# Delta

Case Study

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The Problem

This project was first created to help fix a problem many people with mental illness face: **attending appointments**. I believed this also bled into other issues like remembering to take prescribed medicine or following through with homework assignments. If I started digging, I knew I would hit a wicked problem. This project became less about a full-proof solution, and more about a way to ease a complex issue.

To understand this problem more holistically, I looked at the therapeutic side of things. I wanted to know what causes avoidance of daily tasks. I discovered the **Anxiety Cycle** (page right). Anxiety causes people to avoid certain tasks, from anything as small as brushing your teeth to taking your meds.

Anxiety Cycle

This chart represents how anxiety influences and reinforces avoidance overtime. The more a person avoids, the more anxiety grows.

I believed attacking the cycle here would be most effective. If I could create something that eases the temptation to avoid tasks, and helps those suffering to practice mindfulness, people would stop self-sabotaging their growth with avoidance behaviors.

ANXIETY

AVOIDANCE

SHORT-TERM RELIEF

LONG-TERM ANXIETY GROWTH
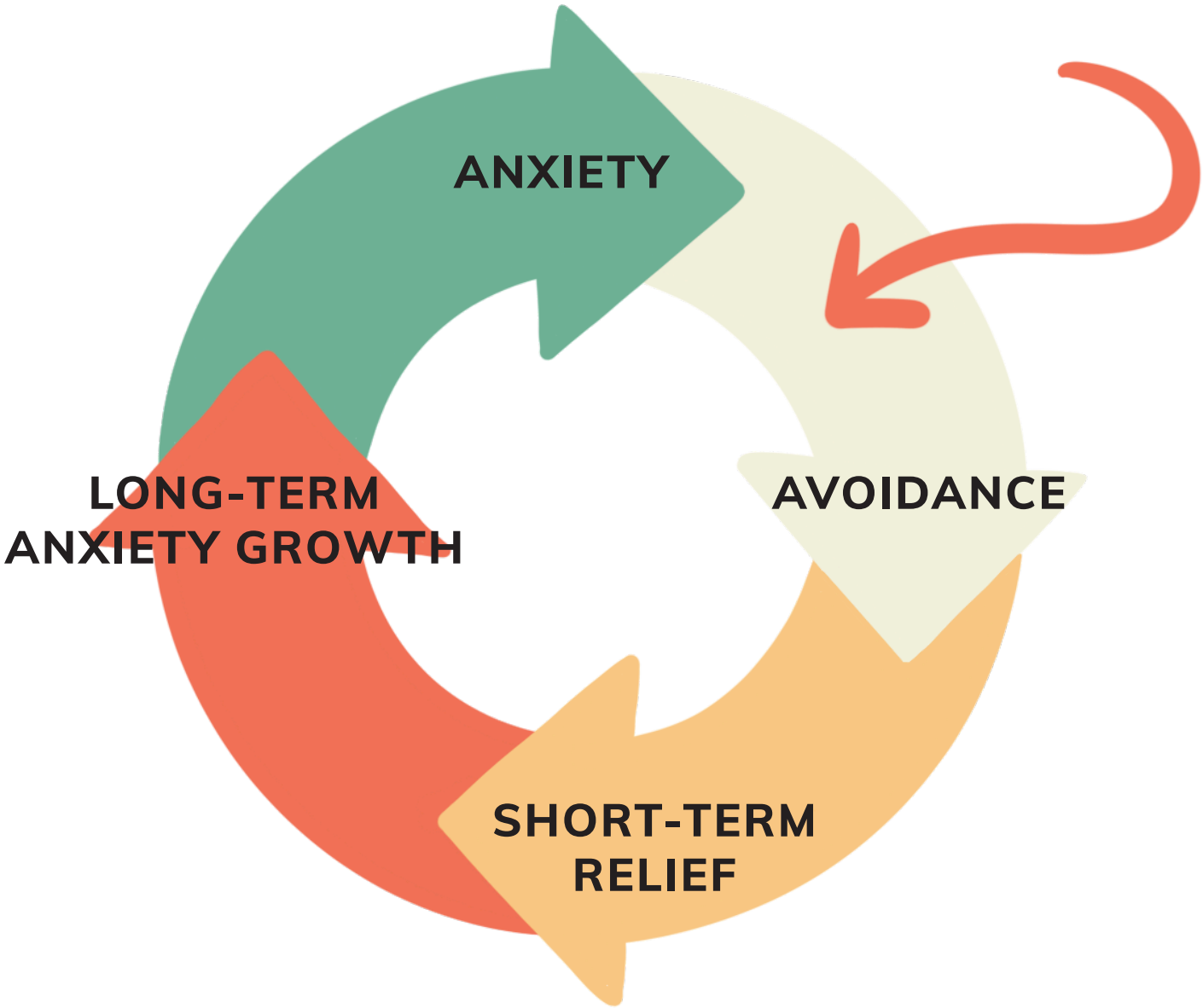
The Project

Utilizing the Discover, Design, Deliver process and inspired by an agile flow, this project ended in a **holistic UI/UX solution** that provides a more fluid and seamless relationship between patient and therapist. I focused on interdepartmental communication and functionality to create a cohesive back-end within the business, to ensure the patient's experience inside and outside of the office was low stress.

I ended with a modular and personalized **software**, an **app** that auto-syncs to the patient's existing calendar, and a concept for a **patient portal** to include those who still use older media types.

Discover

Research, analysis, content, users, and workflow.

Design

Wireframe, user test, improve, and design.

Deliver

Prototype, comprehensive documents, and growth.

Agile Flow

I was inspired by agile processes, so I utilized iterative methods in my sketching, wireframing, and designing processes.

Discover

In this phase, I conducted a user survey, created a competitor landscape, conducted secondary research, developed content structure through user testing, and I delivered on workflows.

Research is Vital

Exploratory research led me to uncover the anxiety cycle and what I believed to be the source of avoidance, but I needed to further understand the users to make sure my hypothesized solution would work.

To effectively research, a plan is needed. I brainstormed questions, variables, and unknowns to push my research further. I knew I was entering unknown territory and I had to understand things like HIPPA, prescriptions, diagnoses, and existing medical softwares to create a usable .

Research Questions

I developed two research questions, one for the software and one for the patient-facing solutions. These guided my research.

1. How can we simplify business operations to maximize client service?

2. How can we help clients manage their counseling services and mental health needs?

Survey

Choosing a survey as my primary research was easy. I needed to hear it from my users to ensure that this solution would work. I asked a variety of questions ranging from broad questions like "How often do you seek mental health services?" to environmental ones like "What problems do you face in the waiting room?" This gave me a chance to view this problem holistically from the user's perspective.

With over 50 responses, I received insightful feedback and recomomendations. Not all respondents utilized mental health services, but I was able to uncover problems they experience with other appointments.

81% of respondents use calendars on a daily basis

95% of respondents use smartphones to schedule appointments

Findings

Anxiety to Call

This affects many things from rescheduling appointments to refilling prescriptions. Old media seems to cause more anxiety.

Forgetfulness

Having trouble remembering to attend appointments, take medicine and complete homework stems from not being mindful of mental health.

Insurance Confusion

Respondents have a hard time knowing what their insurance covers and what services they are able to receive.

Competitor Audits

I did a deep dive into six competitors, three for out-patient software and three for medical/wellness apps. By analyzing customer reviews, I could see what problems users faced when trying to use specific features inside these systems. I was then able to apply my learnings to ensure my solution was user-friendly and easily understood.

CareVoyant

Cloud-based integrated healthcare software to manage multiple lines of service.

Pros:	Cons:
Scalable	No App
Relationship Focused	Overwhelming
Integrated	No Implementation

athenahealth

Partners with organizations to drive financial and clinical results.

Pros:	Cons:
App for Physicians	No Centralized Pack
Revenue Growth	Long Loading Times
Back-end Support	No Integration

Kareo

Products personalized for the client and industry.

Pros:	Cons:
Integration	No Billing Features
Personalization	Not Seamless
Telehealth Capabilities	No Support

BetterHelp

Largest counseling service, 100% online. App-based counseling.

Pros:	Cons:
Available Anywhere	Cannot Diagnosis
Licensed Therapist	Expensive
No Schedule Needed	No Extreme Crisis

Talkspace

Specialized therapy from the comfort of your home.

Pros:	Cons:
Personalized Care	No Depth
Location Based	Aren't Responsive
	Billing is Incorrect

Doctor on Demand

See a board-certified physician anywhere, anytime.

Pros:	Cons:
Affordable	Difficulty with Camera Access
Transparent	Cannot Diagnosis
Accepts Insurance	

Feature Research

I researched every feature I wanted to include, as well as every feature that would benefit my users. To ensure I had a reason for every item, I added a why beside each. Some examples of this:

Automated Clinical Decision Support

This system, CDSS, will enhance the medical decisions by comparing it to a data base filled with targeted clinical knowledge, patient information, and other health information.

Auto-Deletion in Visitor Management

The visitor management system will allow patients to check into appointments without having to vocalize sensitive information. This messaging platform will auto-delete ever 10 minutes to ensure HIPPA compliance and patient safety.

Health Analytics

Features like population health, predictive diagnosis, pattern recognition, and preventive analysis ensure patient safety at all times. With remote monitoring, these systems will help the therapist monitor their patients wellbeing and encourage growth in a more fruitful way.

Discoveries

With all of this information, I was able to ideate a more clear and concise solution. This system could work as a **reminder and accountability solution** for the patient. Each patient's app could be customized from inside the software to fit their needs. If one patient needs more reminders throughout the week, the therapist can edit the reminders panel.

It will also allow therapists to add in personalized homework assignments, coping skills, and journaling prompts. The appointments will auto-sync to any digital calendar in a discreet way to gently remind the patient in other apps. In-app scheduling will take away the fear of calling to reschedule, and the patient portal will have in-depth explanations of services, and insurance coverage.

While doing this, the software could work as an **end-all-be-all for the business**. Centralizing all information into one place, and making the process from start to finish a seamless one.

Content is King

These ideas are nothing without valuable and effective content. However, with over 65 software features and complex mental illnesses to consider, I was feeling a bit overwhelmed. All my research and content finding has been housed inside of spreadsheet, and I was struggling to think of this is the context of a UI/UX solution anymore.

For this reason, I returned to my users and user-tested my content.

Card Sorting

I wrote down every feature for my software and my app onto individual note cards. I handed these to my two testers, and asked them to sort the cards in a way that makes sense to them. I did not give too much context, because I did not want to lead them in sorting a certain way.

Once they completed this, I asked them to order them from most important to least important, and provided a bit more context. The results of this user test kicked me into gear and I was able to start sketching workflows.
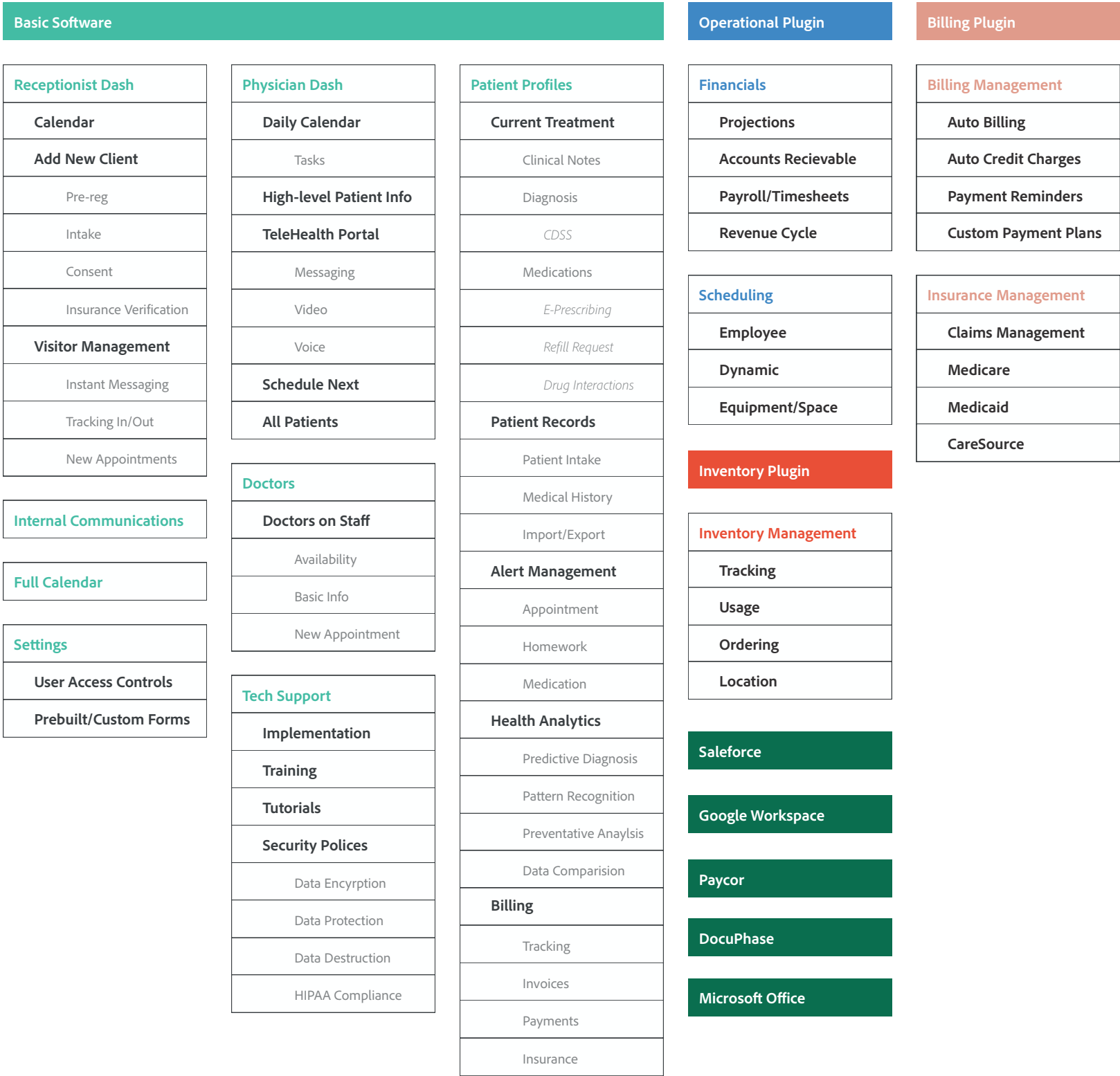
Software Focused

This is when the **iterative workflow inspiration** kicked in. Since I had multiple solutions that needed to be created, I broke off to complete the software in the middle of the discover phase. I needed a strong back-end to ensure the end-user, the patient, has a seamless experience with their mental health services.

This first user test made it clear that all **65 features** in one software would be overkill. So I decided to create a modular system. This system would allow the software to appear more customizable to each business, while also allowing Delta room to grow. New plugins could be added to the software at anytime, which will make bugs easier to fix when first released. Delta will now be able to integrate easier, with additional plugins, for services that were already being out-sourced.

Key: ● Basic Pack ● Operation ● Inventory ● Billing ● Integrations

Module Hierarchy

Basic Software

Receptionist Dash
- Calendar
- Add New Client
- Pre-reg
- Intake
- Consent
- Insurance Verification
- Visitor Management
- Instant Messaging
- Tracking In/Out
- New Appointments

Internal Communications

Full Calendar

Settings
- User Access Controls
- Prebuilt/Custom Forms

Physician Dash
- Daily Calendar
- Tasks
- High-level Patient Info
- TeleHealth Portal
- Messaging
- Video
- Voice
- Schedule Next
- All Patients

Doctors
- Doctors on Staff
- Availability
- Basic Info
- New Appointment

Tech Support
- Implementation
- Training
- Tutorials
- Security Polices
- Data Encyrption
- Data Protection
- Data Destruction
- HIPAA Compliance

Patient Profiles
- Current Treatment
- Clinical Notes
- Diagnosis
- CDSS
- Medications
- E-Prescribing
- Refill Request
- Drug Interactions
- Patient Records
- Patient Intake
- Medical History
- Import/Export
- Alert Management
- Appointment
- Homework
- Medication
- Health Analytics
- Predictive Diagnosis
- Pattern Recognition
- Preventative Anaylsis
- Data Comparision
- Billing
- Tracking
- Invoices
- Payments
- Insurance

Operational Plugin

Financials
- Projections
- Accounts Recievable
- Payroll/Timesheets
- Revenue Cycle

Scheduling
- Employee
- Dynamic
- Equipment/Space

Inventory Plugin

Inventory Management
- Tracking
- Usage
- Ordering
- Location

Saleforce

Google Workspace

Paycor

DocuPhase

Microsoft Office

Billing Plugin

Billing Management
- Auto Billing
- Auto Credit Charges
- Payment Reminders
- Custom Payment Plans

Insurance Management
- Claims Management
- Medicare
- Medicaid
- CareSource

Users and Access

Access depends on the user's role in the business. To comply with HIPPA, many things inside patient profiles are restricted from the office manager/receptionist role.
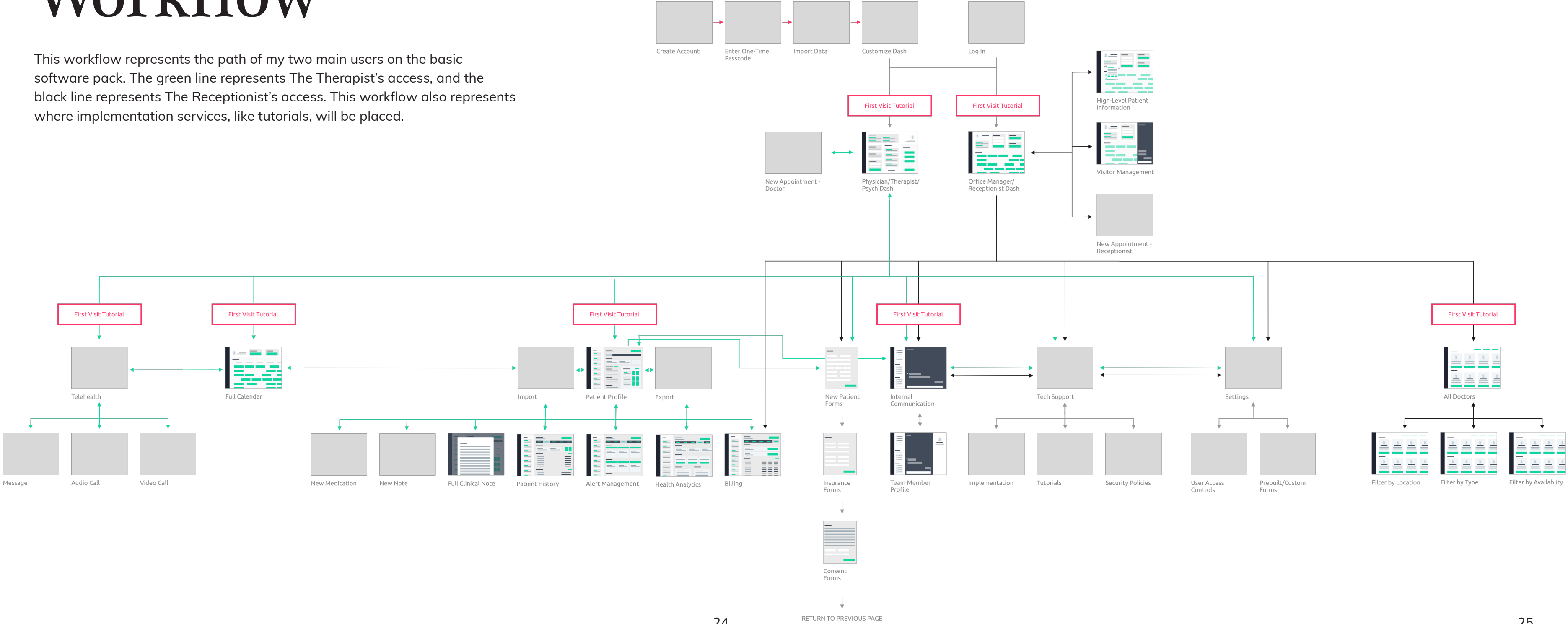
Jessica

Social worker and counselor that recognizes that change is difficult. She knows going to get help is incredibly brave and wants to **encourage her patients to continue coming back.** She uses patterns to recognize whats needs to change in relationships. Jessica wants a system that doesn't get in the way of a personal connection to the patient, but instead helps her to deliver the best care possible.

Matt

An office manager that excels in communication to patients, but struggles when relaying to the therapists. Matt is inspired by the work to help others, and wants to ensure his waiting room is welcoming and safe for everyone.

Matt — Access

Patient Profiles

Current Treatment	Patient Records	Billing
Medications	Patient Intake	Tracking
	Medical History	Invoices
	Import/Export	Payments

Jessica — Access

Patient Profiles

Current Treatment	Patient Records	Alert Management	Health Analytics	Billing
Clinicial Notes	Patient Intake	Appointment	Predictive Diagnosis	Tracking
Diagnosis	Medical History	Homework	Pattern Recognition	Invoices
CDSS	Import/Export	Medication	Preventative Analysis	Payments
Medications			Data Comparision/MPI	Insurance
E-Prescribing				
Refill Request				
Drug Interactions				

Workflow

This workflow represents the path of my two main users on the basic software pack. The green line represents The Therapist's access, and the black line represents The Receptionist's access. This workflow also represents where implementation services, like tutorials, will be placed.

Create Account

Enter One-Time Passcode

Import Data

Customize Dash

Log In

First Visit Tutorial

First Visit Tutorial

High-Level Patient Information

New Appointment - Doctor

Physician/Therapist/ Psych Dash

Office Manager/ Receptionist Dash

Visitor Management

New Appointment - Receptionist

First Visit Tutorial

First Visit Tutorial

First Visit Tutorial

First Visit Tutorial

First Visit Tutorial

Telehealth

Full Calendar

Import

Patient Profile

Export

New Patient Forms

Internal Communication

Tech Support

Settings

All Doctors

Message

Audio Call

Video Call

New Medication

New Note

Full Clinical Note

Patient History

Alert Management

Health Analytics

Billing

Insurance Forms

Team Member Profile

Implementation

Tutorials

Security Policies

User Access Controls

Prebuilt/Custom Forms

Filter by Location

Filter by Type

Filter by Availabilty

Consent Forms

RETURN TO PREVIOUS PAGE

Design is Intelligence Made Visible

Sketches

I used sketching to create iterations of functional elements such as navigation, content structure and hierarchy.

Moodboard

I did not include many design elements in my moodboard, since the software needed to be ans easily customizable piece, Instead, I focused heavily on content placement.
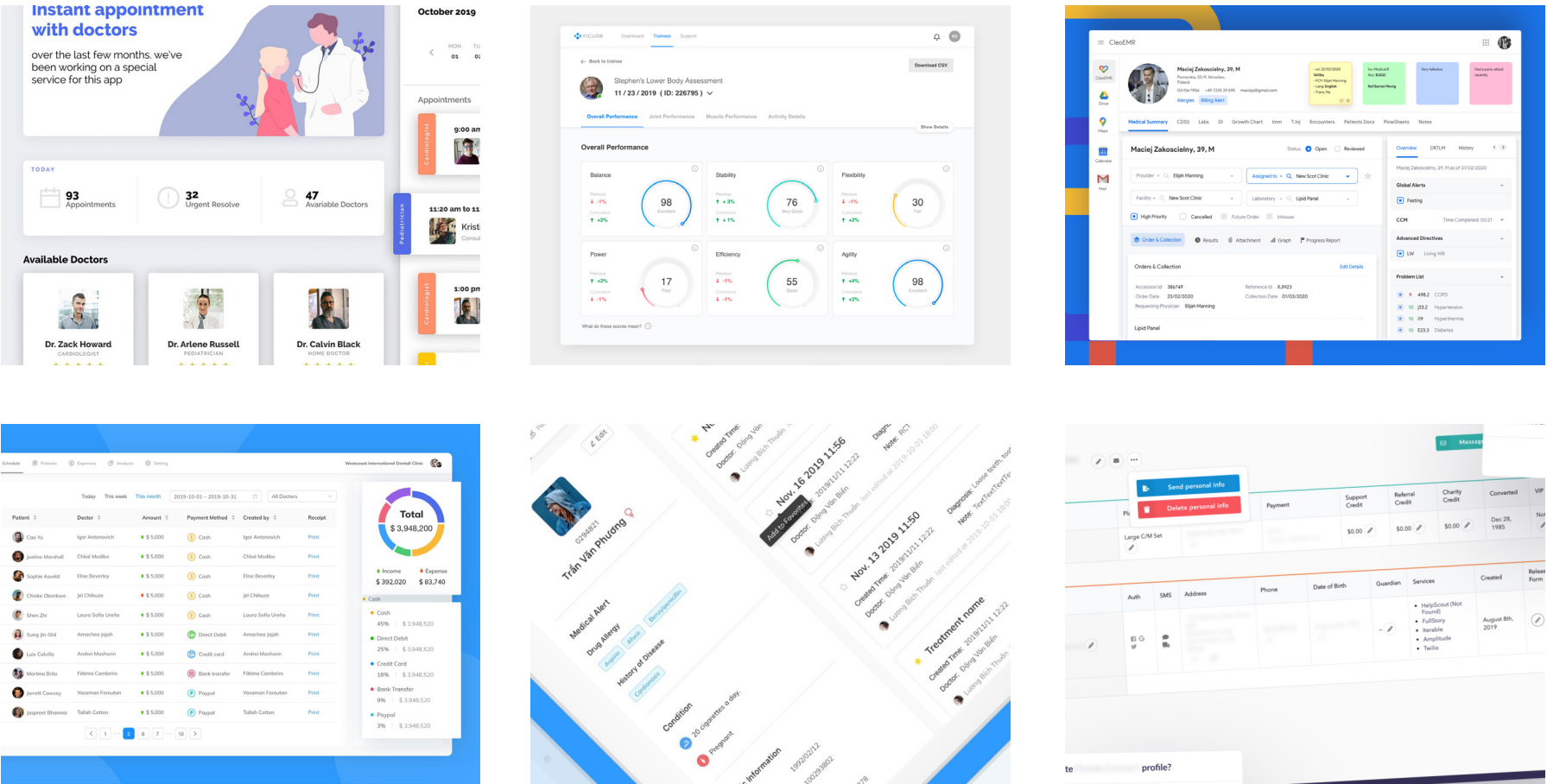
Wireframes

Since I did not utilize sketching to it's fullest, I started with low-fidelity wireframes. Once I felt I had found the solid structure for my ideas, I turned them into high-fidelity wireframes.
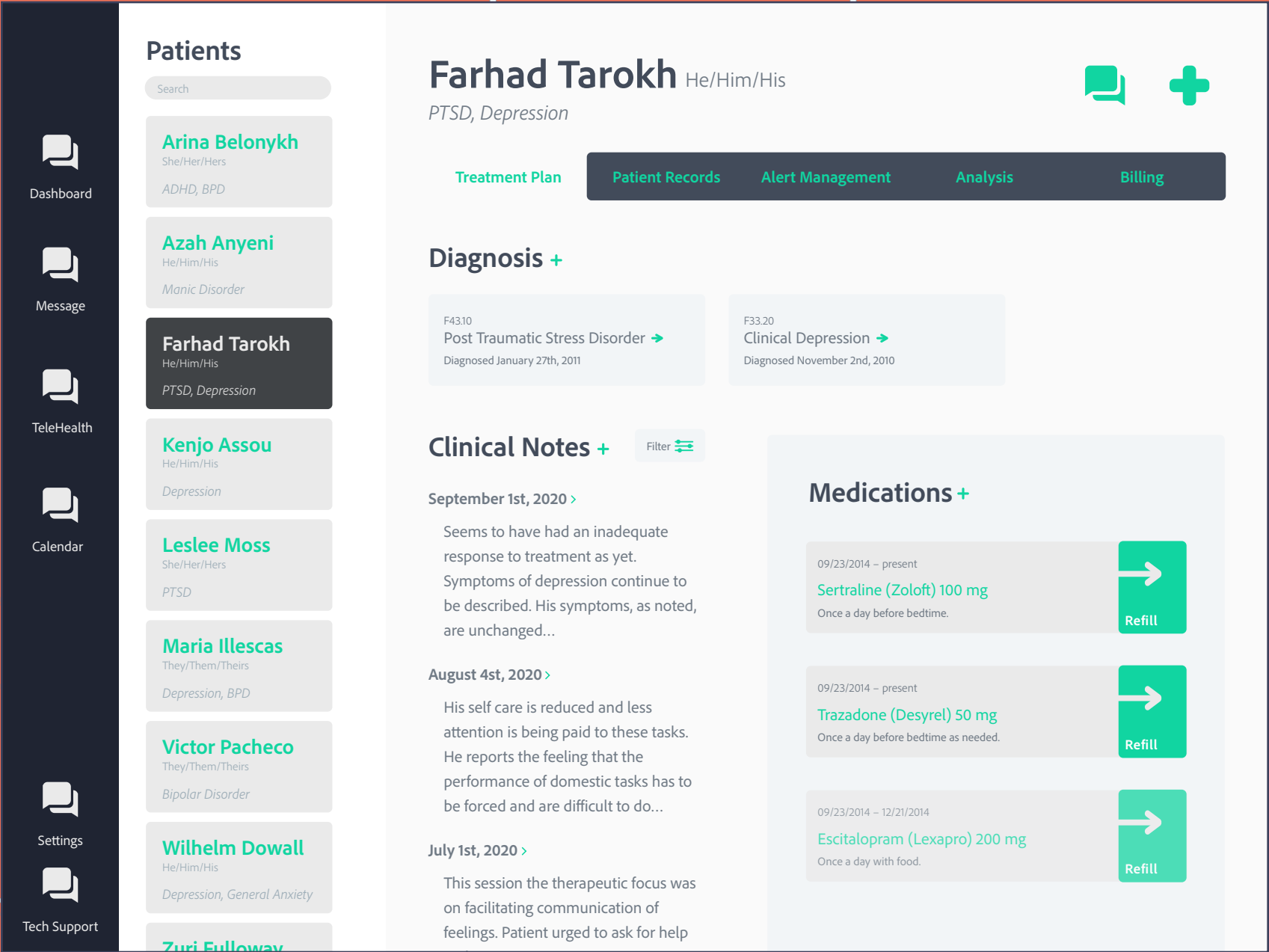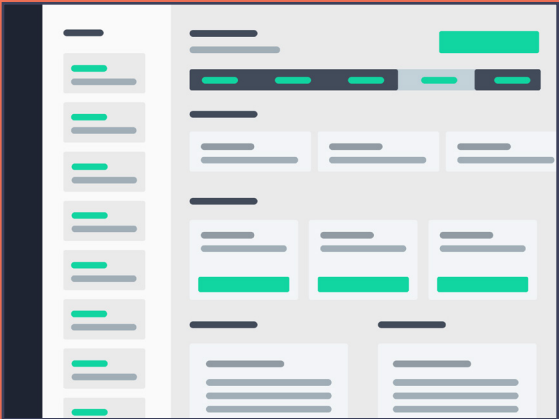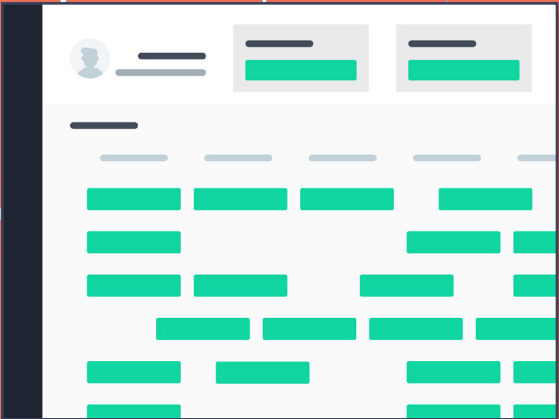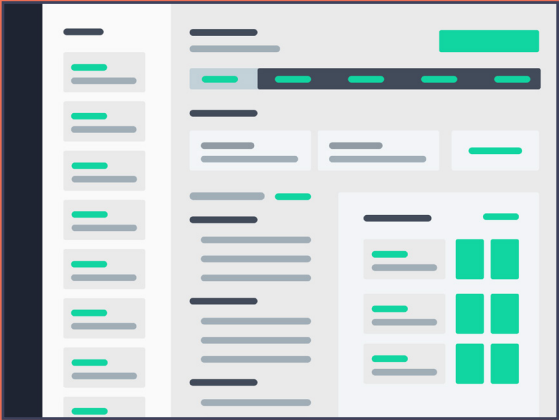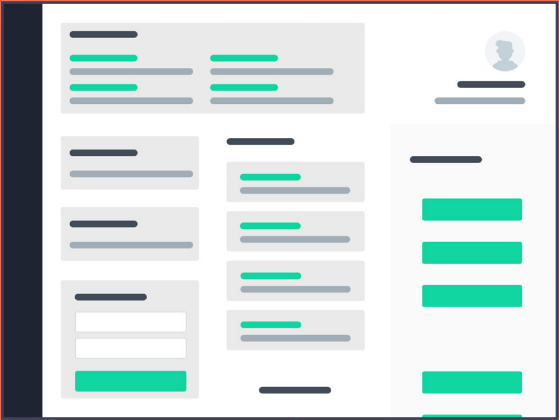
User Testing

To develop my wireframes further, I user tested them on Optimal Workshop. I ran a **First-Click test** which allowed me to see where users would go to find specific information.

The example below shows that my users where unsure where to find the next task they would need to complete. They clicked in many areas, and there was only a **8% success rate**. To fix this, I cleared cluttered from the dashboard screen and made it more breathable.
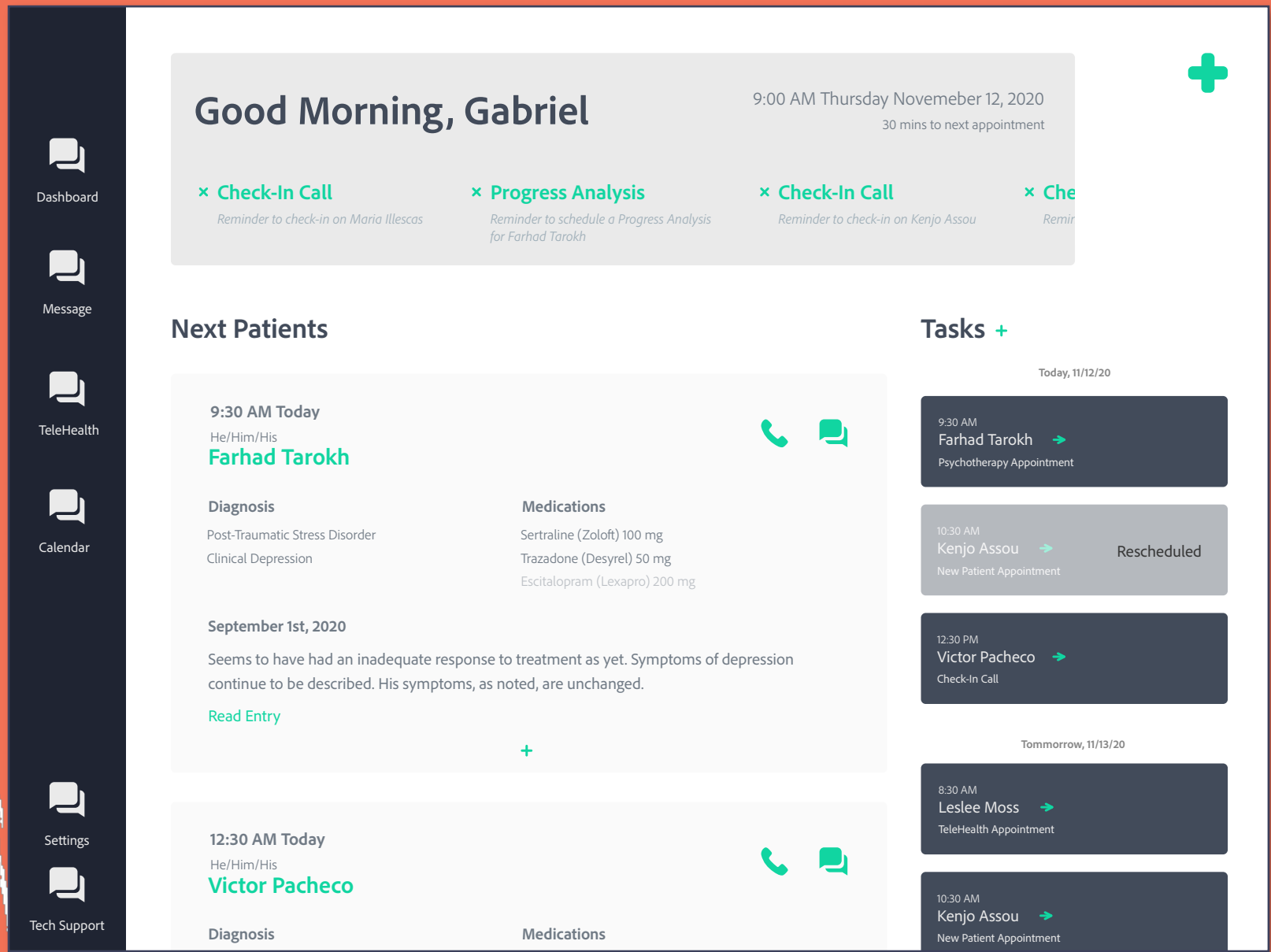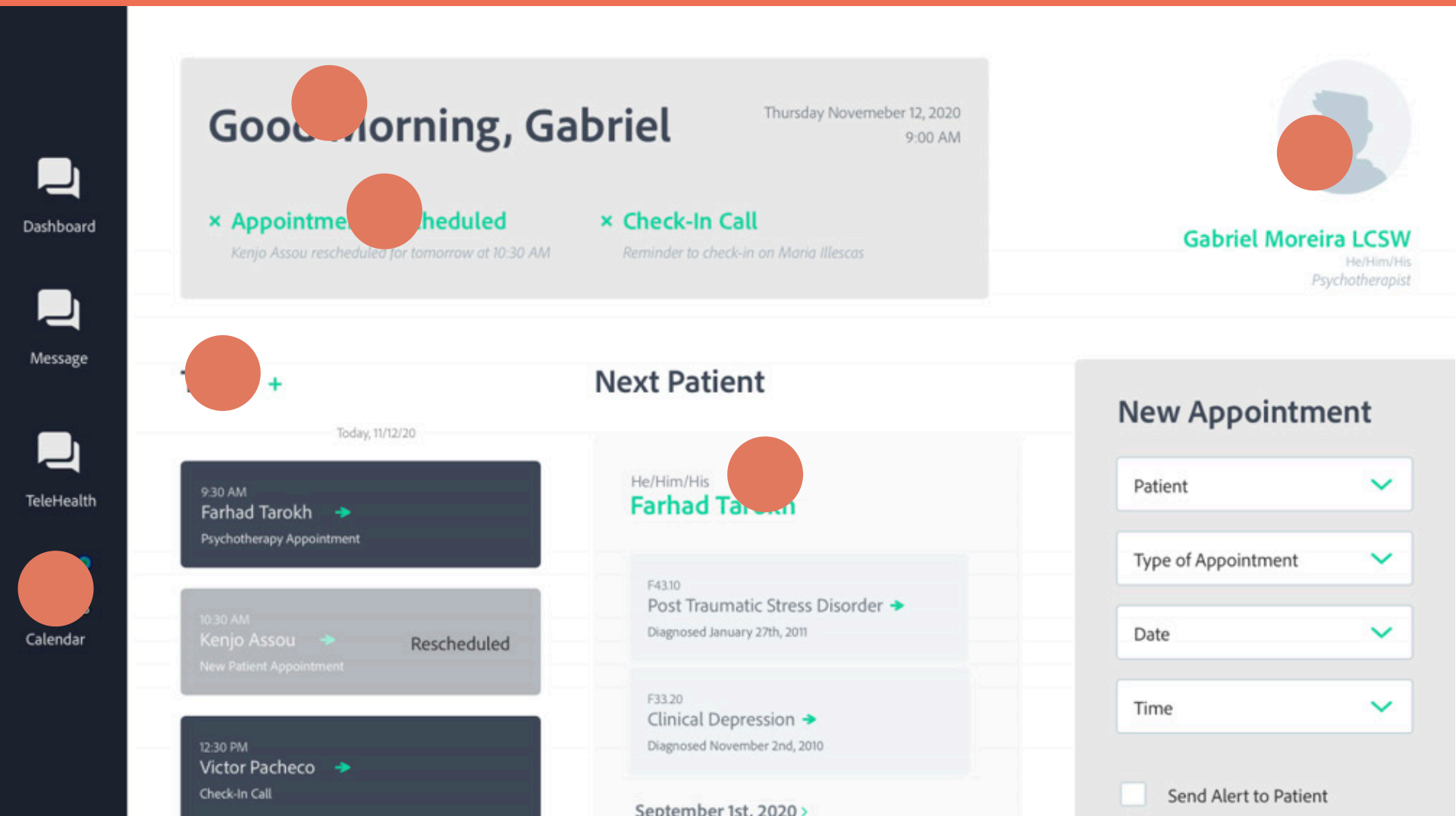
Design

As I worked through the page design I focused on a clean and simple structure which allows for an easily customizable software. This spread shows the therapist's dashboard branded to two different businesses.

I provided a breathable design that allows the therapist to digest large amounts of information quickly and effectively.
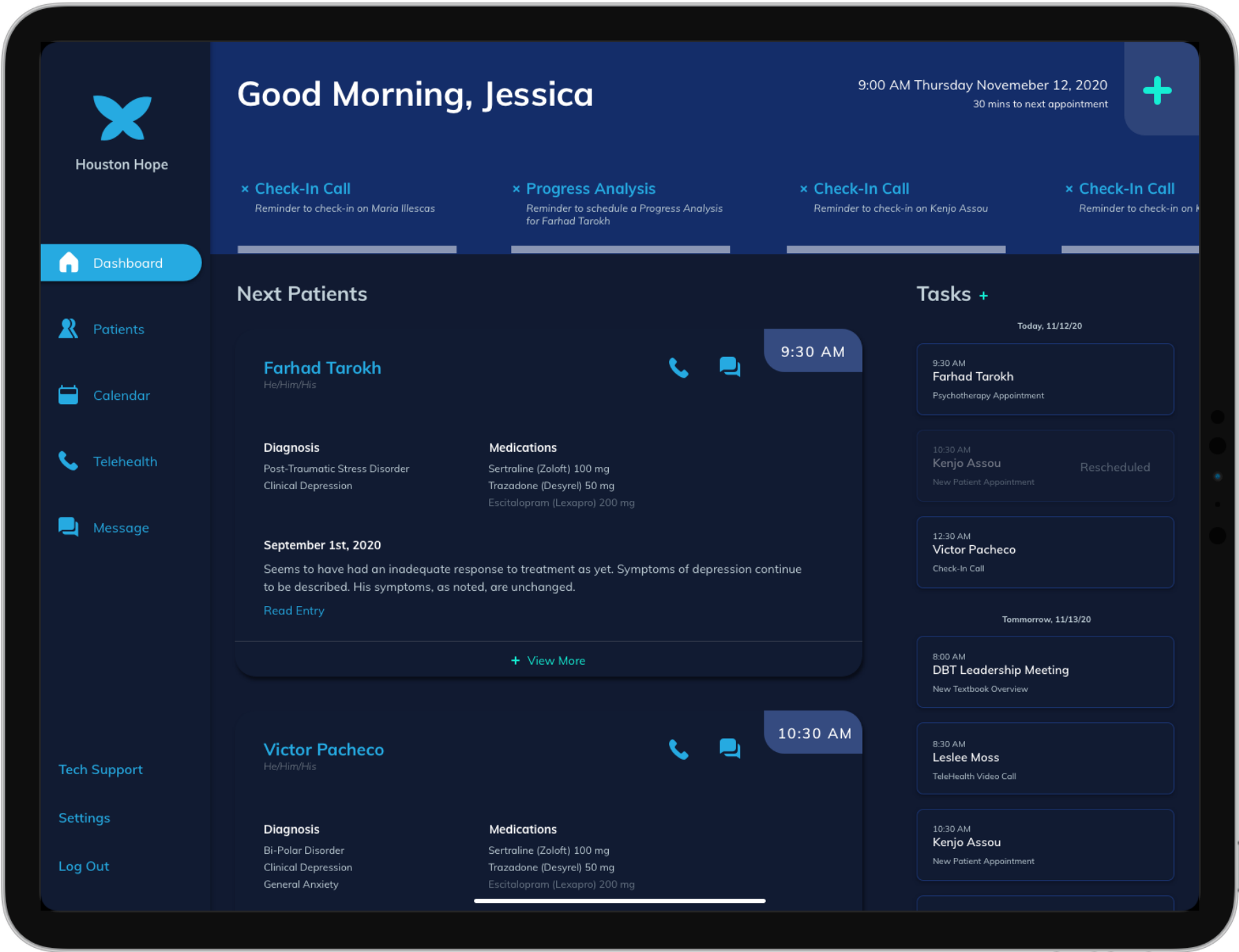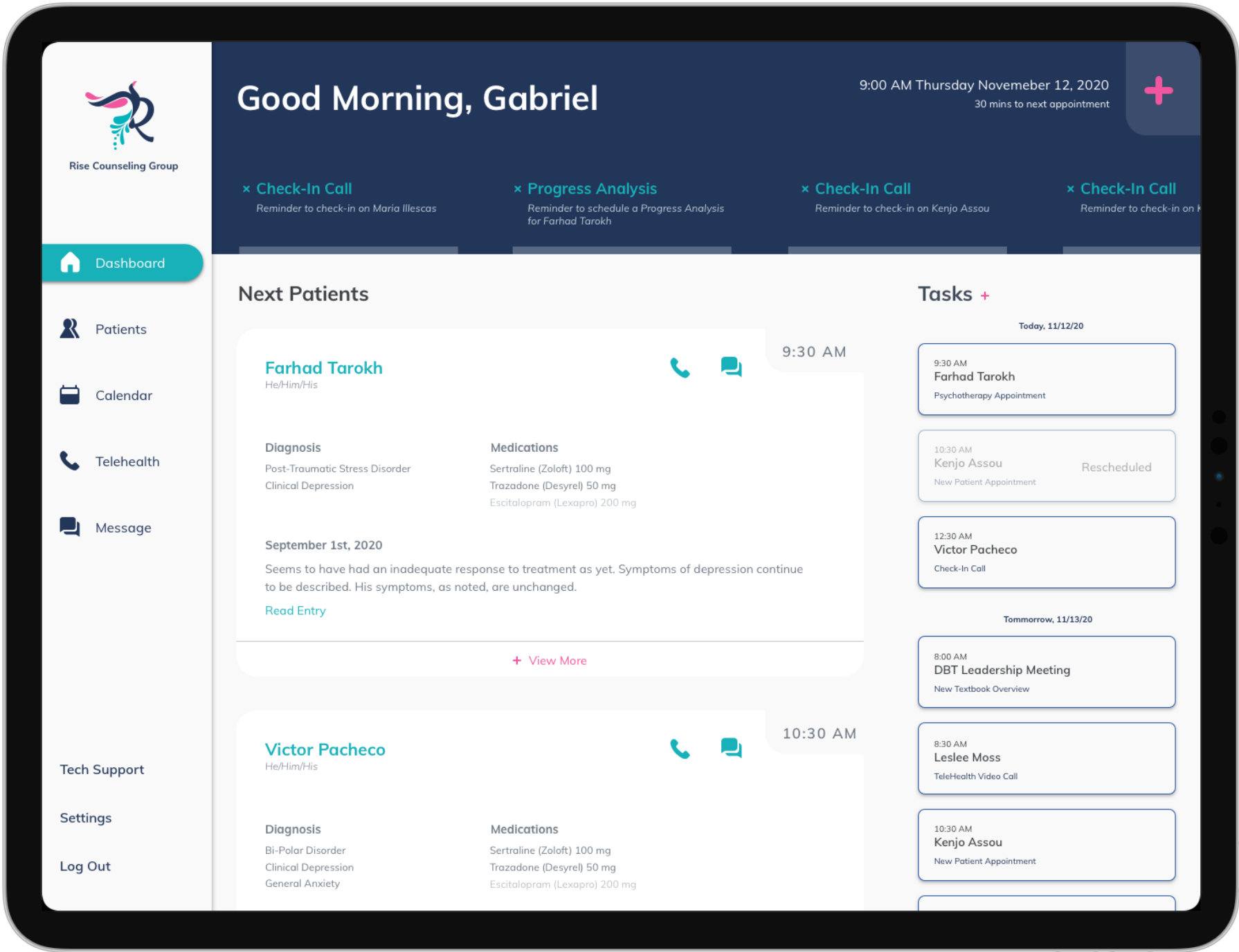
The App

With a functioning software, I began building out the app. I went back into the discover phrase to continue building content for this solution. The app design would be the same for every business and would not be branded to each company, because I wanted the app design to be **illustrative, cheerly, and light.**

Less is More

With less bulky content in this app, the user will not feel overwhelmed with information. In most cases, the user will be using this in a crisis, or in extreme emotion-mind. To help simplify that, **no item requires more than three clicks** to get to, which will allow for a less stressful environment.

This app will also auto-sync appointments to any existing digital calendar in a discreet way. This way no private information will be seen on other calendars, but it will still be enough to gently remind the patient of their appointment.

By allowing notification access, this app with help the patient stay **more mindful of their mental state** throughout the day, leading to a faster and more effective recovery.

The patient portal is a web-app version of this app.

Workflow

Create Account → Enter Code → Welcome Screen → Tutorial   Log In
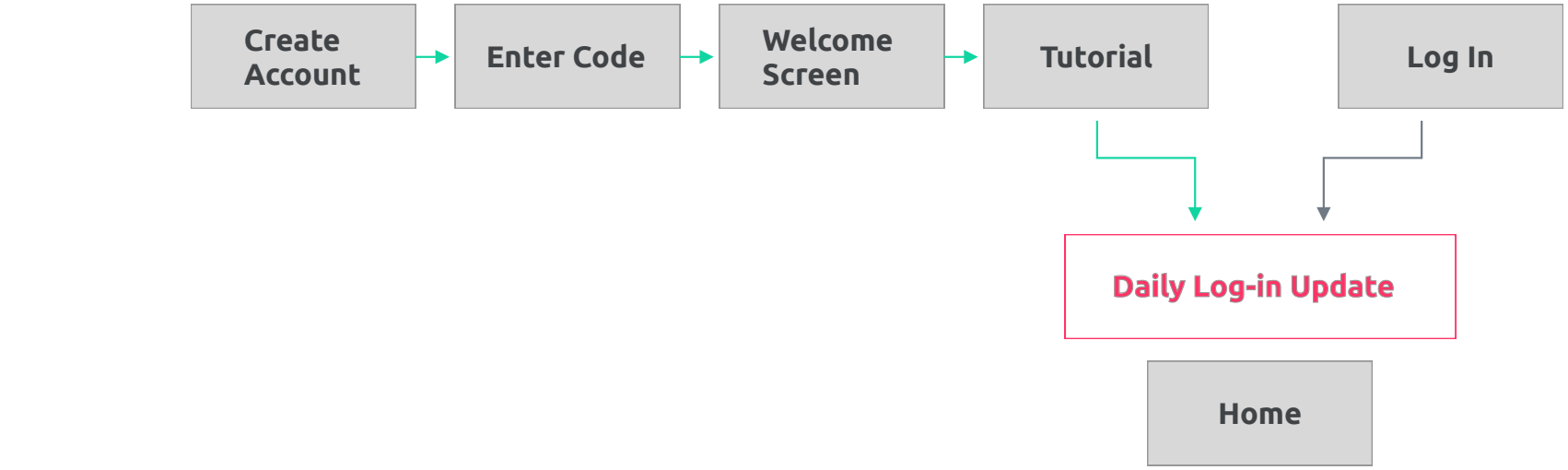
Daily Log-in Update

The green line represents the user's first time accessing the app. Their therapist will provide an access code to their personalized app. Everyday, the user will get a daily log-in update screen with simplistic animations to brighten their mood. It will alert them of any new messages or tasks from their therapist.
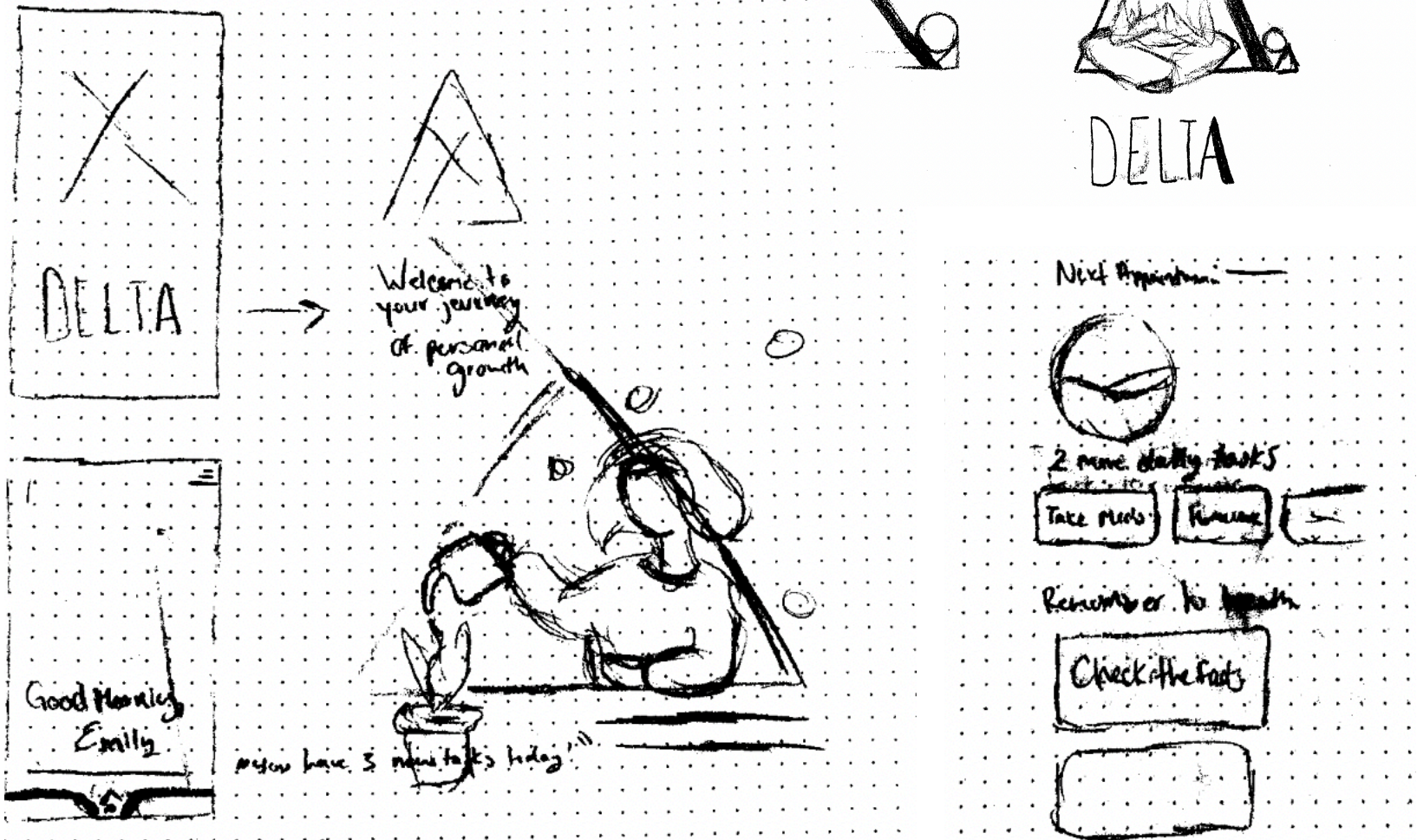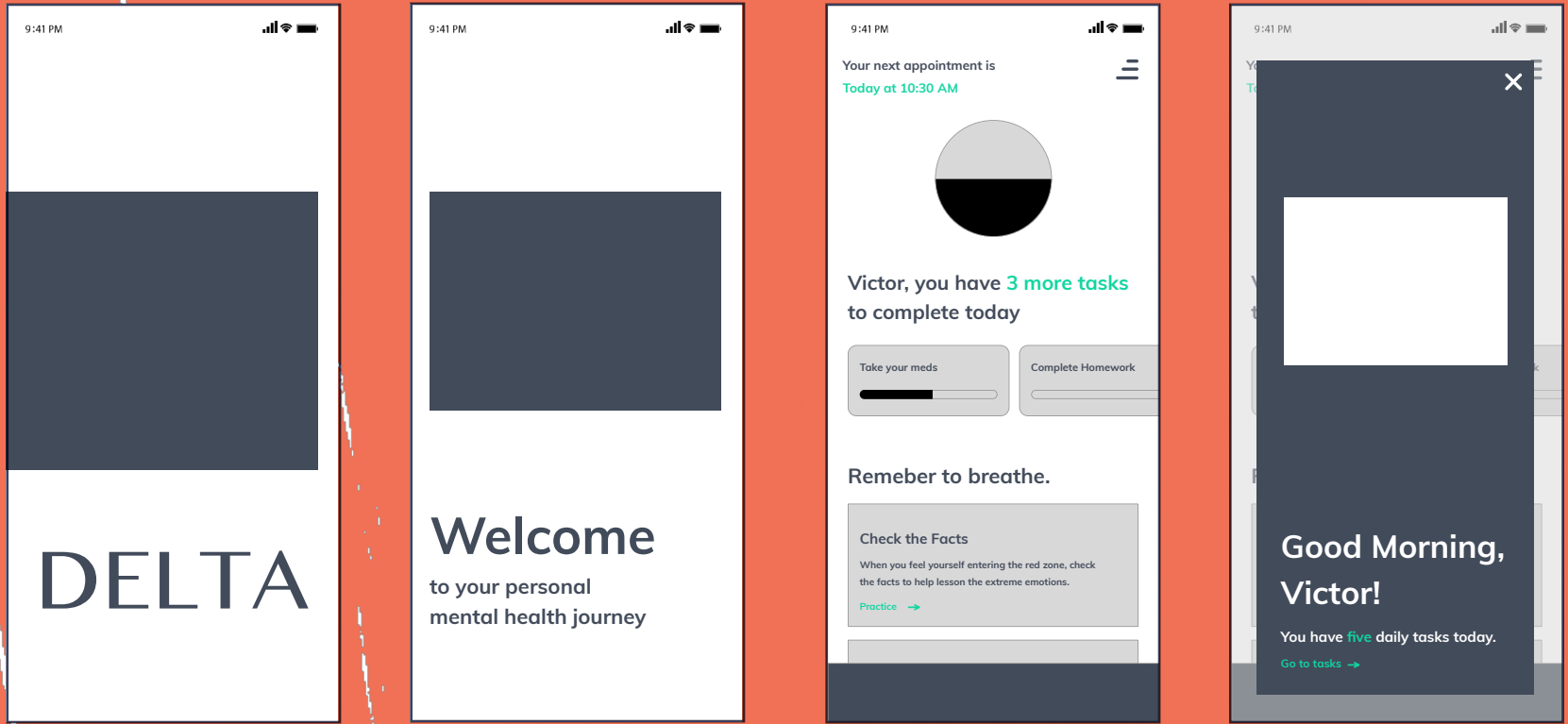
Home

Calendar

Telehealth

Crisis Center

Reminders

Schedule

Video Call

Audio Call

Message

Hotlines

Coping Skills

Website

My Profile

Reasources

Medication

Insurance

Journaling

History

Tech Support

Policies

Website
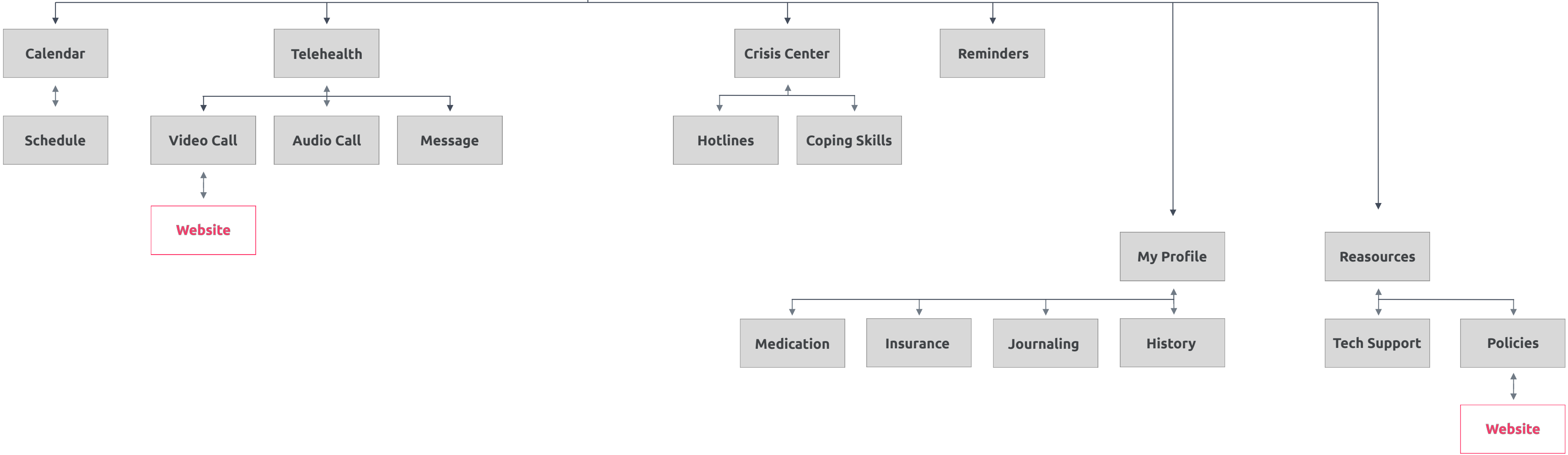
Back to Design

Sketches

I used sketching to test out different illustration styles. It helped me settle on a bulky, simplistic feel.

Wireframe

Design

This design used a texture that simulated rain, because rain has been found to provide a feeling of peace and calm. I made it personalized to each patient, and the coping skills are easily accessed at all times on the home screen.
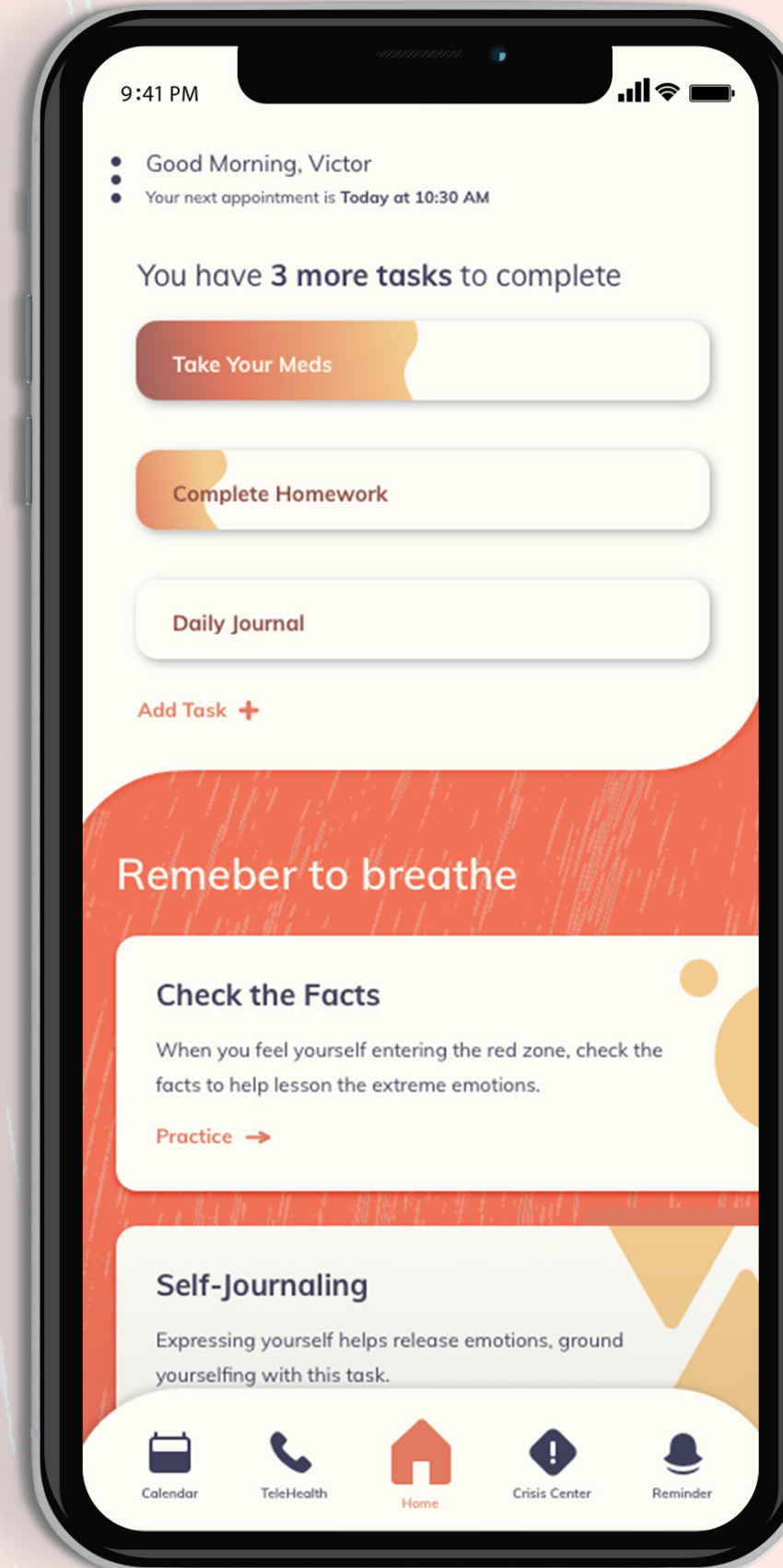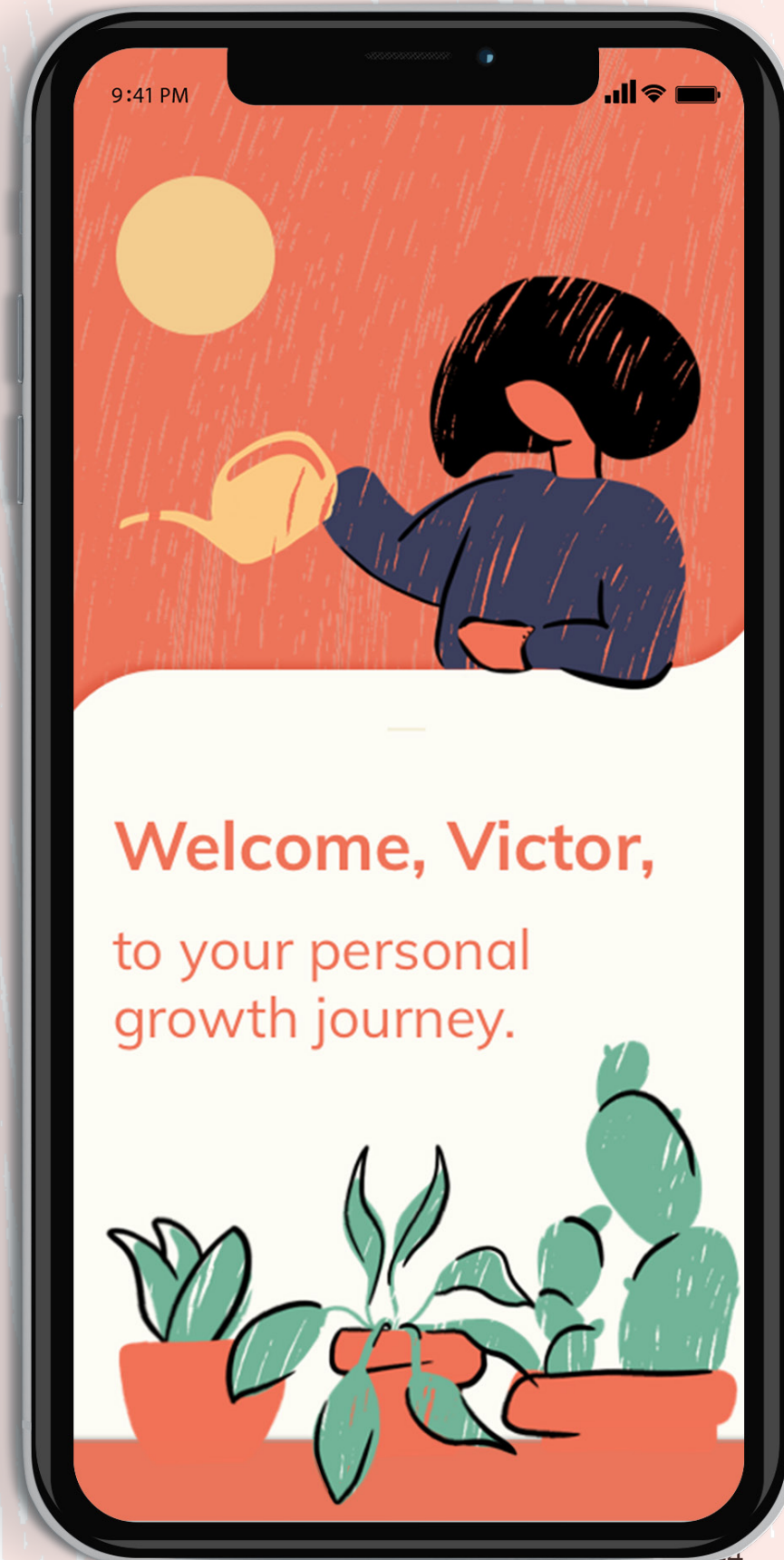
The illustrative style seen here will be used to create simplistic animations throughout the app to add a bit of joy to the patient's day.

Everything in the app is displayed in a visual manner, such as the completion of tasks, to allow for quick and easy readability, in case the patient is in high levels of distress.

Sign, Sealed
and Delivered

The Name

Delta stands for change and growth, so I chose to name the system after this. This represents personal change, and professional change. As a company, Delta is willing to grow with its' clients to foster a space for their patients.

Prototype

To prototype these designs, I used InVision. I checked my designs on iPad and iPhone to ensure that everything was readable and clean. As the designs for this project grow, I'll be able to add in the transitions and animations my users would see.

Comprehensive Spreadsheet

The most important deliverable in my comprehensive spreadsheet that supports all content and UX decisions. It gives the design a why, and can be used to answered any questions about the software, app and patient portal.

Ability to Grow

Delta has the ability to grow with you and to help you grow. It allows businesses to take control of their operational needs, and customize to their preferences. **Branding the software to match your brand will make you feel more at home.**

It also gives you the opportunity to help your patients grow, The app and patient portal allow easy access to all information needed, and provides a way to schedule with new media.

Thank you.

This project taught me about time-management, self-motivation, and empathy for situations I have not experienced and do not fully understand.

I accepted that I could create usable and effective solutions, even when my time is budgeted.

I learned to motivate myself when facing confusing new topics, and research further into such topics to discover a holistic perspective.

Thank you for reading about my journey.

to your personal growth journey.

9:41 PM

Good Morning, Victor
Your next appointment is **Today at 10:30 AM**

You have **3 more tasks** to comp

Take Your Meds

Complete Homework

Daily Journal

Add Task ✚

Remeber to breathe

Check the Facts