

FearLess

From Fear to Freedom: Therapy Chatbot
Empowering Dialysis Patients in Transition to Home Care



Problem Statement

Home hemodialysis presents a promising alternative to traditional in-center treatments, offering patients unparalleled **freedom** and **flexibility**. However, its adoption remains notably low, with only **2.3%** patients in the US currently utilizing this option. Challenges to adoption are multifaceted, rooted not only in **procedural complexity**, but also in **systemic factors** impacting various stakeholders across multiple fields.

The daunting task of self-cannulation stands as a significant barrier, deterring many due to fear and perceived risks. These concerns are compounded by the gap in **patient education** and the absence of **immediate support** during the **lengthy wait** for training. This underscores the necessity for an accessible and comprehensive solution to empower patients in their transition to home-based care.

Solution

FearLess introduces an innovative approach to bridging the knowledge and confidence gap in home hemodialysis preparation. At its core is a **peer mentor therapy chatbot**, designed to guide users through a personalized self-paced exposure therapy and help them overcome the fear of self-cannulation.

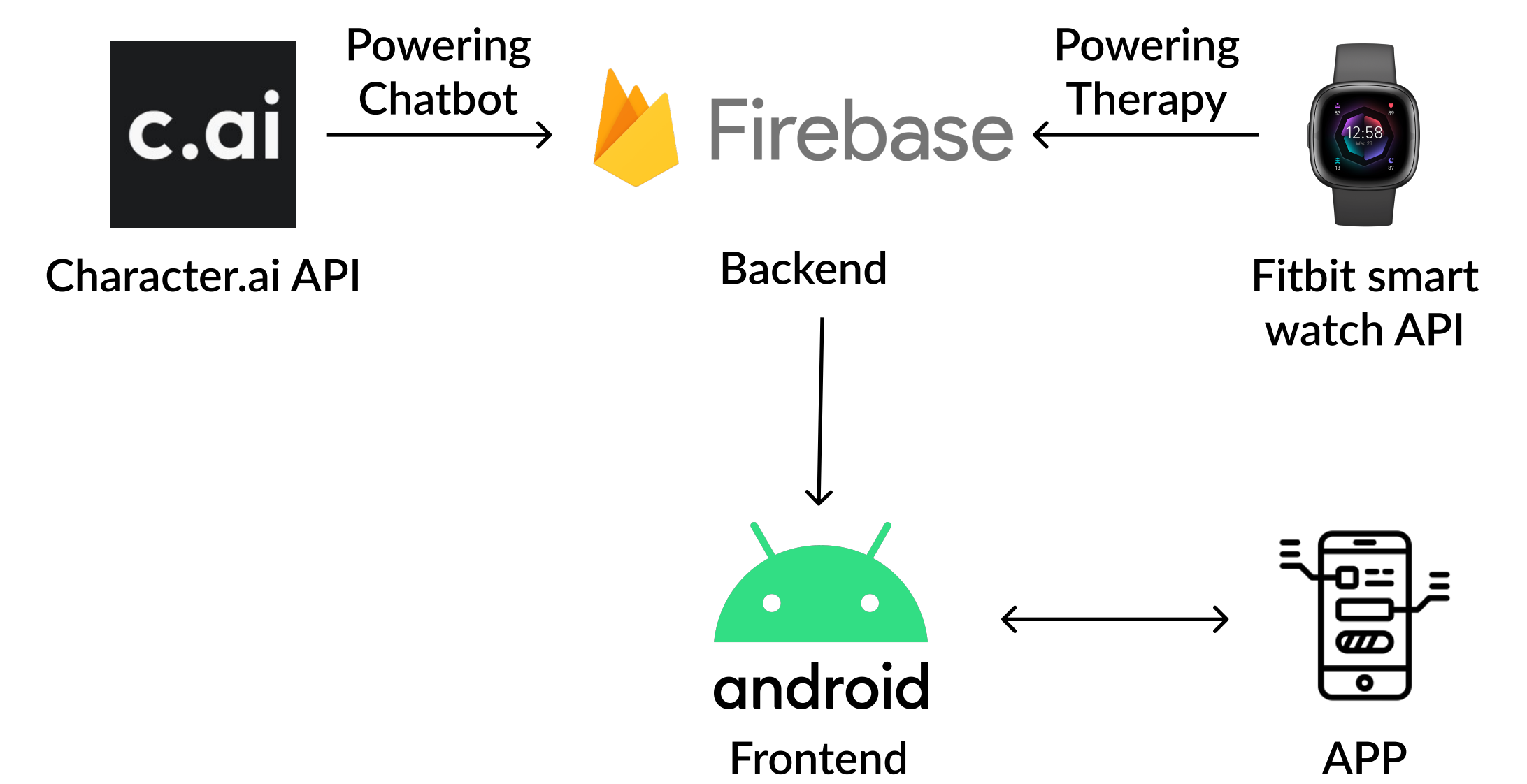
This app enables users to build fear ladders, engage in interactive sessions, measure distress, track progress, and chat with the LLM-powered peer mentor. Besides **practical knowledge** and **personalized advice**, the chatbot fosters a sense of connection through **emotional support**. The chatbot will be complemented by a physical component, a vein mapping **training arm** to enhance their cannulation technique.

FearLess empowers patients to take **control** of their treatment **confidently**, potentially **reducing dropout rates** and **encouraging wider adoption** of home hemodialysis.

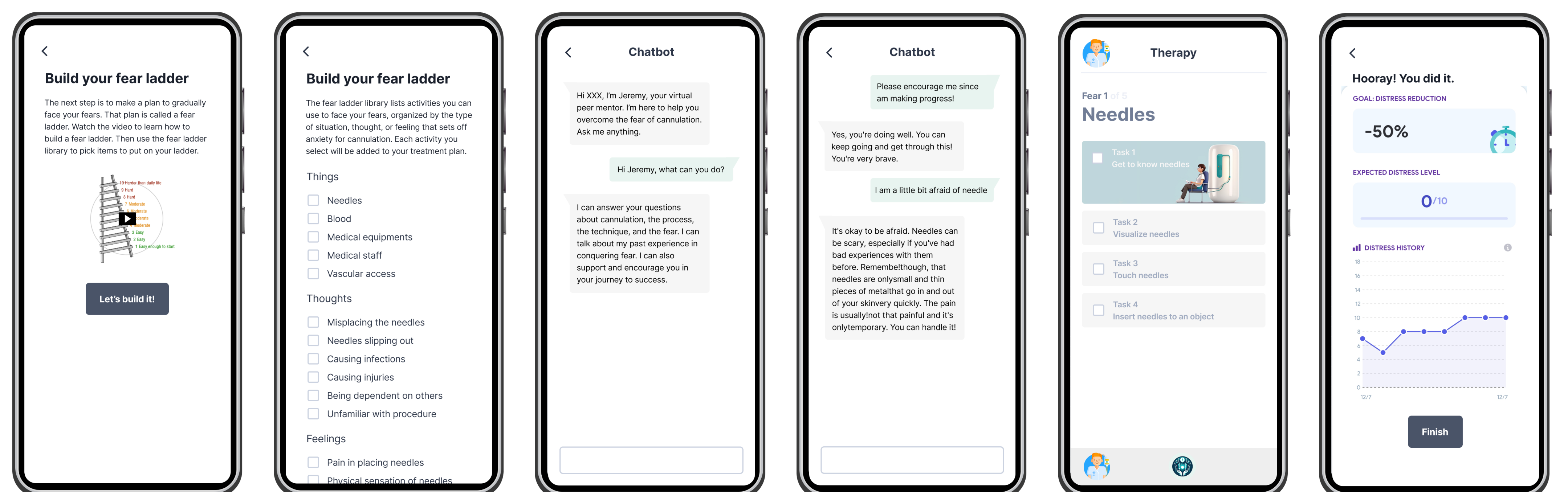
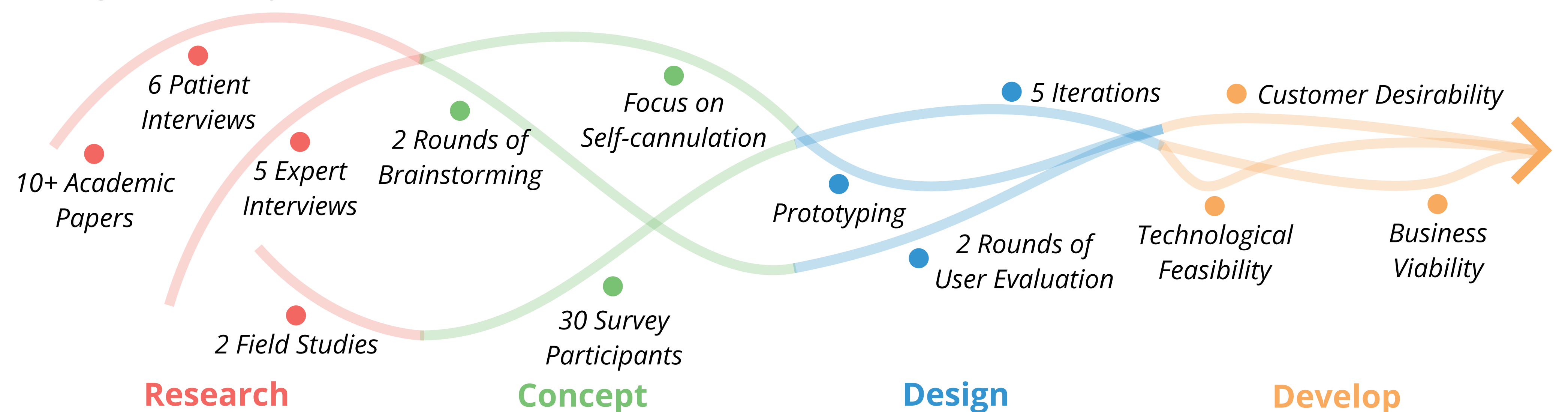
Process

We employed **Design Thinking** framework to deeply understand the challenges hindering home hemodialysis adoption. Several issues were identified during **secondary research** and validated through **extensive interviews** with diverse stakeholders, including patients, caregivers, nurses, nephrologists, entrepreneurs, engineers, etc. Based on insights of the pain points, we decided to focus on a critical barrier, fear of self-cannulation, and **ideated** several innovative product concepts.

In addressing this challenge, we adopted a **user-centric** approach to ensure the solution would meet the real-world needs of patients. Their **feedback** was incorporated through surveys, interviews, and user testing to **iterate our prototypes**. The final proof-of-concept strikes a balance between customer desirability, business viability, and technological feasibility.



Software Architecture Diagram



Customized Fear Ladders

Peer Mentor Chatbot

Self-Paced Exposure Therapy