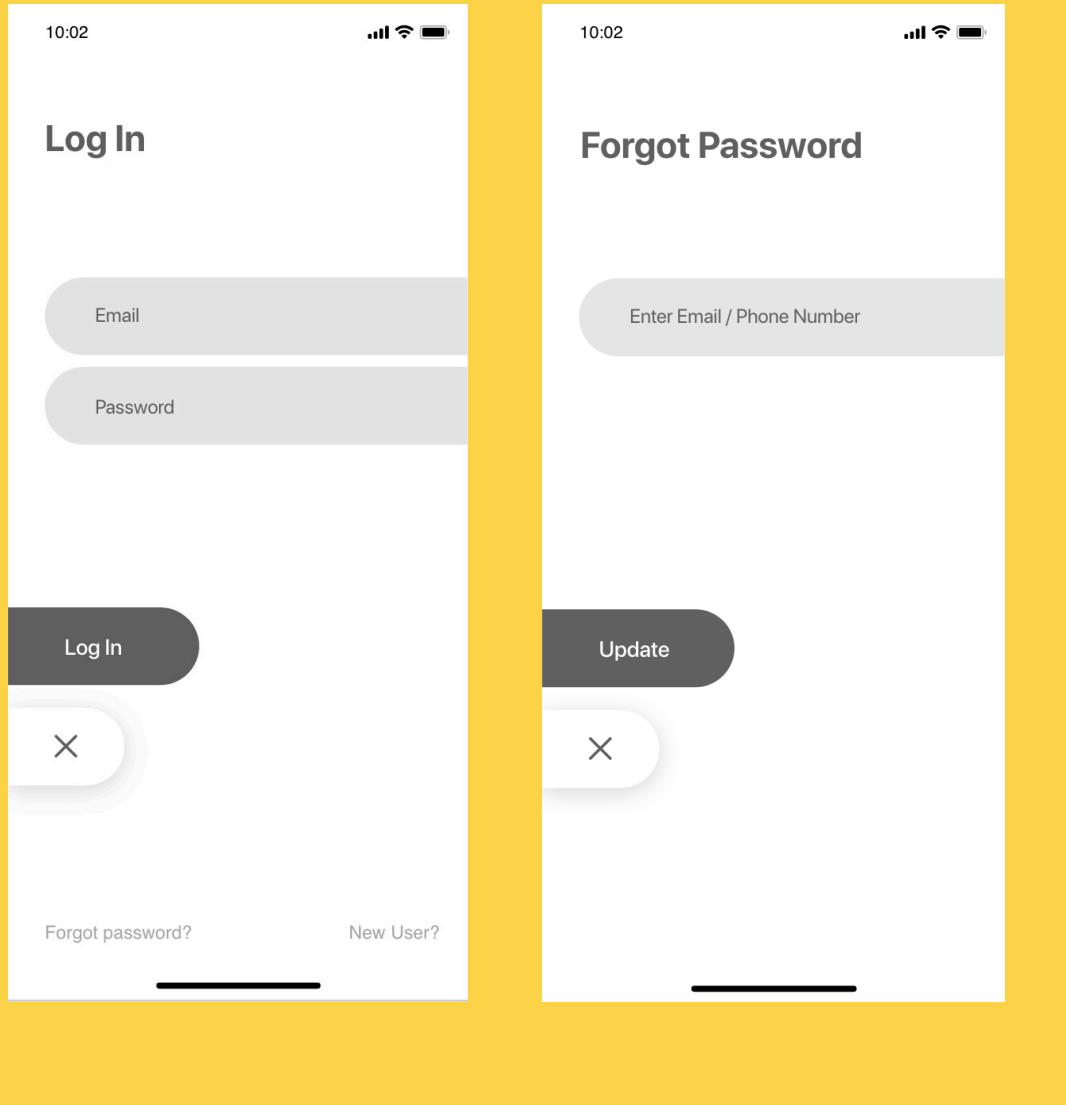
# Low fidelity prototype: Sign up



When initially downloading the Doc.one app, the user will be prompted to sign up. After signing up, they will then select the current apps they use and sign into them.



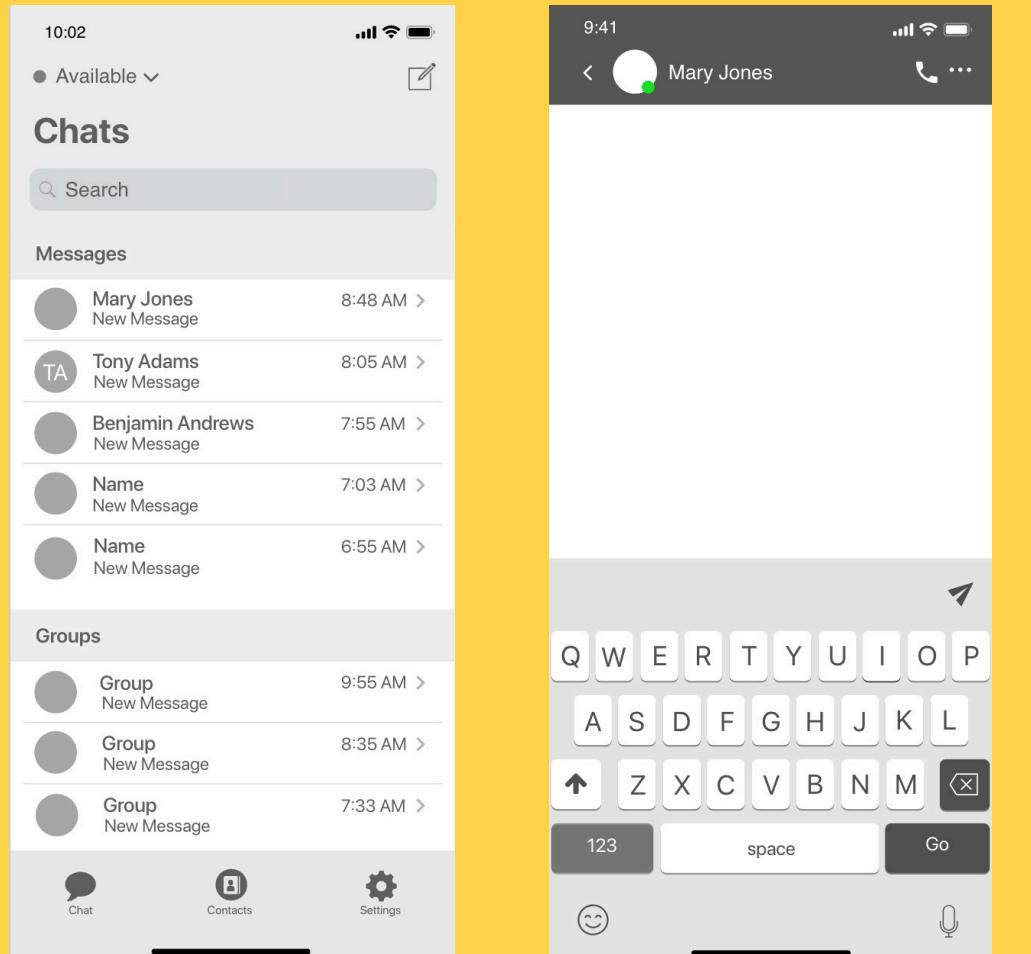
# Low fidelity prototype: Log in



After the initial sign up, the user will only need to log in to the Doc.one app at the beginning of the day.



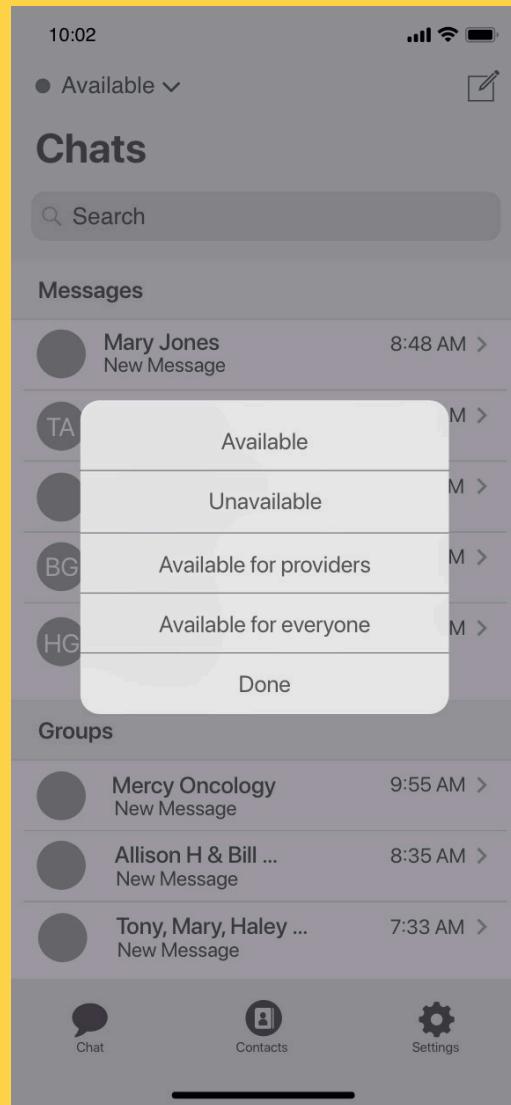
# Low fidelity prototype: Chats



The Chat feature allows providers to see messages from other providers, as well as groups. If the app from the initial message allows for HIPAA protected calls, then a phone icon will also appear.



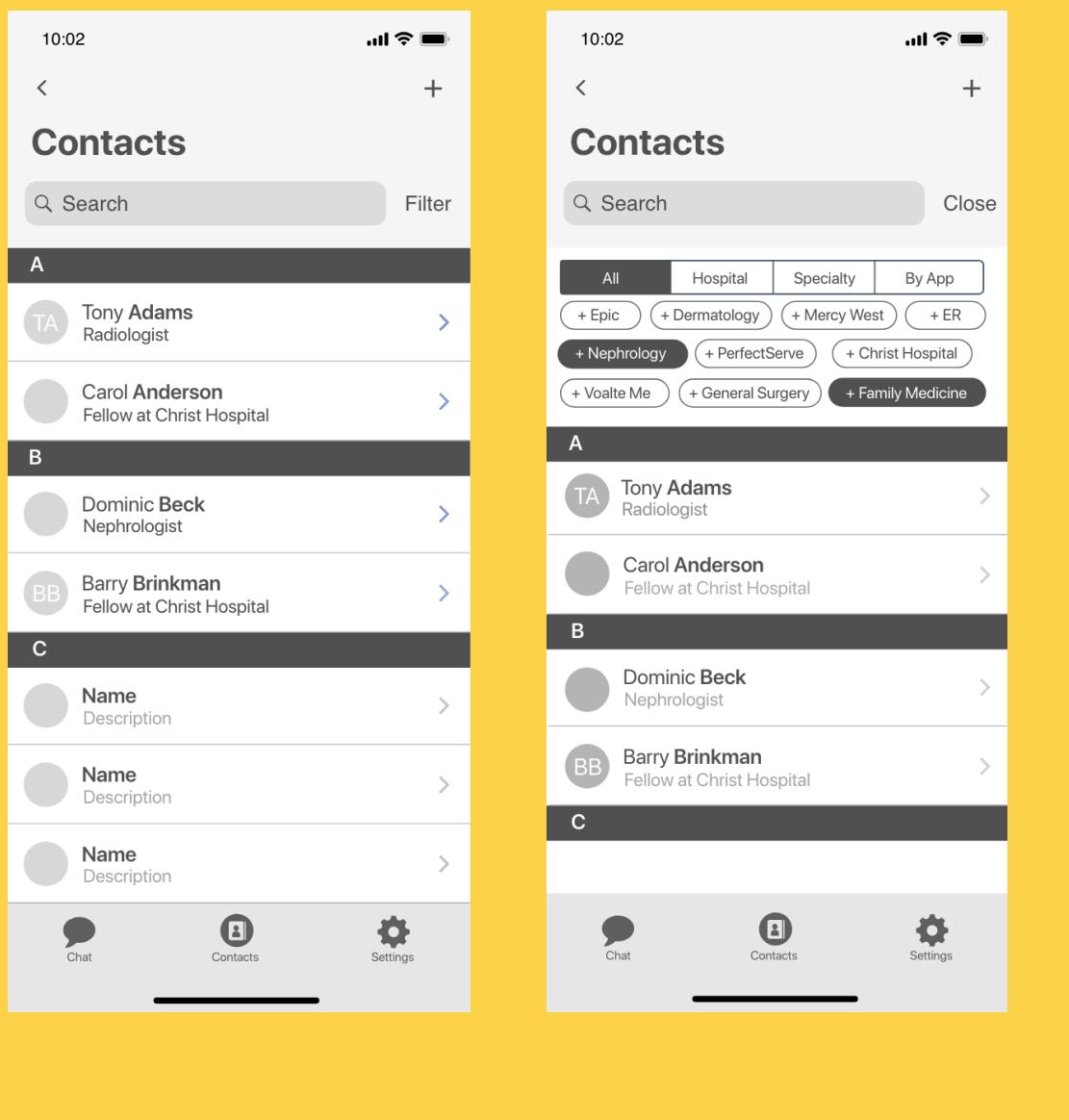
# Low fidelity prototype: Status



To change your status, simply press the down arrow and select from available options. This will change your status across all the apps you are signed into within the Doc.one App.



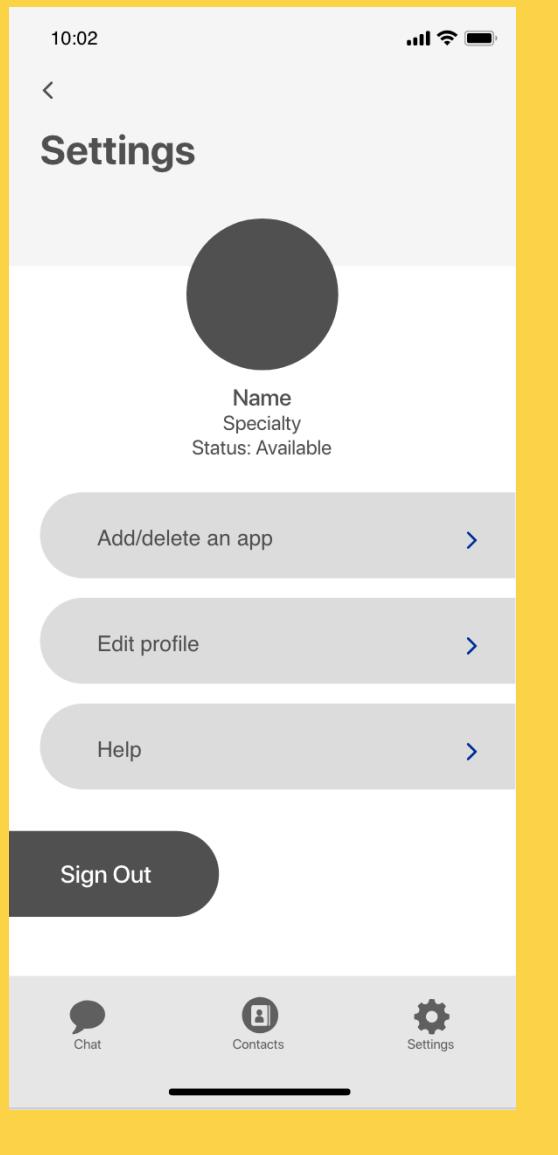
# Low fidelity prototype: Contacts



Contacts listed in app where you can also view their availability status.  
Filter feature allows for ease of use for the user to find desired contact more efficiently.



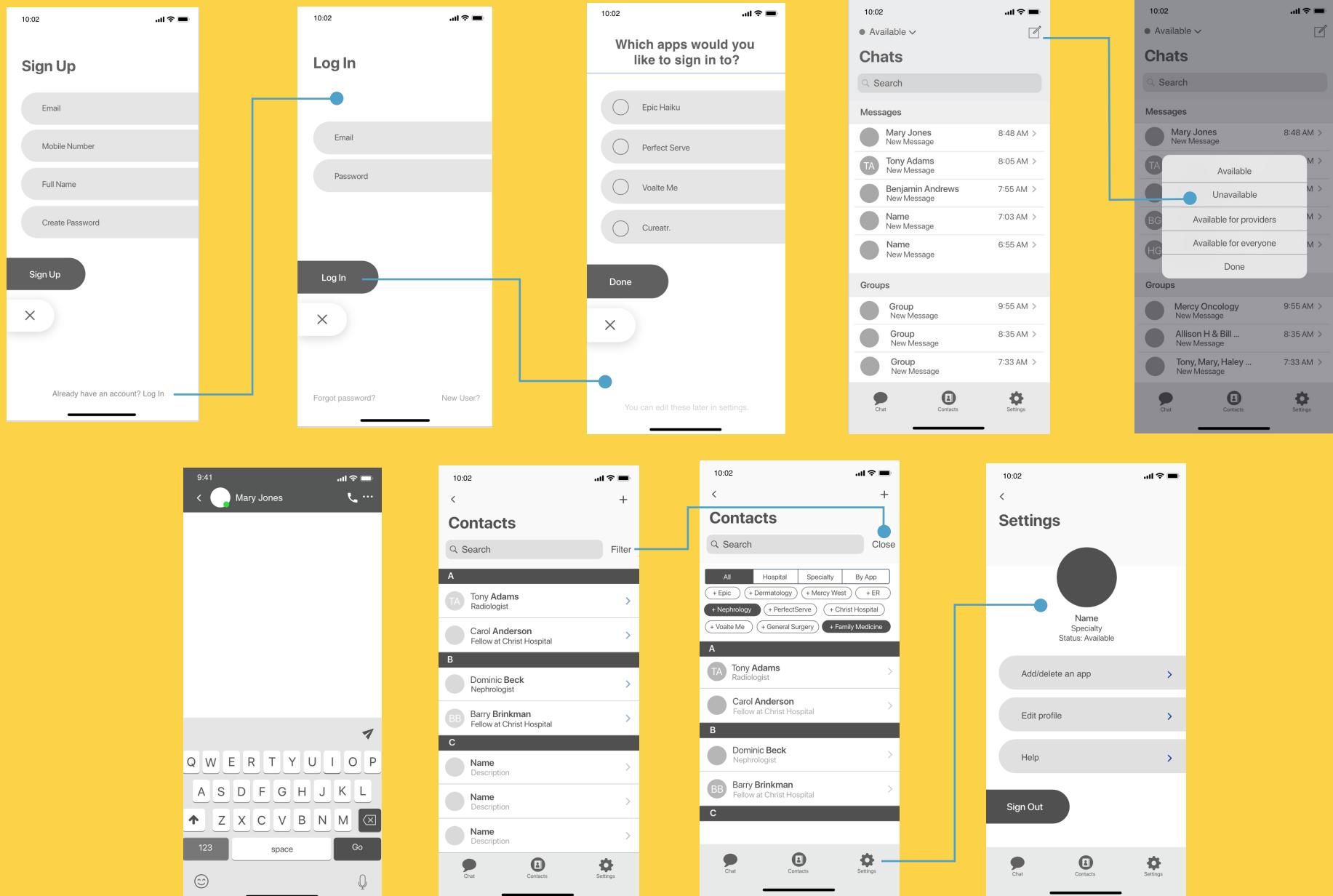
# Low fidelity prototype: Settings



Within settings, you can manage all the apps you are signed into within the Doc.one App. You can also update your profile, this is what other providers will see.



# Overall flow for testing



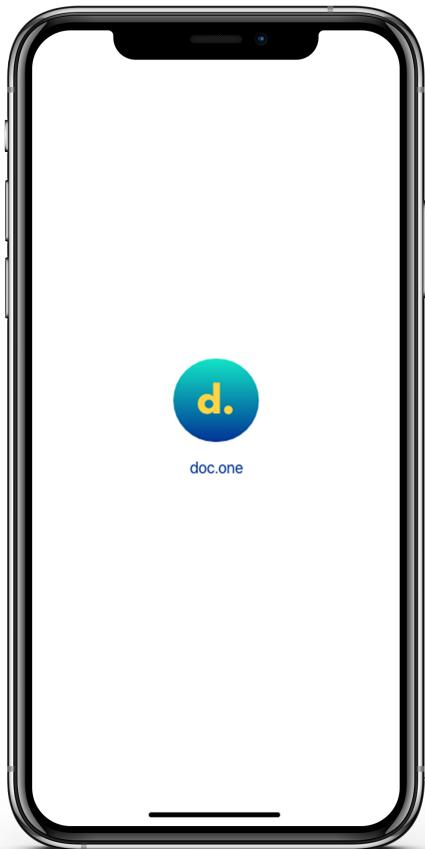
# User testing

Before creating my high-fidelity prototype, I decided to bring this low-fi prototype to the user demographic and see if they have a few last insights. Here is what I learned:

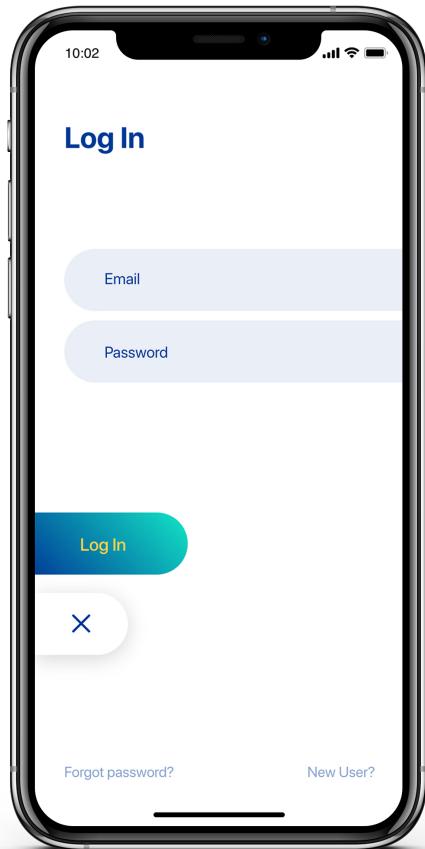
The user suggested a “default” or custom option for availability. For example, if they are working at one hospital using a specific app, they could change their status for that app to “Available for everyone” but for the rest of the apps it could be “Available for providers only.” This way nurses or medical staff from other hospitals will not be contacting them.



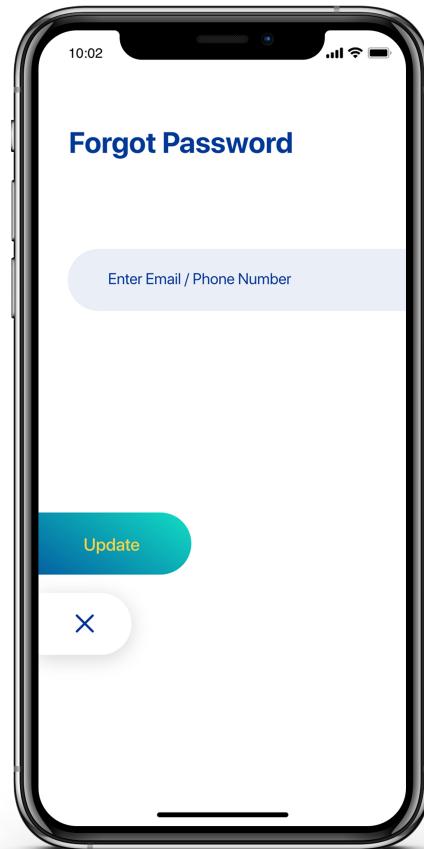
# The final design



WELCOME



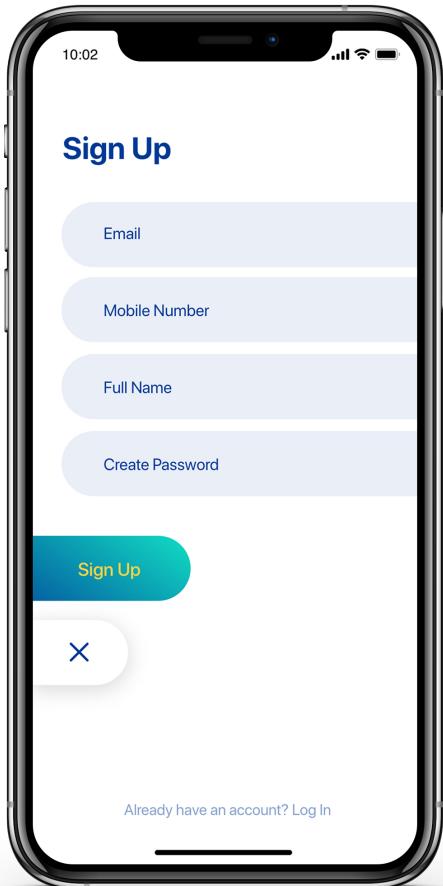
LOG IN



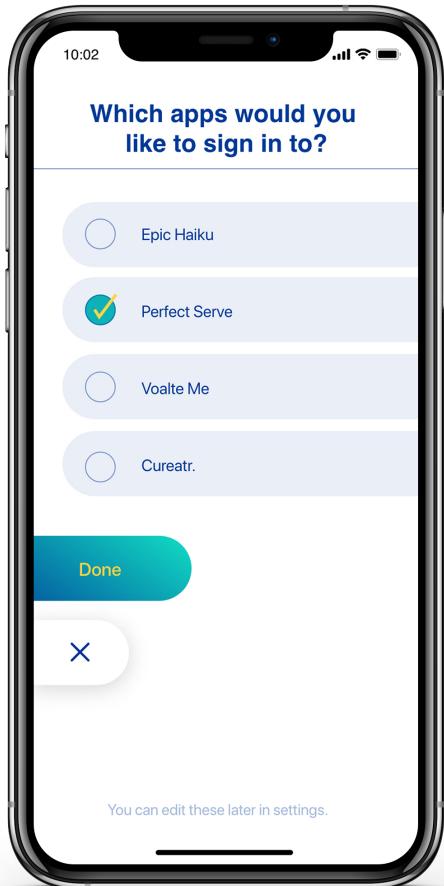
FORGOT PASSWORD



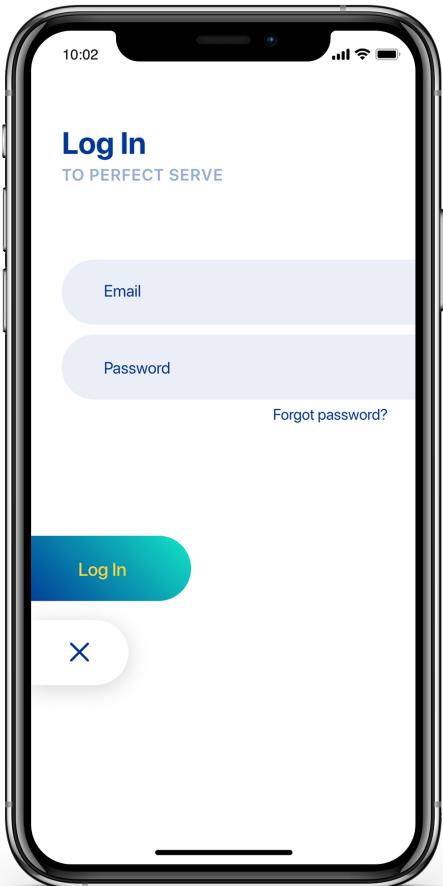
# The final design



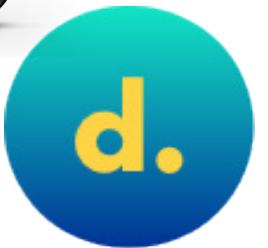
SIGN UP



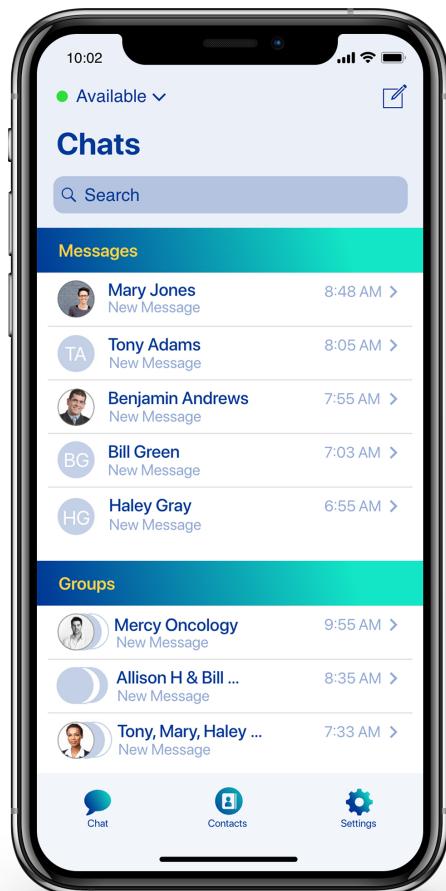
APP SIGN IN



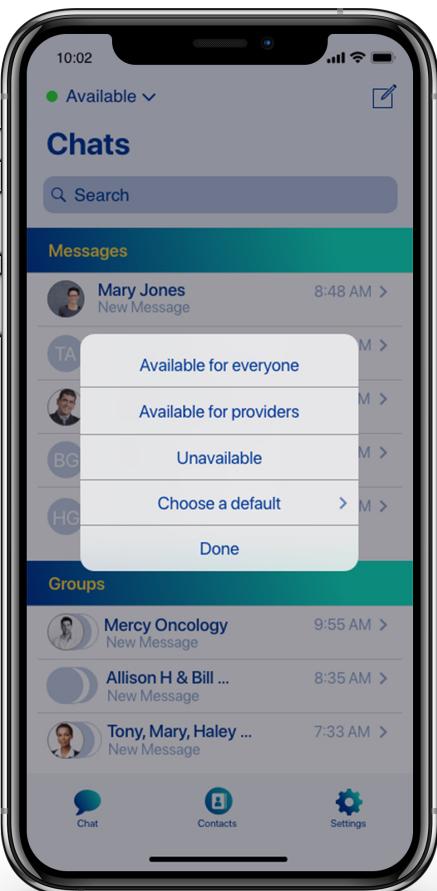
APP LOG IN



# The final design



CHATS



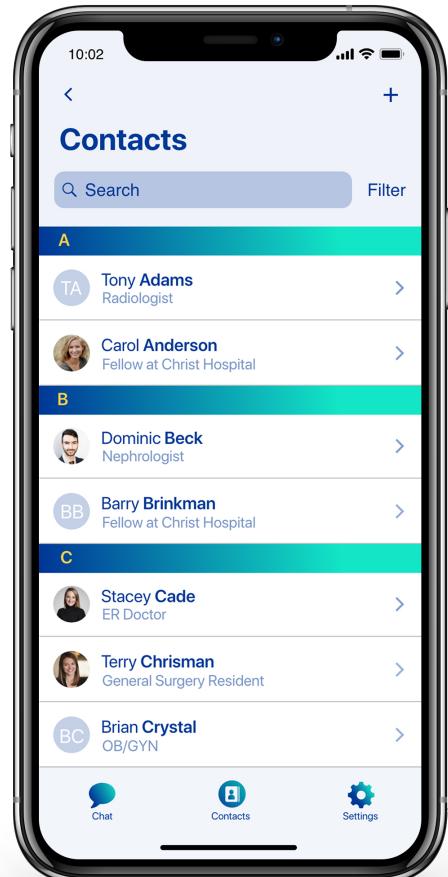
AVAILABILITY



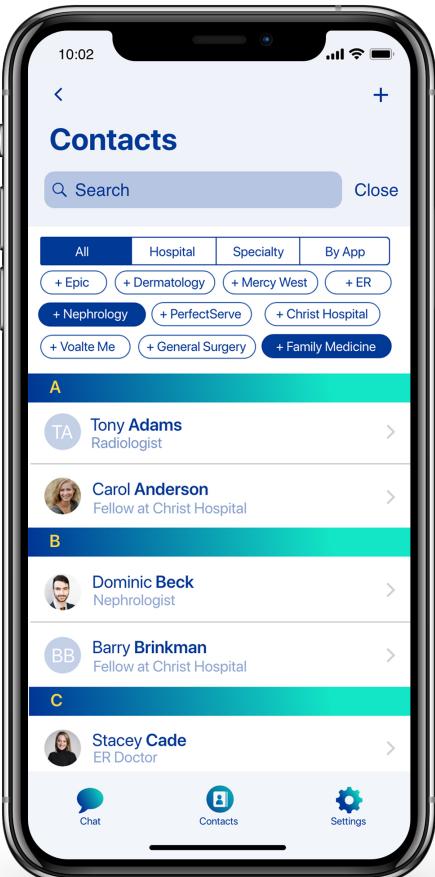
MESSAGE



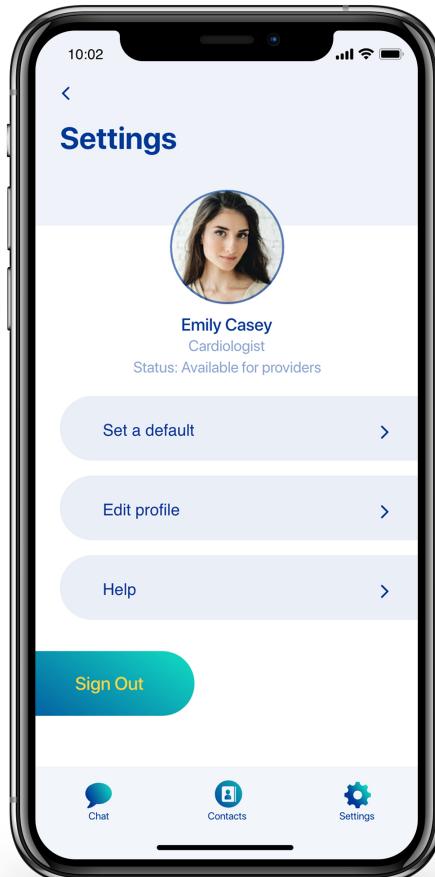
# The final design



CONTACTS



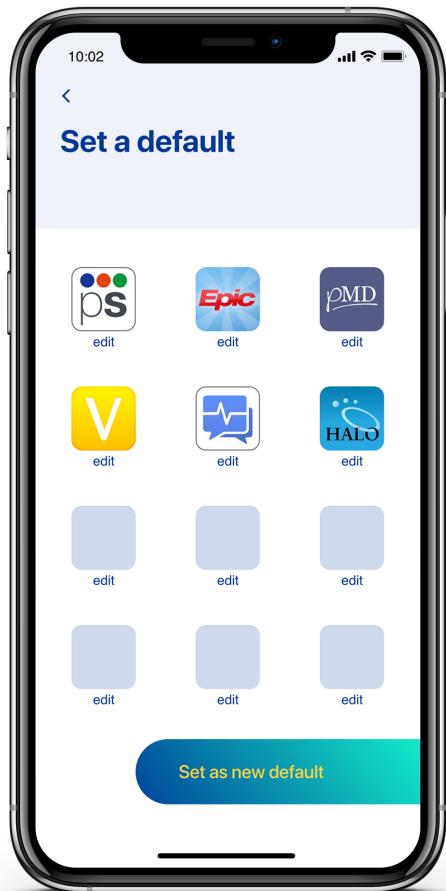
CONTACT FILTERS



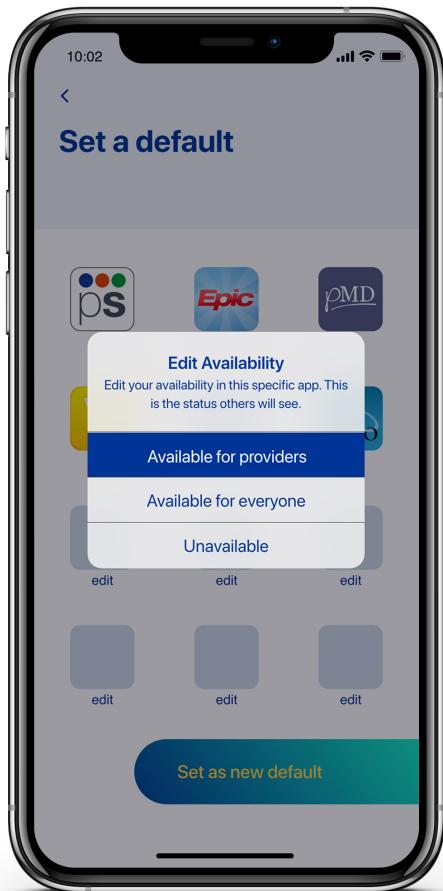
SETTINGS



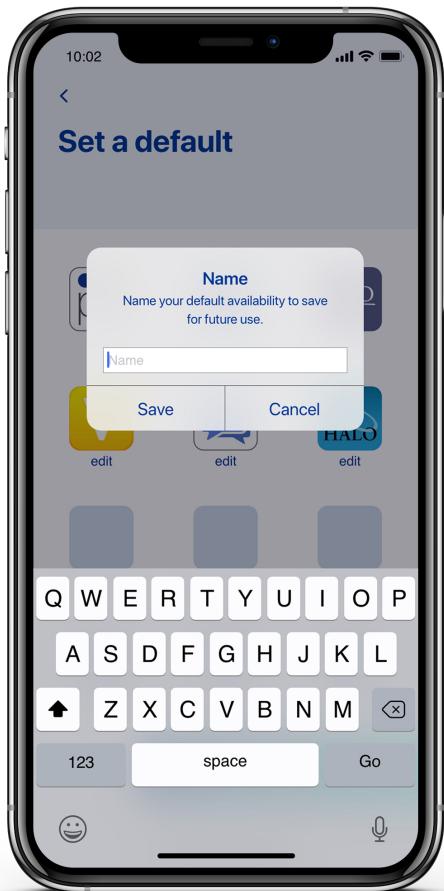
# The final design



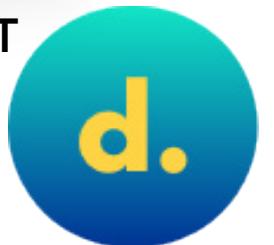
SET A DEFAULT



EDIT AVAILABILITY  
WITHIN APP



NAME A DEFAULT



# Reflection

## Challenges

- Being 40 minutes from the hospital was difficult as I wanted to get feedback from users more frequently, but could only go on the weekend if my schedule and theirs would allow.
- Choosing the right amount of functionality and the information architecture for that functionality without more user testing.
- Difficulty understanding the everyday challenges of providers as I am not one myself.

## If I had more time

- Do another round of usability testing and receive more feedback on the “new default” options.
- Further brainstorm with the interface visual identity and design of the app.
- Explore other features that would improve functionality for providers.

## Final thoughts

My focus was to create a solution for a pain point that affected a group. This did not need to be an app or something extremely innovative, but something to make a positive impact through problem-solving in accordance with design thinking.

The Doc.one app is a multi-faceted solution that was built from understanding the user, the problem and then applying that research to derive the best solution for the demographic. It was a wonderful journey empathizing and learning from users, exploring the problem space on the other side of the healthcare system, involving users in the design process and creating and iterating an app that would improve the lives of those who save lives!

