Uluru: The Pain Tracking App
Holistic Design for Healing

by

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Uluru

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Inspiration

Mission

When I graduated high school the local paper interviewed me and a few other students. When asked what I wanted to do next, I replied, "I don't know. I just know that I want to help people." It took me two years to find my way to graphic design and I never expected the impact it could have on the world. My classes at SUNY Purchase opened my eyes to the grand scope of design and that it's more than aesthetics– it has the power to give hope, to heal, and to include those who are often left out.

Two classes in particular made me realize that I could use my degree to fulfill my wish from high school; Design and Culture with Elizabeth Guffey and Design Issues with Warren Lehrer. Professor Guffey's class opened my eyes to the fact that individuals with disabilities are not often considered in the design process and that many designers design for "normal". This class changed my perspective on design in that when you design with the most marginalized groups in mind, you are really designing for all. Professor Lehrer's Design Issues class was another stepping stone in my journey to better understanding the power of design. The lesson that most resonated with me was the social role of the designer. Centered around the article The Social Role of the Graphic Designer by Pierre Bernard, this lecture put into focus the responsibility the designer has to society– to design with purpose and impact. These classes awoke the call within me to dig deeper and to use my senior project as an opportunity to use design as a tool to improve everyday life for those who need it.

The Seed

The idea for a pain-tracking app stemmed from the needs of a single individual and blossomed into something that could potentially provide aid to a much wider scope. The app was inspired by my mother's analog tracking of her pain. Diagnosed with a chronic headache disorder, my mother had a need to track her condition. Each day she would make an entry in the "notes" section of her phone detailing her pain levels, any triggering events, and notes for her doctor. In addition to this, she kept a chart next to her table setting, where each night at dinner she would color a square in with her average pain level for the day.This method was effective, but complex and fragile. It was entirely possible that the piece of gridded paper could be lost or destroyed, or that the notes in her phone could be accidentally deleted. There had to be a better way. Enter: *Uluru*.

Uluru began as a concept specific to my mother's needs; pain tracking, quick visual representation, trigger logging, and rapidly evolved into much more. Through my investigations, I learned that there was a much greater potential for the app; that it could be used for more than just simple pain level tracking. It could become a tool in the healing process, one that could help to identify trends and eliminate factors. It could be a place to house medical information, a single spot for all of the users input data, tracking data, and medical profile. With all of this in mind, I set out to develop an app that would not only track pain, but become a tool in the healing process.

Research and Comparative Audit

Researching the current market is essential. There are hundreds of apps on the market claiming to do similar things, but the best ones have something that sets them apart from the rest.

The research I found most valuable came from testimonials of those who have used and left reviews for apps. These reviews detailed what the user liked in an app, what they were looking for, and what the app was missing, in their eyes. There was one review in particular that resonated with me for the purposes of this project, in it the reviewer wrote:

"Sometimes it feels like chronic pain patients get ignored or lost in the whole war on opioids and this pervasive attitude can make it difficult or embarrassing to talk honestly with our doctors; again, this app helps patients communicate with their doctors and I appreciate that… I rarely see advocated for patients like us. We are at home in pain; we are not physically capable of going on a big march or go to any war. We do need a voice though. When patients feel unheard in their own society that can lead to depression and then more pain, as you know."

- Lauren on Pain Scale

These words effectively sum up the need for apps such as *Uluru* on the market and the need for more inclusive designs. Many people with chronic pain feel alone and isolated from the world. There is a need for moral and physical support for those who feel marginalized by society. The fact that this user felt the needed to thank the designer for advocating for chronic pain patients is disappointing to me. Users who fall outside of societal "norms" should not have to thank a designer for thinking of them, it is the designer's job to be working with them in mind.

Function

In terms of developing an app with optimal functionality, reviewers that were more critical were my greatest assets. I read through the reviews of just about every pain-tracking app on the market, trying to find trends in what users were looking for. Since I myself do not suffer from chronic pain, it was important to me to get inside the minds of those who would be using my app and to understand their needs. This research was invaluable in ensuring that the functionality of this app would be at the forefront of my design.

It occurred to me that many of the apps on the market are missing functions that think to be essential. As I read through the reviews I began making a list of all that the users believed to be missing. Reviews such as these led to unearth what *Uluru* would soon become:

"I have a ton of symptoms, that are not on this (very short and limited) list, that my doctor wants me to track. You would think that the designer, someone who has chronic illness, would know symptoms are specific and very varied illness to illness."

– RainbowEyes on Pain Scale

"There is missing a huge component – tracking medication (and other therapies) in response to the pain. My pain management Dr asked me to keep a pain diary and see how much breakthrough pain medication and what type of medication(s) I need to take to deal with it. I can't do that with this app unfortunately…"

– OrangeLemon13 on Pain Tracker & Diary

My list of missing functions grew as I continued to read through each app's reviews. This list included, but was not limited to; medication usage/documentation, pain level entries at multiple points in the day, limited options for inputting pain and locations, desired body mapping, easy communication with doctors, ability to export collected data, customizable triggers and symptoms, as well as tracking for multiple conditions. With this list in my research arsenal, I was confident that *Uluru* would nail functionality across the board.

Design

Comparatively speaking, most pain-tracking apps on the market share common characteristics in terms of their design. Many apps use blue and white color palettes with green, yellow, and red accents. They appear to speak directly to the medical field and have a sterile and static design aesthetic. Other designs are simply outdated, are over-simplified, and use hard shapes with loud color palettes. Very few appear to have been carefully designed to fit a more contemporary aesthetic–these apps are the true competition.

Among the well-designed apps another group of characteristics emerged. While many of them hold on to the blue and white theme, a few break away and become louder with greens, purples, and pinks. Their components are not rigid, sterile, or primitive in design, but still hold onto the medical aesthetic. This is something I tried to veer away from in my design, to make the app more centered around the user, a person struggling with pain and chronic conditions.

Similarly, although these apps have a more appealing aesthetic, they are still using bright colors that those with chronic eye or head pain may not be able to look at for very long– that is to say, the design does not take user into consideration. While bright and vibrant colors or electric blues on white may look wonderful to the trained eye, they can be damaging and painful to the chronic pain user's eyes.

Color

The color palettes for light and dark mode are fairly different, but still tie into the same theme. I decided to use a palette of specific blues and white that are calming, but still allude to the medical realm without being too sterile. The bright blue in the light mode is inviting, while the dark blue of dark mode is calming. The monochromatic indicators of the pain scale are easily differentiated and make viewing at-a-glance easy. These colors are also gentler on the user's eyes and were selected with the chronic pain user in mind. For those with especially sensitive eyes, dark mode is available for permanent use.

Typeface

Uluru was specifically designed to be welcoming, calming, and easy on the eye. Serif typefaces were instantly disqualified as they are sharper and more stoic in their aesthetic. Sans serif typefaces were a natural fit for *Uluru*, but Avenir Next Condensed stood out from the rest. Its elongated vertical axis, long stems, and exceptionally rounded lobes give this typeface an approachable and friendly feel. This, paired with the script of Uuru's name, made the app feel less about the subject and more about the user.

Aesthetic

It is important that the app feel calming and approachable. Unlike other apps on the market, *Uluru* needed to extend itself past the medial realm and into the home and comfort zone of the user. Calming colors, friendly typefaces, and rounded elements make *Uluru* feel like part of the user's life and provides a pleasant user experience that transcends the screen.

Identity

The name *Uluru* is derived from a mountain in Australia. The Anagu people believe that this is a sacred and healing site. Each year tourists and locals alike travel to the mountain to be healed and to seek guidance on their life's journey. It is for this reason, along with its uniqueness and sound, that I chose this for the name of the app. This app is meant to be a safe haven for those seeking relief, it is meant to bring comfort to the user as the mountain brings comfort to its people.

Uluru's logo was born from its name. While the real mountain is a tabletop, I chose to use peaks in my logo design. The journey through chronic pain is a hike; it has its ups and downs, and when the user finally breaks through that pain, into the mountain's atmosphere, there is hope, joy, and beauty at the top.

Uluru Identity Light

Uluru Identity Dark

Features

What sets *Uluru* apart in the app market is its array of multi-channel functions. The app combines the many aspects that users said they were looking for into one experience. Daily logs are editable, multiple conditions can be tracked at once, factors outside of pain can be tracked, and long term statistics are available and ready to share.

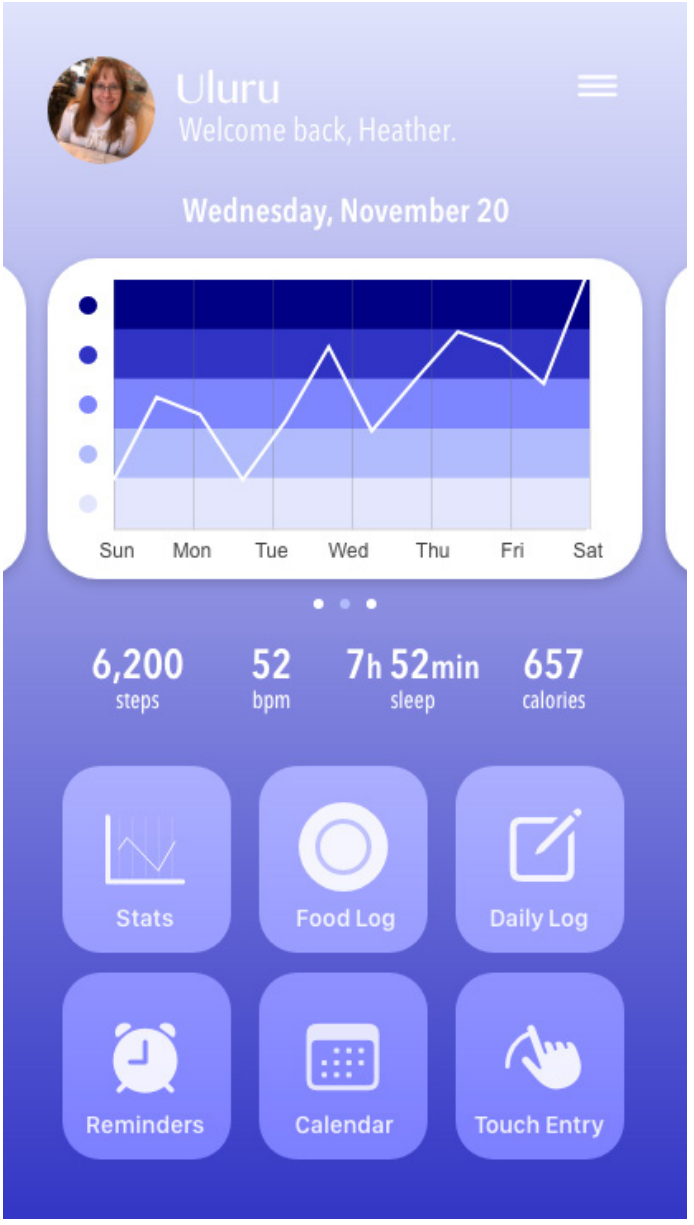
Dashboard

Compatibility

Uluru's Dashboard features full compatibility with FitBit and Apple Watch. This means the user's steps, heart rate, sleep report, and calorie count are tracked, recorded, and displayed in the app's home. This provides the user with more data and insight into triggers and possible influences on their pain. The *Uluru* widget is also available for Apple Watch- with it the user can record pain levels, receive reminders, and track alternative data.

At-A-Glance Chart

The dashboard also features a quick view chart that is linked to the Statistics page. The chart can be swiped to display pain levels for "week", "month", and "year" view. When selected, the user will be taken to the statistics panel where he or she can further explore their statistics from all data that has been logged including sleep time, steps, pain, calories, and more.



Dashboard: light mode

Daily Log: Entry Modes

Haptic Entry

For many users with chronic pain, staring at a screen to input information is not optimal; that is why *Uluru* features a haptic entry mode. At startup, *Uluru* surveys the user about their current pain level. Users are then presented with a list of pain levels to choose from, but on days where pain is debilitating the user may wish to switch to haptic entry. At the touch of a button, the user can input their pain level using taps on a color field. This provides a method in which the user can opt out of even looking at the screen, where the number of taps represents the level of pain (scaled 1-5). There is still however a visual aspect to this entry method where the color scale is still represented.

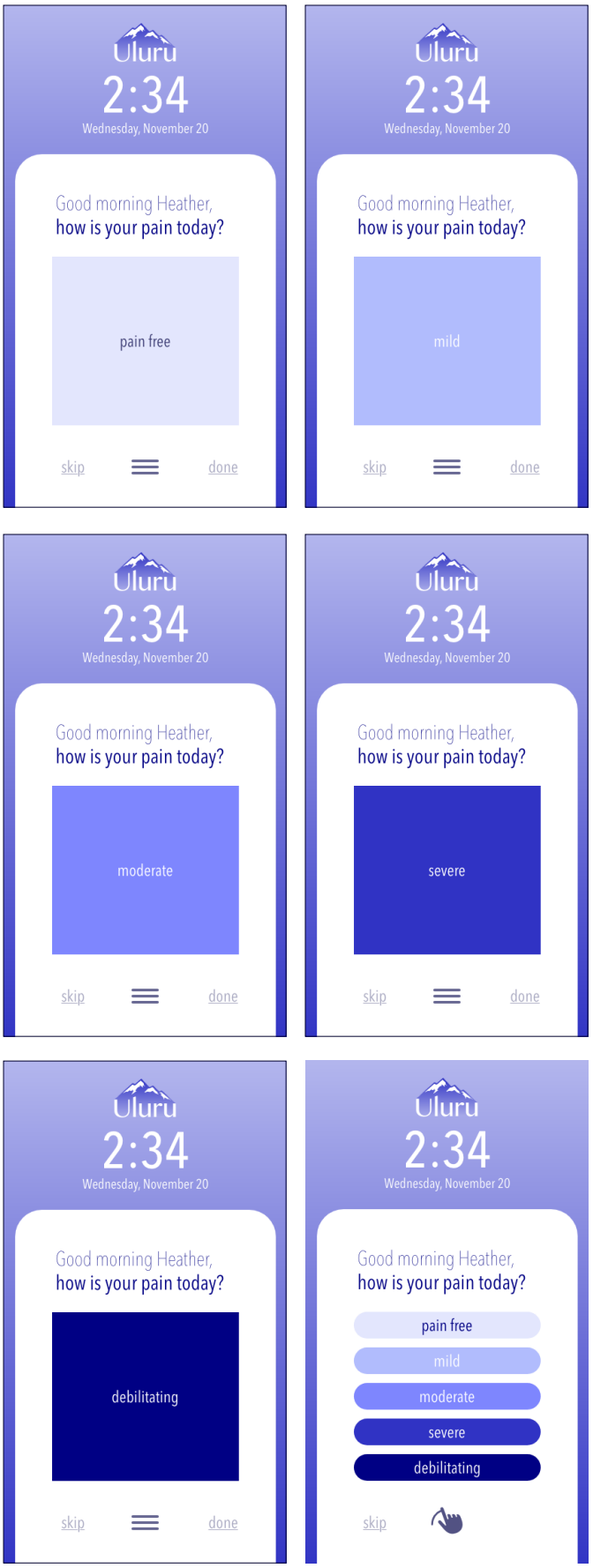
Haptic entry can also be accessed through the widget panel on iPhone and Apple Watch for a quick and easy way to log pain levels at any point in the day. The user simply accesses the widget panel on their device, selects the "Haptic Log" option and taps through the pain levels regularly. The user may also select "Quick Log" or "Journal Entry" from the widget menu to select pain levels, or record events and triggers that happen throughout the day without the need to open the app.

Vocal Entry

Similar to haptic entries, vocal entries provide the user another method for logging daily experiences without looking at a screen. Vocal entries are stored in Daily Log's for the specific day they are recorded.

Standard Entry

Standard entry refers to the "Daily Log" section of the app; this is where the user inputs data, triggers, journal logs, etc. from their day. This method requires the user to manually type in data in specified fields. In some cases, such as triggers and stress factors, suggestions will appear as quick selections based on previous entries so the user does not have to type out the full entry every day. It is in this way that the app learns and grows with the user.

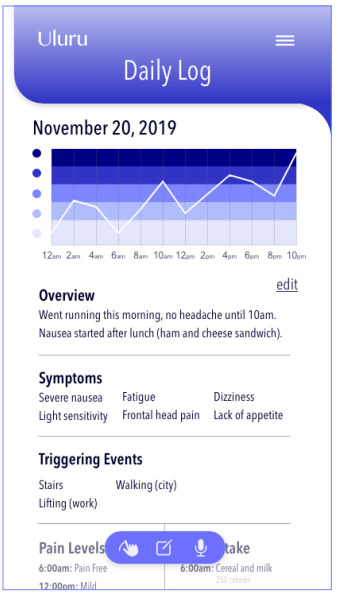


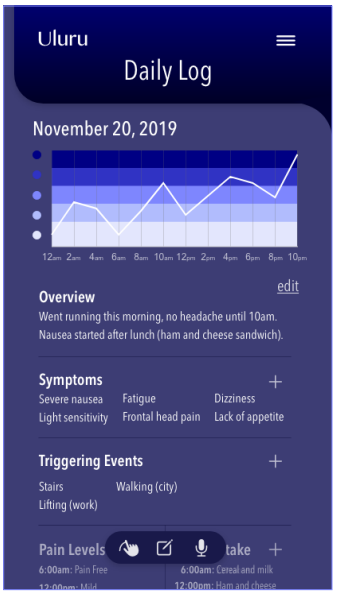
Haptic Entry allows the user to simply tap the screen to enter pain levels whereas standard entry provides a list view.

Daily Log: Multi-Channel Tracking

Symptoms, Triggers, Pain Levels & More

Uluru's greatest asset is that the user has the ability to track more than just their pain levels throughout the day. Users can input their symptoms by bodily region, pain levels, food intake, mood, and other stress factor that may occur. This information is saved in the Daily Log and can be edited after initial input. All quantitative data that is collected automatically syncs with the Statistics page and is displayed in easy to read charts. Additionally, all entries are saved and displayed in the "Day" view of the calendar. This means that the user and/or doctors/medical practitioners can select any day from the calendar and view the data.





Month View of Calendar with at-a-glance tracking

Calendar

Data Retention and Display

Uluru's calendar feature is where all of the user's daily log entries live. The calendar can be viewed in three states; year, month, and week. Within the month and week panels, individual days can be selected. Once selected, the data collected from that day, along with any voice or haptic logs will appear. The user may also add or edit data from this screen. Additionally, the user has the ability to "bookmark" individual days as an indication that something of importance occurred, or as a reminder to discuss the events of that day with a physician.

At-a-Glance Viewing

Both the month and week states of the calendar offer an at-a-glance display of the user's pain data. In these states, the numbered days of the month are color coded by a bar to indicate the pain level correlated to each color for the individual days. This allows the viewer yet another way to view their progress throughout a month or week.

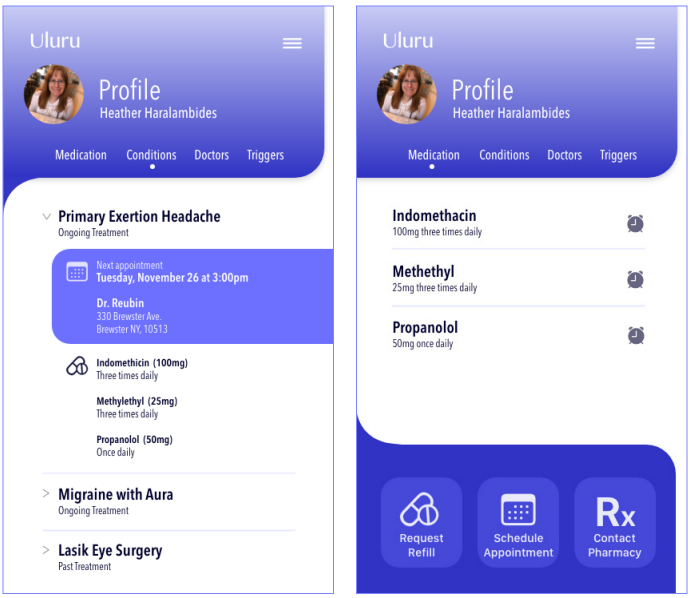
Profile

Personal Data Hub

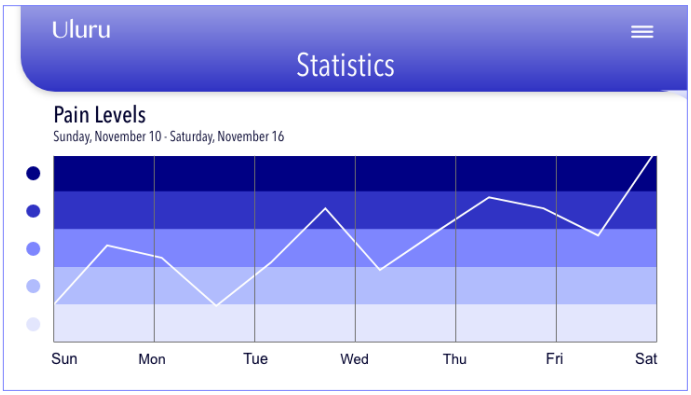
The second most essential feature of *Uluru* is the profile panel. The profile houses all of the users important medical information–medications, doctors, conditions, and known sensitivities. Users can input a complete list of medications along with the dosage, condition the medication is used for, and add an alarm to remind the user to take medications. Similarly, the user can input a complete list of their doctors with added locations and contact information for quick access. The conditions panel joins the information from the medication and doctor list. The user can input a condition and link the medication being used for treatment, the physician, and whether or not the condition is currently being treated or has been resolved.

Appointments and Refills

Another feature unique to the *Uluru* app is to make appointments and order prescription refills directly from inside the app.



Profile: Conditions and Medications tabs



Statistics: When phone is rotated a larger view of the chart is presented

Statistics

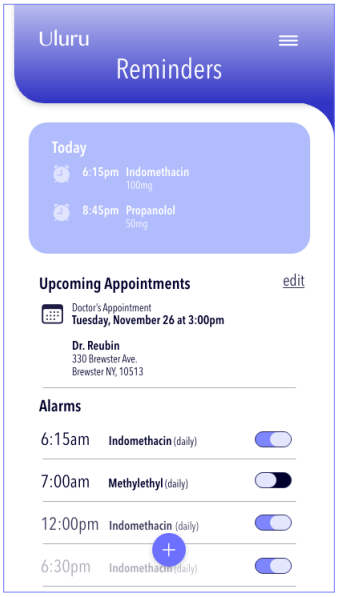
Easy to Read Data Visualization

Uluru's statistics are broken down into easy to follow charts that allow the user to track their progress over time–be it over a week, month, yeara or years. The app tracks all quantitative data, such as pain level, steps, sleep time, etc, and displays it in the statistics panel. The user can turn their device horizontally to view the charts at a larger scale. All statistics can be viewed in intervals of year to date, single year, month, and week. Maybe most importantly, *Uluru* allows the user to easily export their charts for sharing progress.

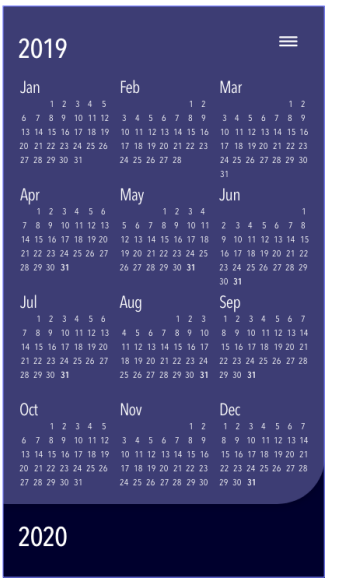
Reminders

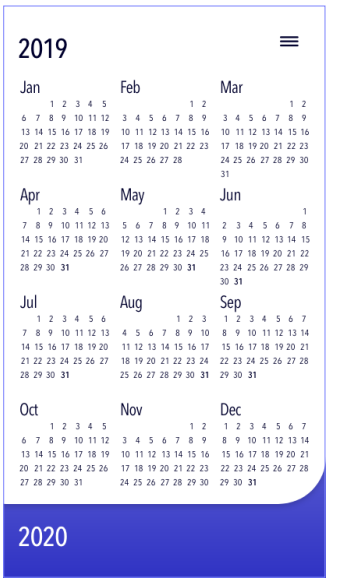
Never Forget a Pill or Appointment

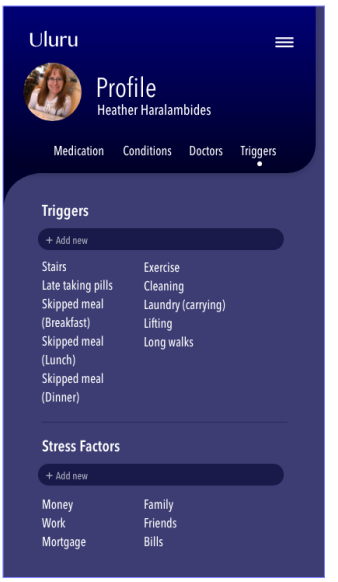
Another important function of the app is its Reminders panel. It is here that users can set single or repeating reminders for any function. Those with chronic pain often have a hard time remembering things, so pill and appointment reminders come in handy. These reminders can be set manually through the app or by telling Siri to "Set reminder using *Uluru* for…".

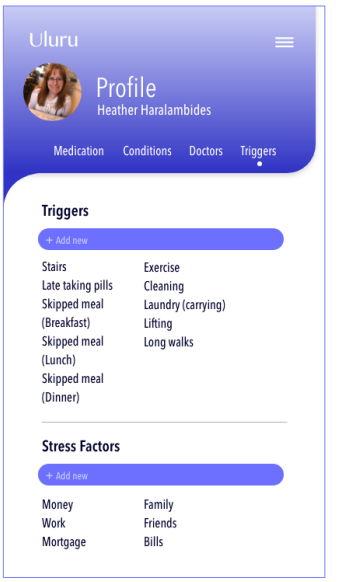


Reminders









Light and Dark Modes: Upon setup the user has the option of selection which mode they prefer to run the app in

General Noteworthy Features

Light vs. Dark Mode

Uluru features two settings to run the app through. After installing and opening the app, the user is prompted to choose between light, dark, and automatic transition modes. Light mode is standard and features a brighter color palette. Dark mode may be preferable to those who experience light sensitivities and require a less strained viewing experience. Additionally, as introduced by Apple, *Uluru* will automatically shift from light to dark mode depending on the user's device settings.

Push Notifications

Another option upon app setup is that of push notifications. Busy lives often lead to forgetfulness or simply not having the time to track user information. By setting up push notifications for specified points in the day, the user is reminded to record their pain levels and events of the day. This means that more data can be collected and analyzed; and the more data that is collected the greater the ability the user has to detect trends in their pain levels. Or users could choose to simply enter their data at the end of their day before going to sleep.

Moving Forward

I have high hopes for this app. Although, as of now, *Uluru* stands as a migraine and headache pain-tracking app, I know it has the potential to become all encompassing. With multi-channel functionality this app could help uncover trends for chronic pain users across all types of medical conditions. Adjustments must be made, of course, to allow the app to support such a wide range of data, but I feel that with time and determination I could make this app a tool for the many who suffer from chronic pain.

Additionally, I hope to share the prototype with a healthcare professional so that I can incorporate a physician's point of view on how the app may improve. Professional insight would open the doors to functionality on the doctor's end and how it may be possible for the physician to interact with a patient directly through the app. Furthermore, a medical professional could provide opinions on possible oversights of the app– elements that may be more helpful on their end.

Once the app has been rounded out I hope to work with a developer to code and produce a working version. For now *Uluru* is only a prototype, but I hope that I can find a partner to bring this vision to life and help chronic pain sufferers find the relief they are searching for.

Interactive Link

Please follow this link to explore the prototype of the Uluru app,

https://xd.adobe.com/view/f5d08522-1113-4609-543b-0f4dd93599ab-83e1/?fullscreen