2026 Design Portfolio

Full Portfolio: https://www.designsynaps.com/

AMELIA CURLEY

ACCESSIBILITY DESIGN STRATEGIST

This work explores how human-centered designed interactions transform healthcare relationships between individuals, technology, and clinical systems.

Projects

Virtual Skills and Workforce Trainer

This is a large-scale, ongoing project where I am guiding the app's development toward a more mature UI/UX standard with a complete overhaul of the brand identity and accessibility foundation

Deliverables: Full design Audit, user flows, prototypes, custom artwork icons and symbols, WCAG 2.2 AA

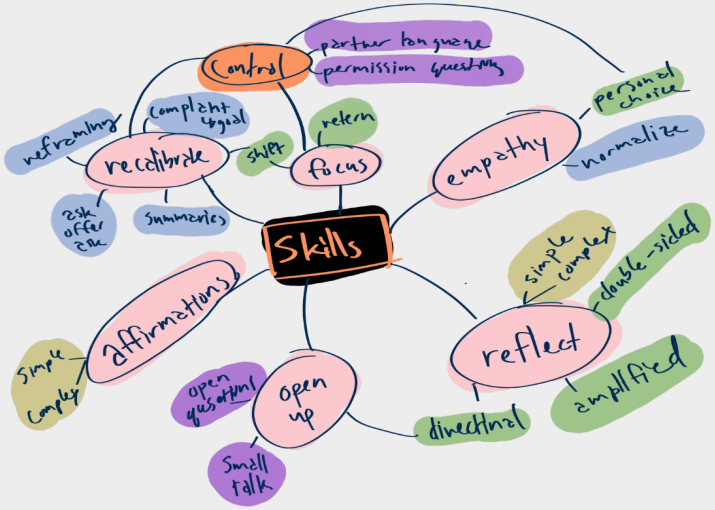
Problem: This project had a lot of feature and ideas for expansion. But they were disconnected, needing a redesign to fix the user flows and make sure that each feature was actually addressing a problem and not just a distraction.

My role was to architect the UI systems and visual language. By establishing a cohesive design system rooted in their thematic identity, I transformed a collection of high-concept features into an intuitive, accessible, and functional experiences. I also redesigned their brand identity to line up with their goals.

Menu Categorization

First I needed to find the logic of how to display and manage the different types of data. And because this field is relatively new there was no standardized information architecture to guide me. So for the early sprint cycles, i used several UX tools and techniques to help find the best shapes for the info to occupy.

The mind maps helped the client the most in making finalized decisions. Then I had to combine the models for content and subscriptions.



Research Methodology: Set Theory Investigation

Deductive Model

Cases that have caused students the most difficulty in the field, leading to burnout and low long-term retention of social workers usually have a lot of nuance and no easy answer. This requires a lot of creativity so I wanted to prevent students from defaulting to prescriptive based solutions. Our current models of healthcare codes have such ridged categories that put blame on the individual level making it difficult for social workers to build long-term solutions that actually feel like help.

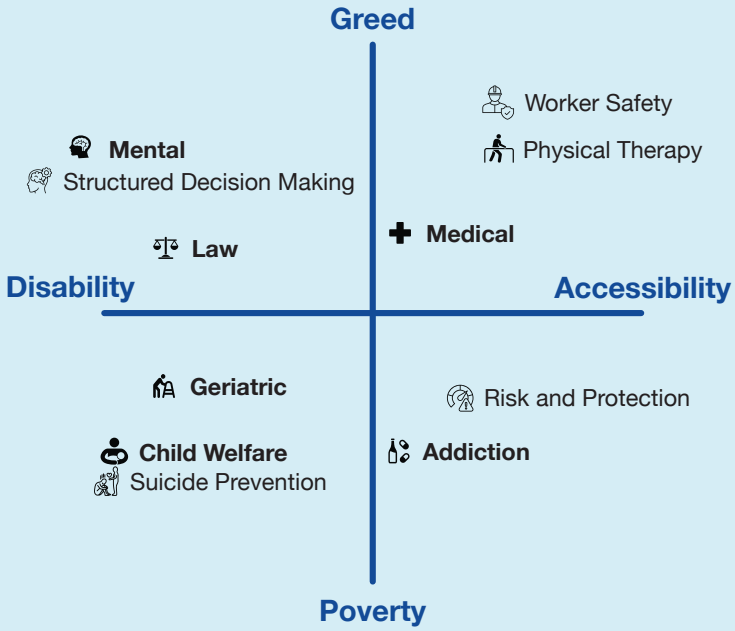
Insufficient Individual

- **Law**
- **Addiction**
- **Geriatric**
- **Medical**
  - Physical Therapy
- **Mental**
  - Suicide Prevention
- **Child Welfare**
  - Risk and Protection
  - Structured Decision Making
  - Worker Safety

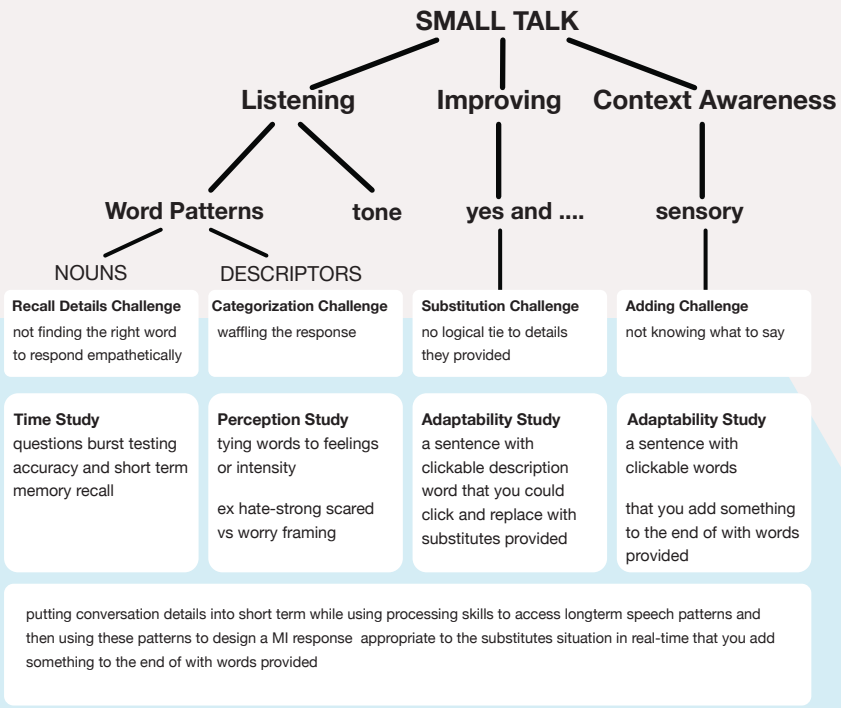
Inductive Model

Using the social model of disability, I focused on the incompatibility of an individual to their environment, neutralizing some of the blame direction. Building more dynamic spectrums that can layer. While giving more space for students to explore what supports would help resolve their cases. Enough variability to account for how different people are going to need different approaches but social limitations are going to have some rhyming patterns in similar communities.

Insufficient Resource



The Motivational Interviewing App



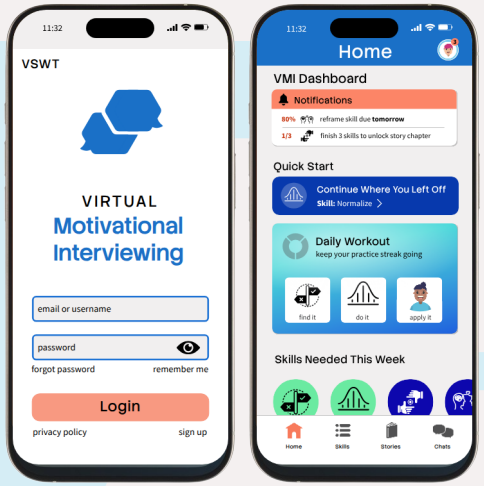
Sets of Information Architecture

The inspiration for this update in social work education was language learning. Our government has researched learning success of languages for decades knowing how many hours, what kind of skill drills and homework etc.

Because we have this gap in social work compared to other medical fields, I started by breaking down their core skills into minimal units. Following the (Foreign Service Institute) FSI language learning models. Using these basic blocks to start establishing trends of time/ skill and learning phases. So we can start standardizing social work training to help build better resources infrastructure recommendations for state funding.

Applied in the App

To reduce the the cognitive load for the executive functioning needed, this was structured as a dynamically updating app. The homepage organizing skills and lessons based on time sensitive for the class, importance of skill in the field and general difficulty. Cueing lessons with spaced repetition based on student performance and curriculum pacing. And reducing cost accessibility barriers by providing this managed practice outside the class for regions will less funds available per student.

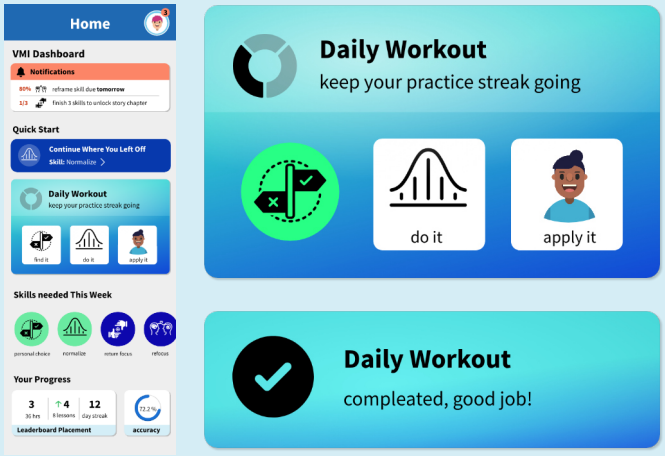


Pedagogical Practice Reinforcement

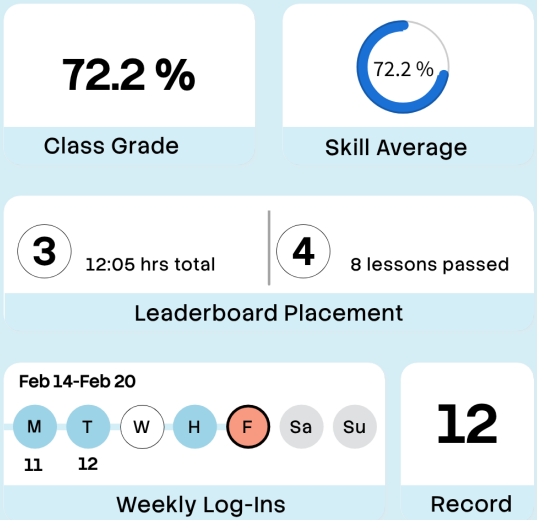
A huge limitation with the FSI free language courses that really hold back their effectiveness is that they are too boring. It requires an impossible amount of self discipline and motivation. So to support students when they are the least motivated, we needed enough fun to hold user's attention in our app and not switching their phone to distractions.

To support long-term retention of information for the students and use this app as an aid for building the habits needed for consistent deliberate practice. They already wanted gamification elements and I added to that by building metrics that help keep track of the different behavior patterns they wanted to promote. I also build out their mascot to support cognitive disabilities like ADHD by functioning as an accountability partner. That goes through the lessons with you like a stand in 'body double' for anchoring difficult habits.

Gamified Habit Generation

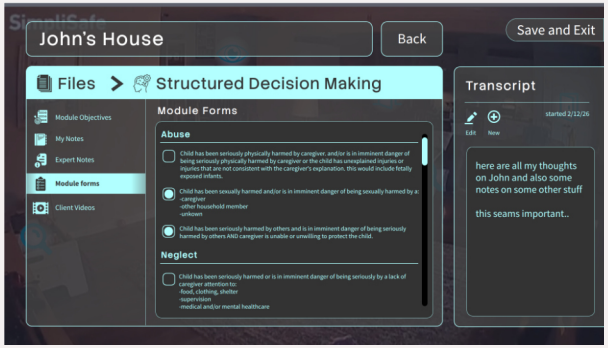


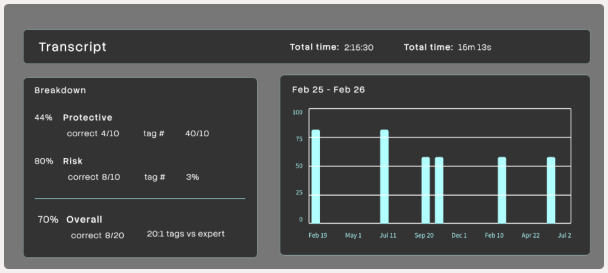
short and medium term goals



Accountability body double

The Home Simulator App





Set-Theory: Document Sorting

This app functions as a simulation of home risk assessments using real cases as the content. The problem is that there is a lot of information to parse thought. I used panels with navigation on the left and manipulation on the right, similar to art tools, to build a mental model that you could intuitively guess where to go when you are looking for something.

For the reports at the end of the simulation I grouped the grades so it was easier to tell why you got the scores you did. And to compare trends overall to see what your habits are. I also put an emphasis on the critical failures that would cause an instant fail during certification with more feedback on why it would be so dangerous.

I also provided different ways to navigate the menu depending on the user's goals: action, type of session, time sensitive, passing grade, difficulty, etc. This way you can customize the case while also quickly accessing content with natural default variations. To accommodate both newer social workers that might need to turn on more help and veteran social workers with less tech literacy.

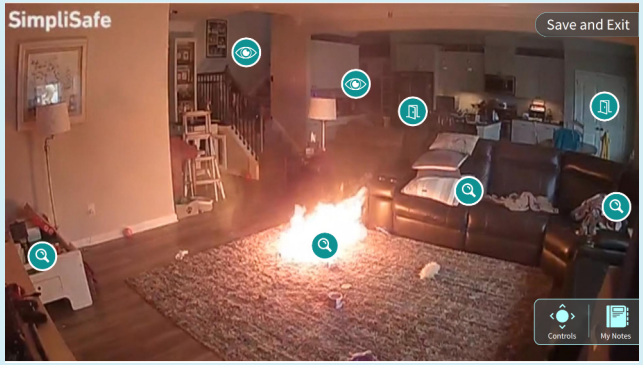
Pedagogical Tech Barriers

It is too dangerous to send an amateur into the middle of a crisis so we have to rely on simulations for practice. For flight simulations, you can have someone sitting with the real buttons and controls with a screen standing in for the plane windows. Similarly in emergency medicine you can have a dummy for CPR with the chest matching the force you need to push down on. The challenge of risk and protection training is you have to be able to walk into a home and make observations in real time. It is very difficult to artificially create this situation.

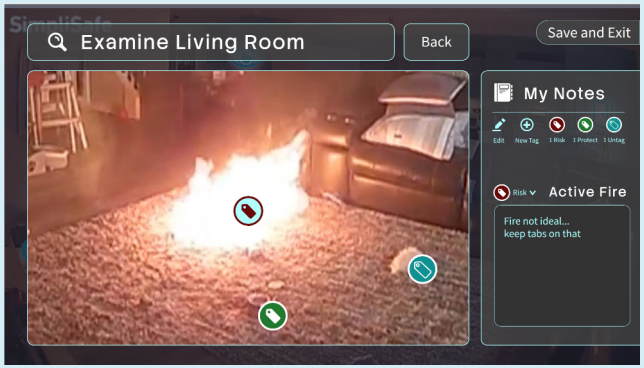
The advantage with digital creations, is that they can use photos and environments from real cases to create practice situations. The challenge I was focused on was this translation of medium. Going from real-world to vertical reality meant that you are unable to perceive important sensory inputs, like smell or depth perception, that would impact your decisions. I needed to balance using UI to make up this difference for fair assessments, while not striping the user of making decisions by having the UI help too much by revealing something that you need to perceive on your own in real cases. I used an augmented reality approach common in digital maps for inspection of elements, but a neutral background cue for interactive affordances similar to open world gameplay to balance out these contradicting requirements.

Case Set up

HUD and Affordances



Case Documentation



Color Me Healthy Dashboard

This interface had to balance very different stakeholders and their objectives: the patient-sick kids trying to manage chemotherapy side effects, the clinicians- trying to ascertain if they need to adjust treatments during short appointments, researchers that need to process large meta-data sets to inform their recommendations overall.

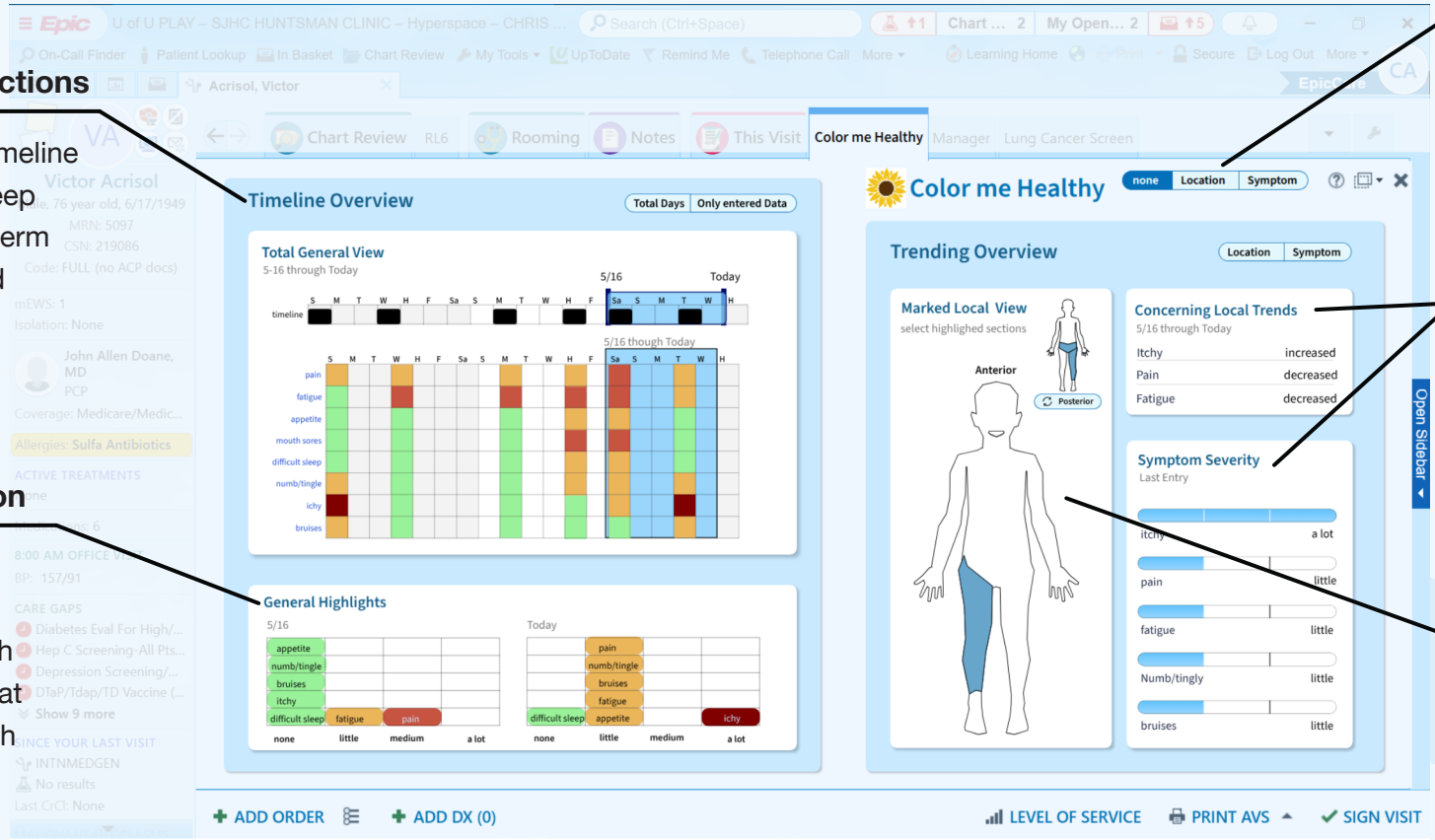
Prototype of Color me Healthy tab

Easy Data Interactions

Clickable toggles for timeline and scale. For more deep investigations of long-term trends for research and monitoring.

Fast Call to Action

Direct comparison for changes of symptoms reported by patient with visual emphasis on what must be addressed with today's dissection.



Mental Model Variation

Different data views settings for clinicians to optimize for their different specialties and appointment objectives.

Data View Variation

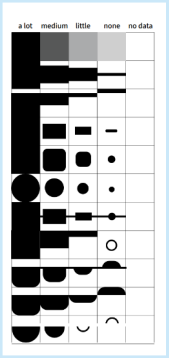
Learning Disability friendly by providing visual mode and text mode of important trends for different thinking preferences.

Body Overview

Clickable body parts that show specific patient concerns for quick orientation of new clinicians assigned, without making the patient have to repeat everything again.

Gestalt and Shape Language Heuristics

I started off with 3 directions for the story categories. Left was closets to their original design if they wanted to keep that direction, middle more visual and modern, right minimal for high dense info. This story structure was important to the client so I made the UI show that with hierarchy and the UX logic flow to and from major story beats.



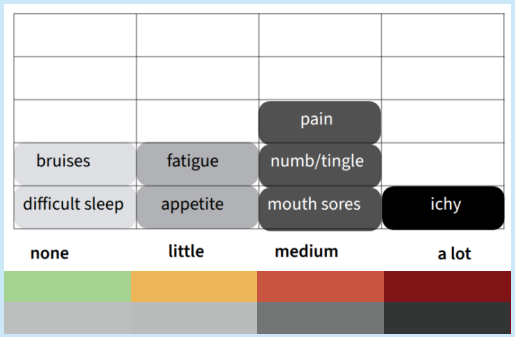
Shape Language UX

The most important problem to solve for this project was making sure the data was easy to read accurately at low and high density scales.

I started by playing with different shapes to see what kind of patterns the users were reading most accurately on instinct. This is the kind of mind set they would need to read the graphs with higher risk of alarm fatigue.

Value Scan Contrast UX

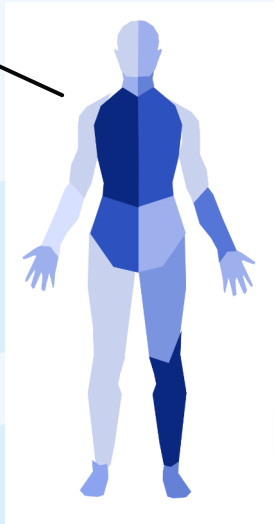
The first failure in their original prototype is that they used poor contrast for red-green colorblind with no text support. So I changed the logic to 'the lighter the color the less sever' and text contest for each entry.



Base Data Visualization Patterns

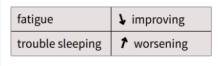
Spatial Heatmap

Direct comparison for changes of symptoms reported by patient with visual emphasis on what must be addressed with today's discussion.



Line Graph

They started with these but the intuition read was too inaccurate for daily use case.

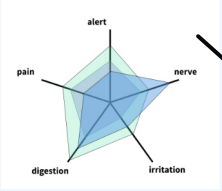


Bar Graphs

Because the patient can leave felids empty, the bar graph would show their inputs without the illusion of trend lines forming from entered and unentered data

Trend Arrow + Descriptive Text

This was requested by users but we had iterate the algorithm that would average the trends without cutting too many details.

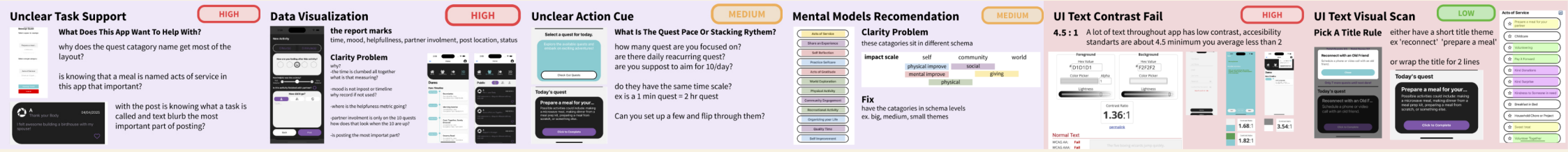


Radar Diagram

I used this as a baseline in early drafts but it was removed because many clinicians did not have high data literacy with this graphic.

Support Groove

Main Client Goal: to perform a comprehensive audit of the existing build, identify critical usability failures, and polish the design for a successful public deployment. The core features were all present, but they were hidden behind inconsistent UI, poor information architecture, and visual clutter that prevented users from understanding the app's value.



Research Methodology: Exerts From Audit Research

Catastrophic Failures (High Impact)

- **Finding:** Unclear task support & abysmal color contrast (< 2.0) violated WCAG and destroyed usability.
- **UX Solution:** I rearchitected the onboarding to only ask for essential information and implemented a high-contrast, AA-compliant color palette with light/dark mode.

Structural Failures (Medium Impact)

- **Finding:** Illogical mental models mixed categories (e.g., dog, animal) and scales (solo vs. world), creating cognitive dissonance.
- **UX Solution:** I introduced a consistent intensity scale for quests (small, medium, large). New users start with small, solo-able quests; larger community-based quests unlock after building skills and connections.

Polishing (Low Impact)

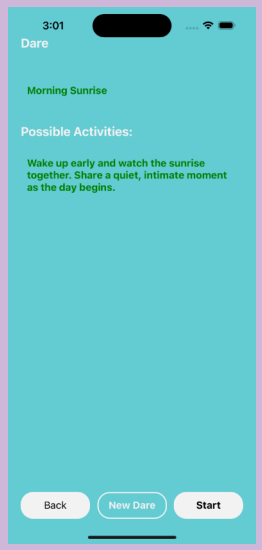
- **Finding**: Long category names truncated and failed visual scanning, especially with accessibility text scaling.
- **UX Solution:** I established a clear typography hierarchy and renamed all categories to single, powerful words (e.g., "Play," "Explore"). This worked hand-in-hand with the new icons to ensure quick recognition and scannability for all users.

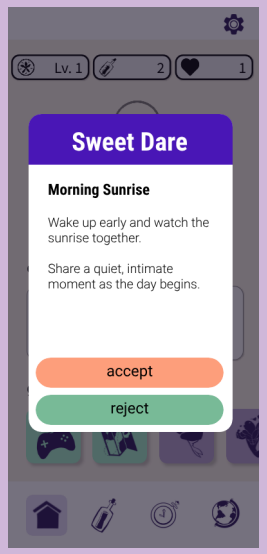
Technical Implementation: Accessibility Architecture

Our target audience was a couple navigating the complexities of disability together, striving to maintain their relationship beyond the dynamics of caregiving. If the app itself was inaccessible, or was confusing, frustrating, or required interpretation, it would become just one more thing that eroded the disabled partners independence and forced the other partner into a caretaker role. The design needed to be so intuitive and so engaging that using the app felt like a fun and shared activity.

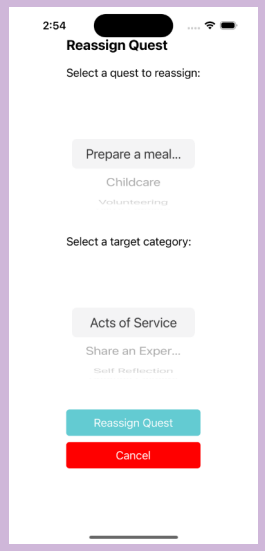
- **Cognitive Accessibility:** Triple-redundancy UI (seen on the right) color, text, and icons were used to support cognitive differences seen in those with brain injuries common alongside spinal cord injuries.
- **Enforcing Contrast:** I implemented a strict color palette that met WCAG AA standards across all text and interactive elements (See Below).
- **Bottom Navigation Bar:** Moving the navigation and controls to the bottom of the screen solves several dexterity problems like 1-handed easy use, stronger grip strength area to reduce fatigue in weak hand control, and utilizing Fitts's Law for making buttons bigger and further apart.
- **Clarity Over Complexity:** I design simple interfaces that don't rely heavily on ARIA tags or alt text to convey critical meaning. Making it easier to meet and maintain WCAG 2.2 AA accessibility standards.

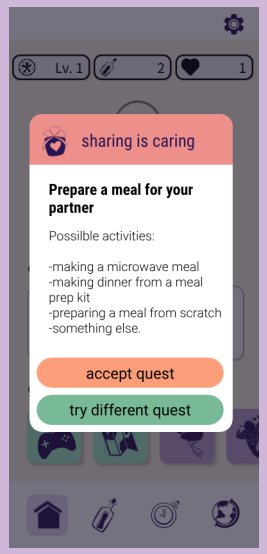
Color Contrast Change



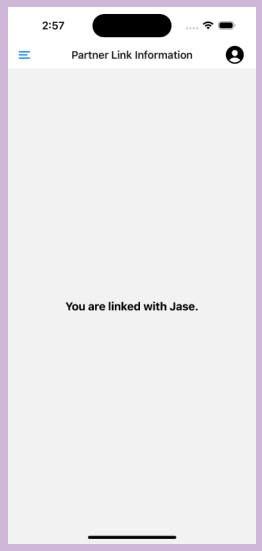


Selecting Quest Change

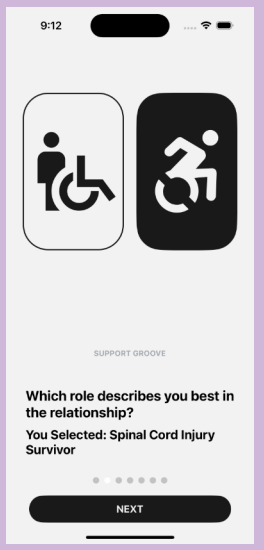


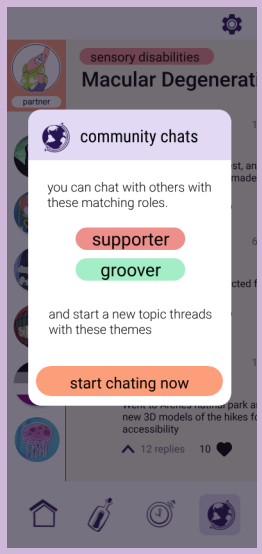


Action was Successful



Role Selection Clarity

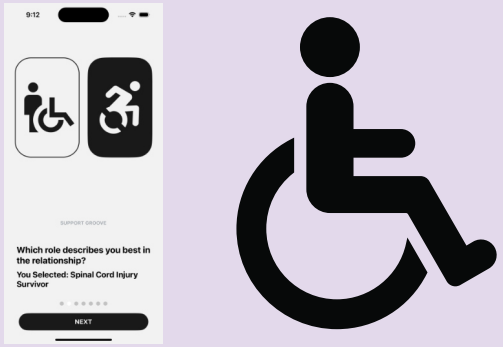




Equity-Focused UX

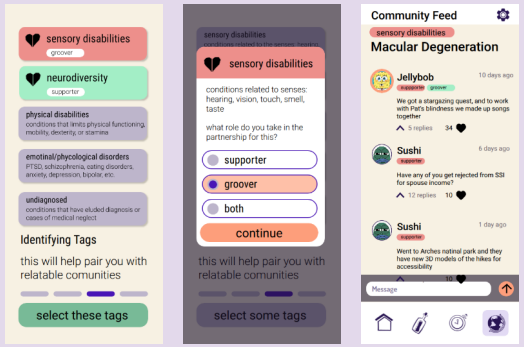
The client's initial direction used a common 'handicap' style: blocky, stick-figure people in solid colors. This directly contradicted their core mission: to avoid infantilizing users and to see them as people first, not their disabilities. I advocated for a more organic, dynamic direction that focused on the universal theme of balance in all relationships placing their love and connection at the forefront.

The final prototype was a strategic alignment with the client's long-term vision to support all types of partnerships, not just spinal injury.



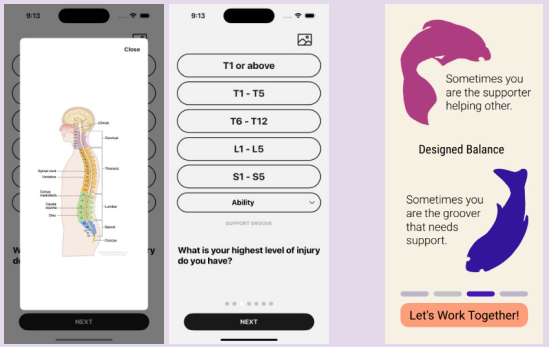
Fun Design Theming

This project started off with a lot of the stereotype disability signs. Most of tools aimed at disability support lean heavily into the clinical and boring design. I wanted this project to have a more human approach, to support their goal of making this a relationship aid that can support interabled couples but still puts them first before the medicine.



Spectrum Language Patterns

The old model of "Care Partner" and "Patient" was a rigid binary that failed to capture the nuanced reality of how partners support each other. "Supporter" and "Groover" is fluid. Anyone can be a supporter in one area (e.g., physical tasks) while being a groover in another (e.g., neurodiverse planning). This flexibility was essential for scalable growth.

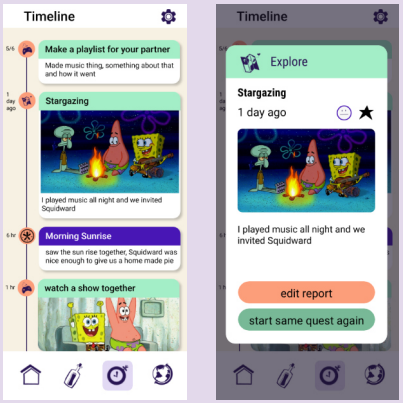


Even Onboarding

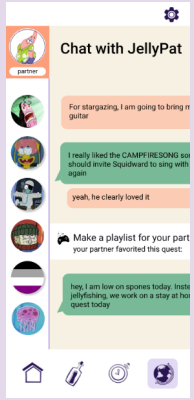
The biggest issue I noticed with the onboarding process was the contradiction to their value statement for the project.

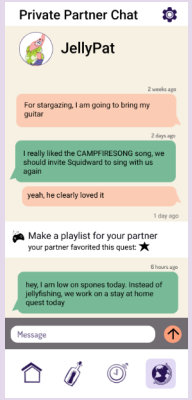
They wanted both partners to feel equal and have fun but the survey they had, immediately medicalized the disabled partner and asked only them really personal questions. So, I removed that focus and made the sign up equal for both partners.

Personal Timeline

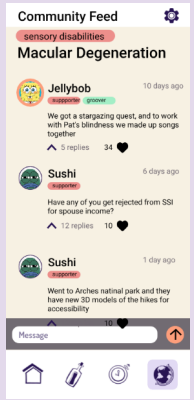


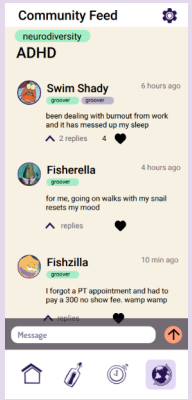
Partner Chat





Community Feeds





UX breakdowns

The original app used a single, confusing interface for personal notes, partner chats, and global communities. This created a high risk of users accidentally sharing private medical information publicly. My redesign introduces distinct visual characters for each communication type, creating clear mental models and preventing critical errors.

I combined the personal archive with the timeline because of how similar their functions are and made it easier to track metrics that you are interested in. Like quest types, mood, solo vs partner, etc. And the partner chats are a place to share these ideas.

The global communities are designed to create a safe place to ask questions that might not get time in a clinical setting. These spaces are moderated by clinicians who recommend the app to their patients, adding a layer of medical oversight. Ultimately, these communities provide a place to get advice from others who share similar experiences, to vent frustrations in a healthy way, and to process difficult emotions without the risk of lashing out at a partner or turning to self-harm.

Branding Exploration

An important theme in their brand was treating both partners as equals by not infantilizing the disabled partner or treating the caretaker partner as a babysitter.

This logo shows that by having the fish with the full tail and fish with the weaker tail both creating the heart, as a metaphor for both partners showing up in the relationship in the ways that they can. The other metaphor is that with chronic conditions, there is an ebb and flow of good and bad days. So the fish swim with the currents and adjust as needed to restore balance when they can like yin/yang.

Human Genetics and Molecular Medicine

Main Goal: rebuild their digital ecosystem from the ground up with a foundational focus on security and usability while also keeping data up to date.

Deliverables: Full website redesigns, building screens UI, headless CMS, long-term maintenance UI aids, WCAG 2.2 AA

The Frustration & The Fix

The client's frustration was twofold. They had already cycled through every viable web builder, settling on WordPress without enthusiasm, only for it to fail them catastrophically. Then 2 major hacks occurred in the fall (the critical period for student recruitment) leaving them with no functional website and only sparse, incomplete archives from the Wayback Machine.

My proposal was a fundamental architectural shift to break the cycle of vulnerability:

- **Design Update:** Most of their designs interfaces were old and not matching the U-Health branding
- **Adopt Containerization:** Implement IT's strategy of wrapping each site in a Docker container to isolate breaches and prevent server-wide failure.
- **Internal Frontend Development:** I would build the HTML, CSS, and JS internally, ensuring full control, consistency, and security over all code.
- **Decouple with a Headless CMS:** Use a headless CMS to separate content from code, creating a "read-only" frontend that is significantly harder to compromise.

Research Methodology: Discovery Interviews

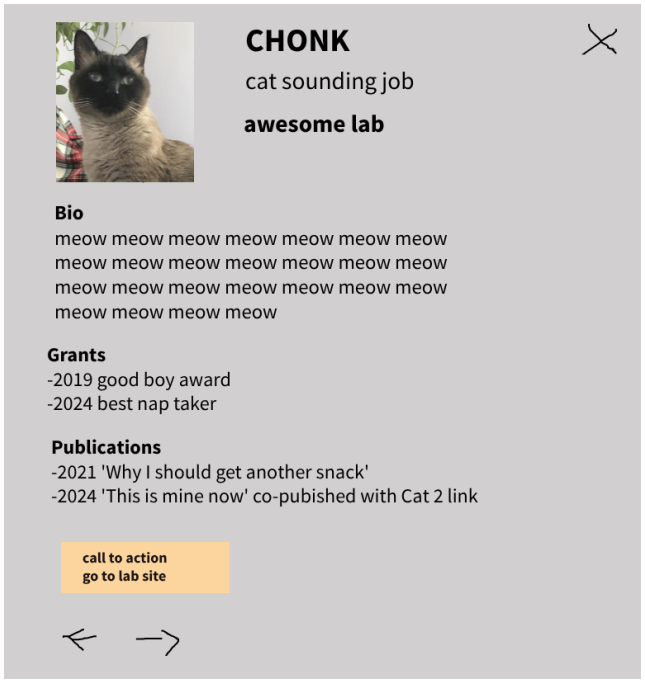
The primary challenge with building support UI visualizations was that the internal system itself was a mess. Critical information was fractured across different roles, creating bureaucratic bottlenecks where assembling a single, complete answer required interrogating multiple people. Furthermore, their reliance on hardcoded, local files like outdated Excel spreadsheets made their most important data inherently unreliable.

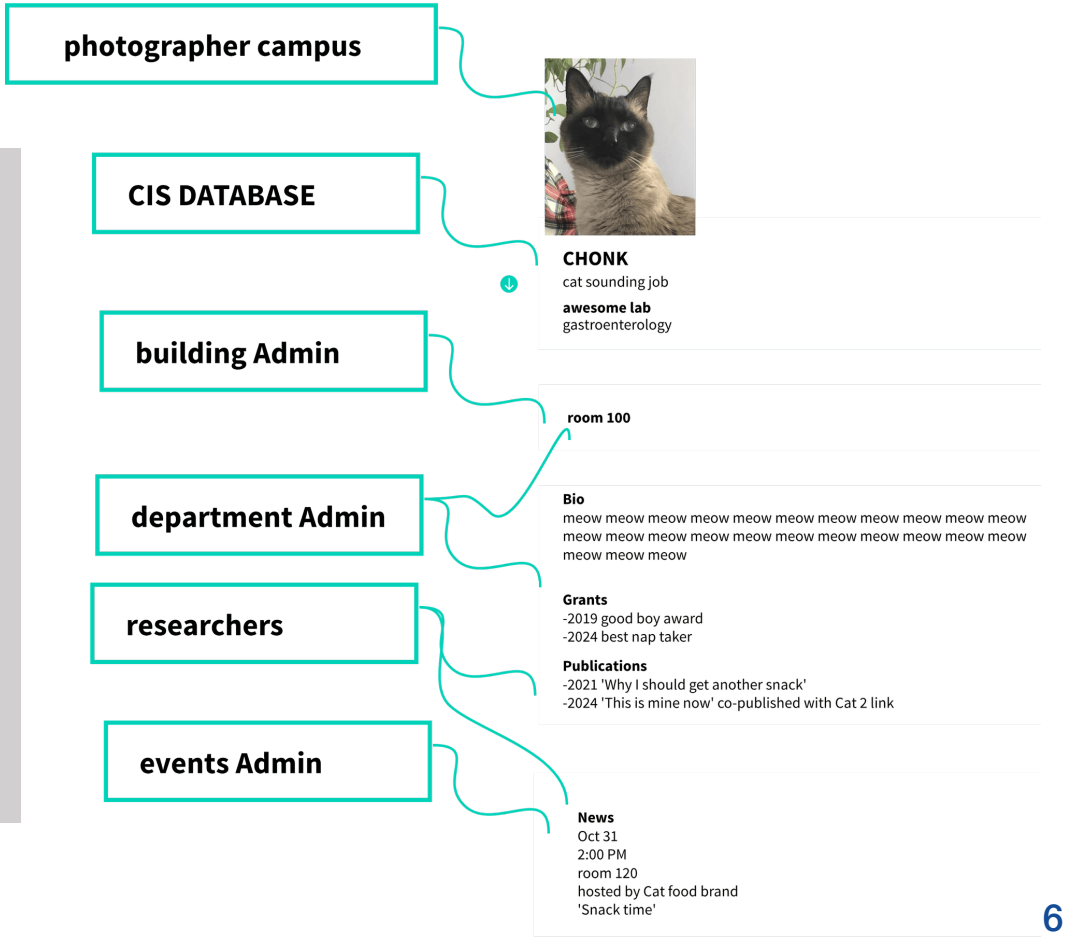
The most crucial part of discovery was not just designing page layouts, but designing a sustainable information flow. The core goal was to create a clear, maintainable system architecture for the website that could withstand the organization's inherent complexity and be reliably updated long after the project was complete.

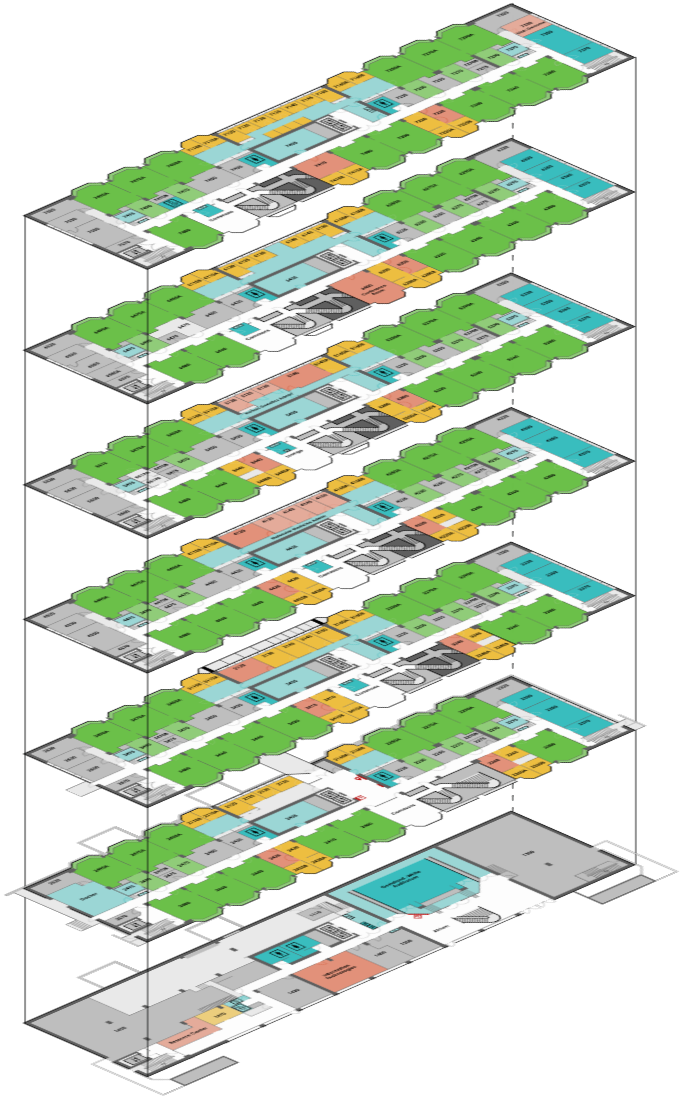
CMS Design

The CMS wireframes were designed to clearly show how information from different sources, like a central photographer and individual researchers, flows into a unified layout.

I used cat-themed placeholder content ("Bio: Meow meow meow") because the stakeholders were fixated on details instead of the design.







EIHG Building Legend

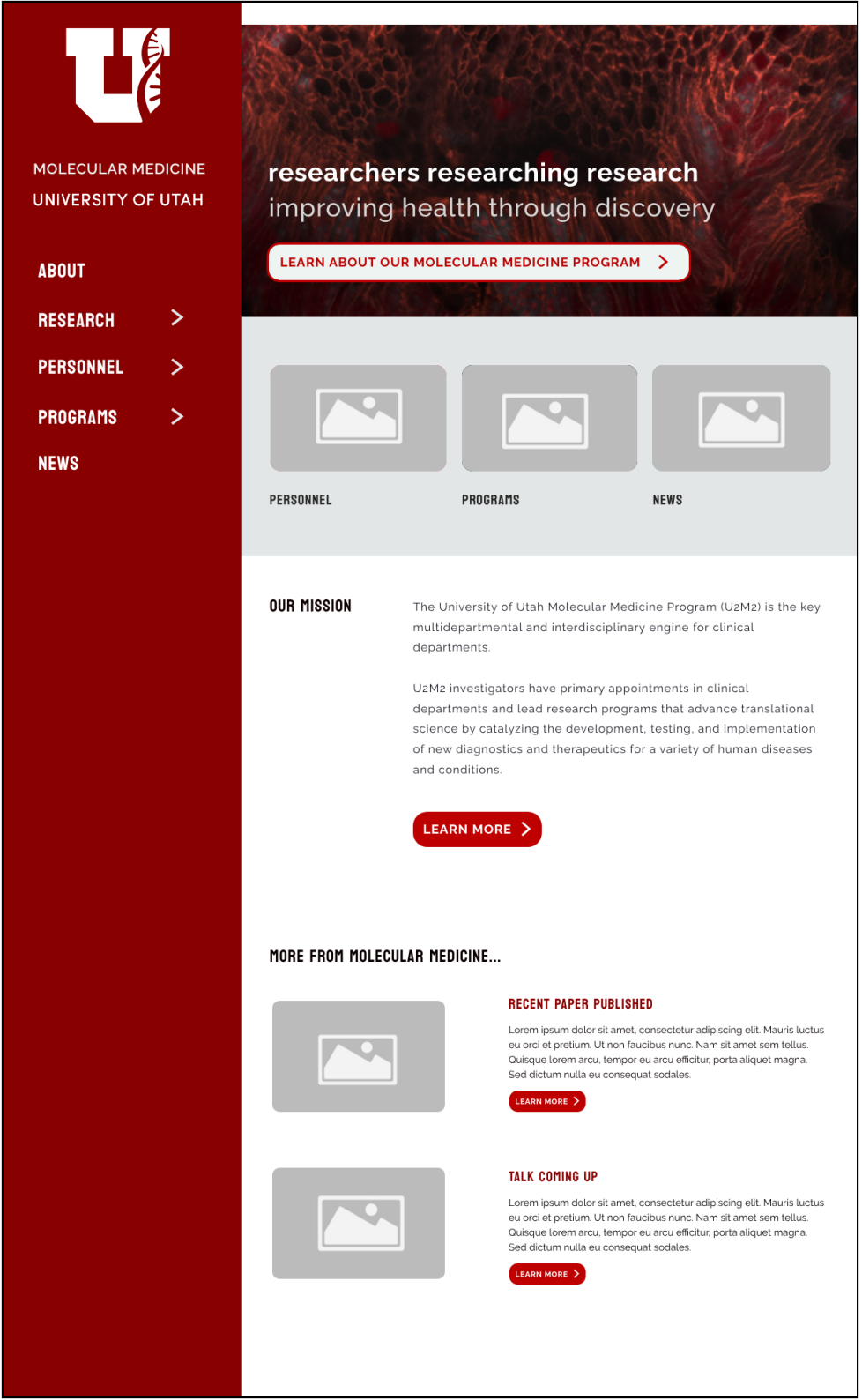
- Meeting Spaces
- Admin Office
- Commons
- Utilities
- Faculty Office
- Labs
- Stairs
- Elevators
- Lactation Room
- Building Information
- Restroom
- Vending Machine
- Water
- You Are Here

Interactive UI: Wayfinder Highlight

With a research building, the challenge is balancing traffic flow for permitted users and inhibiting movement of unpermitted users. The wayfinders needed to help visiting specialist find their meetings and appointments in time. While also not putting researchers in danger of being targeted by bad-actors, willing to commit violence for anti-science beliefs or exposing amateurs to dangerous lab equipment without proper PPE.

A common security problem that occurs in tech spaces, is that users become sloppy with the basics when the security system is overzealous and takes the thinking away from them almost like infantilization. This behavior pattern was already showing in a nearby building where the badge scanner was so sensitive that it was inhibiting the movement of the permitted users. To the point where they were gathering in clusters at the doors waiting for access and people opening the door for anyone, assuming that they were also having access issues. This distrust in the users created distrust in the system and now the security practices are looser than before.

To limit this, I set up more of a soft security model. We don't label the labs or their research type, or building maintenance. But do clarify admin support and public access resources like restrooms, drinking water, fire-exit stairways. This way if you are new the information you need is available for easy finding, but places that are higher risk need 'insider' information to utilize the wayfinders better. And users are part of the security because it is more obvious when people are regulars vs visitors.



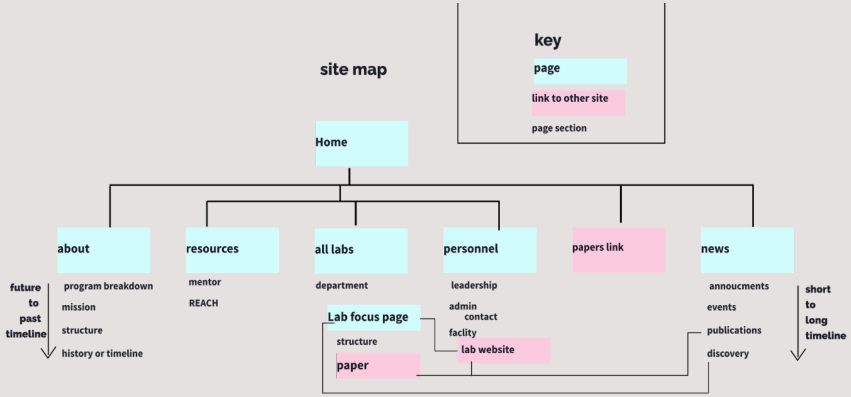
Website UI: User Friendly

A common and frustrating experience with large university websites, including the University of Utah's, is the sheer impossibility of finding anything. A well-known local workaround was to bypass the official site entirely and use a search engine like Google. This fundamental user experience failure was deeply embedded in their old website.

I positioned user-centric design as the primary lens for critique and reconstruction. This principle became the foundation for every decision in the information architecture and interface design, ensuring the new site would serve its users, not just its organizational structure. Also, implementing WCAG 2.2 AA guidelines, systematically integrating alt text, screen reader-friendly ARIA tags, keyboard navigation, and color contrast standards.

System Design

The first critical step was to design the underlying system. I created a complete sitemap to visualize the entire information architecture. Showing how all content would logically connect for their users, providing an overview of all the content they needed to gather, and defining the logic of user's movement.



Adaptive Menu Flow: Pilot Project

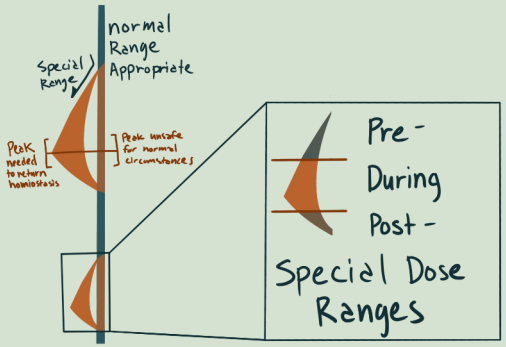
An important shift that must be established for personalized treatments, is having homeostasis measured to the individual from the start, finding 'normal' to the individual over years of observation (like annual check-ups). Rather than comparing everyone to an arbitrary measurement of 'normal' needs. Shifting from a population-based standard to a personalized homeostatic set point for each individual. Changing the goal of treatment then changes dramatically. Instead of forcing a patient's metrics toward an external, arbitrary average, the focus becomes supporting their body's innate ability to return to its own unique baseline after a disruption, creating a truly responsive and effective framework for lifelong health.

Adaptive Dual Processing Model

This structure was inspired by the dual processing Model in cognitive psychology. With a 'system 1' for fast judgment and intuition and a 'system 2' for slow cognitively task thinking and detail.

When the patient is in homeostasis have the 'system 1' equivalent default.

When a patient is in a special event like surgery or giving birth switch to 'system 2' equivalent. With drug dose ranges specialized to support a patient's return to their homeostasis.



Core Functionality: Unnoticed until Needed

My UI proposes two primary modes or 'environmental tops' that nurses can switch between, a 'standard' mode and a 'high-alert' mode, each optimizing information flow and checks for a different context. This shifts the burden of adaptation from the nurse's cognitive load onto the system itself, allowing them to focus on their patients rather than compensating for the hospital's design flaws, reducing alarm fatigue.

Long-Term System Design

The goal of this design is to make technology a passive, supportive partner in healthcare, moving beyond the anxiety of human-versus-machine competition. Technology is changing society at an unprecedented rate, but in hospitals, the principle must be clarity:

- tech should do what it does best: accurately store and process data
- humans should do what they do best: adapt and react to the novel needs of the environment

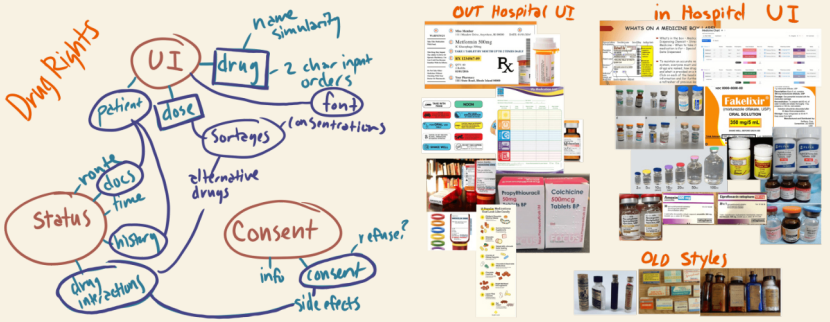
Reducing alarm fatigue through intelligent, prioritized alerts, the role of tech becomes ambient, working seamlessly in the background. Clinicians should only actively notice it when they deliberately interact with it. As alarm fatigue is more relived overtime with an accumulation of designs like this one. I see the role of tech support in healthcare becoming more passive in the process. Eventually clinicians only noticing all the background support when they need the help.

Strategy: Discovery and Investigation

Understanding Needs: I started off by meeting with different specialties in healthcare to inquirer current problems in the industry. I met with, compliance lawyers, patient safety specialist and nurses active in the field.

Interviews: I used discovery interviews. Then I focused in on a topic and switched to Cognitive Task Analysis interviews to breakdown a specific process.

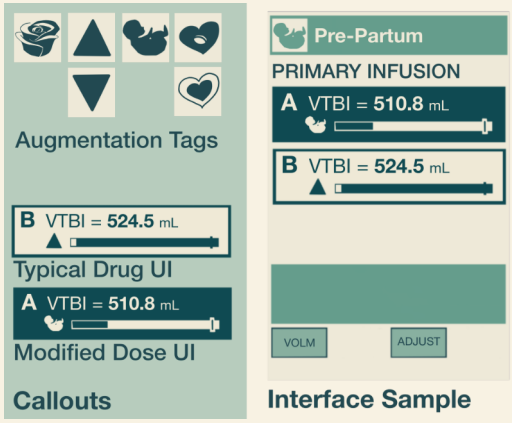
Analysis: I combined my notes and coded common patterns and themes in recorded interviews



As people flow from their 'normal' stat to less typical states. Have drug doses and vital trackers adjust to temporary irregularities as needed. For example, being in surgery or pregnant is a temporary state that has drug ranges that you would not normally give someone.

High Contrast (left): when setting up the infusion, a nurse could tag the patient with special states. For temporary events, like delivering a baby, or long-term tags like diabetes or cystic fibrosis.

Fast Visual Read (right): the specialty tags would have an inverted value contrast, allowing nurses to quickly scan patient status, from multiple distances.



To aid in filling up 'need gaps' of historically neglected population groups. These epi-conditional rules will work as the system adapting to the environment. In this example, a patient moving from pregnant, to delivering, to just had a baby. The need of the drug Pitocin moves from none, to just a little, to a lot, then back to none. The epi-conditional rule will adjust the accepted dose range through each phase so nurses don't have to fight the program or override anything. The program just helps in the background and pops up an alarm if something actually alarming is occurring.

This interface breakdown also demonstrates the critical principle of **redundant coding**. Instead of relying on a single visual cue, critical information is communicated through multiple simultaneous channels: a unique symbol (the baby icon), a value-flipped color scheme (inverted contrast), a clear text label ('pre-partum'), and a numerical dose range. Aiding in phase transitions.