pause

life is fast, let's pause together

final report

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the **problem**

Issues regarding mental health have become increasingly prevalent among young, busy professionals. Young professionals represent a demographic at the start of their careers, motivated for success and often prone to forgoing self-care. This group of twenty to thirty year olds is particularly susceptible to burnout, harmful stress, anxiety, and other mental health struggles as a consequence of a high-pressure lifestyle. Their schedules are constantly filled with deadlines, late nights, and quick grab-and-go meals. Emotional well-being and self-care are never on a to-do list and feel out of reach, yet they are crucial components to living a healthy and joyful life. In conjunction with societal stigma around mental health, this fast-paced and stress-inducing lifestyle has made it more difficult and less of a priority for time-pressed young professionals to practice self-care.

our **solution**

Pause is a dedicated space to practice micro-meditation and reflect on emotional well-being. After researching the benefits of meditative practice, we selected a few activities which we believe are easy to reap the benefits of in a small period of time: emotional reflection, a guided body scan, and connecting with someone else in a moment of reflection. Consistently performed meditative practices train the mind in attention, focus, and spatial awareness. Active users of Pause feel part of an anonymous community of individuals who share the common goal of

dedicating time to their emotional well-being. With both individual and social means of micro-meditation, we make it simple and convenient for time-pressed professionals to not only actively engage in self-care but to also become more comfortable doing so.

pause & destress

the **tasks**

Simple task: *record your current mood*

Our simple task asks our user to record their current emotional state. We wanted to ensure that our application enabled this because emotional reflection and honesty are a crucial component of emotional wellbeing. If a user is unable to identify how they feel and why they feel that way, it will be difficult to improve their emotional state. We chose to make this our simple task because we want to encourage frequent use of this feature so that users get a good sense of how their moods change over time. For this reason, logging one's mood should be a quick, simple process.

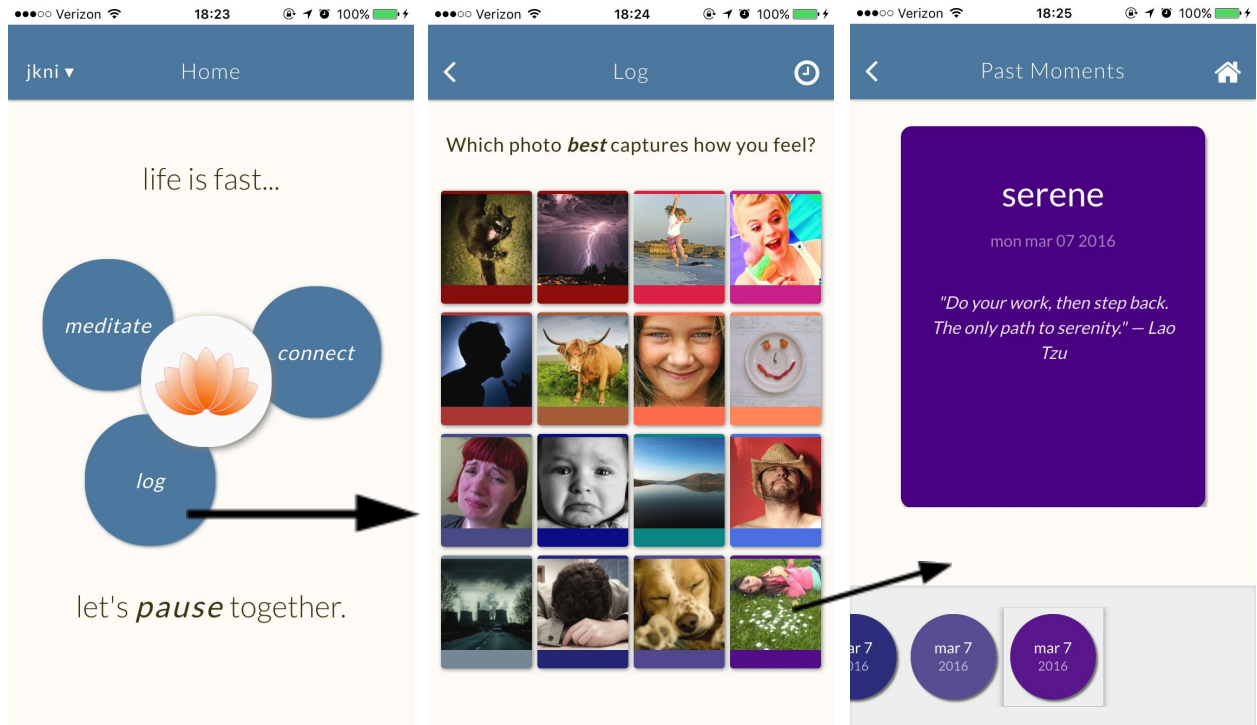### Moderate task: *meditate individually*

Our moderate task asks the user to perform an individual meditative exercise. The premise of the application is to encourage both individual and social meditative practice. We wanted to be sure to include individual meditative exercises because prolonged focus on one's body and breathing is an important step in refining meditative skill. Putting one's thoughts at ease is a key part of meditation, but it's hard to learn how to do this initially without instruction so the application serves as a guide throughout the process of individual meditation. We chose a body scan to be our individual meditation exercise. This is our moderate task because it requires a prolonged engagement with the application. But it is not complex because, after initiating the exercise, most of the body scan is performed without continued interaction with the application.

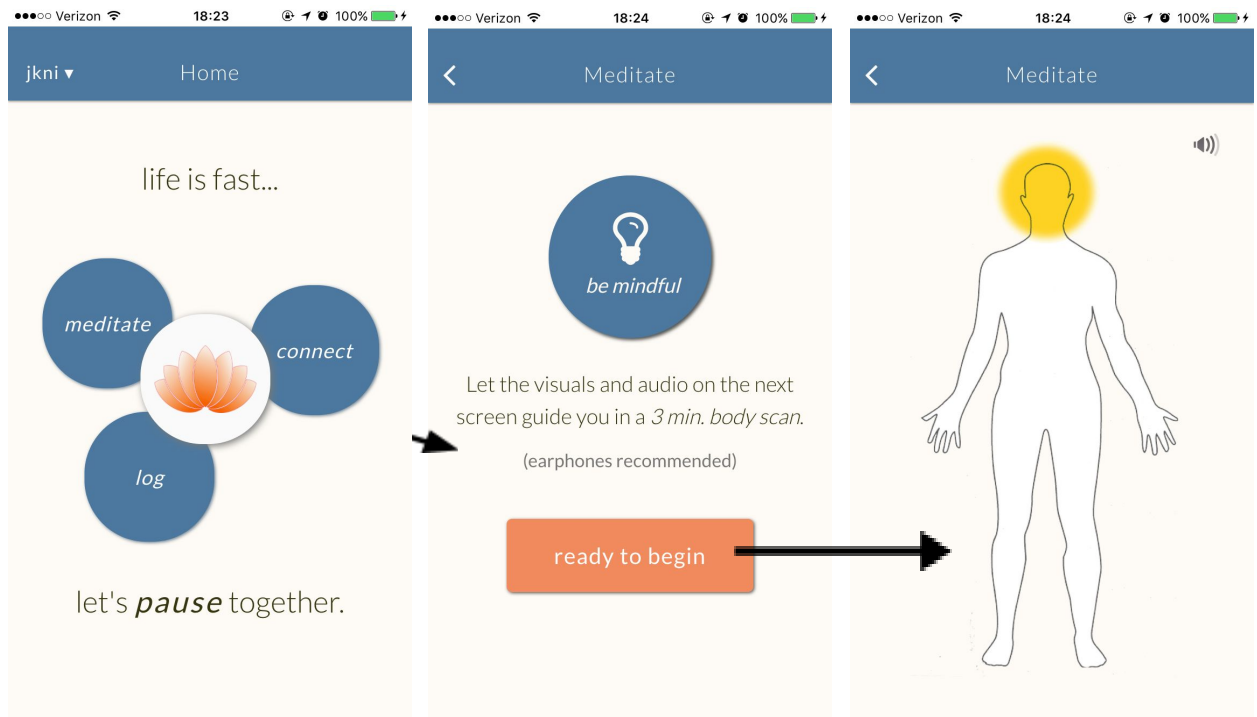### Complex task: *pause with someone else*

Our complex task asks the user to take a moment of pause with someone else. It is great comfort to know that someone else is also experiencing stress. For this reason, we wanted a social meditative exercise that captured the comfort of company. This is our complex task because there is no clear and intuitive physical analog to the interaction in daily life. We don't go around touching thumbs to each other outside of the Pause application. So, to use this feature, users need to have an increased level of comfort and understanding with the application. This task also has the most steps. Users have to initiate the interaction, wait for the application to find another user, participate in the thumb connection, and then are presented with the option of logging their mood.
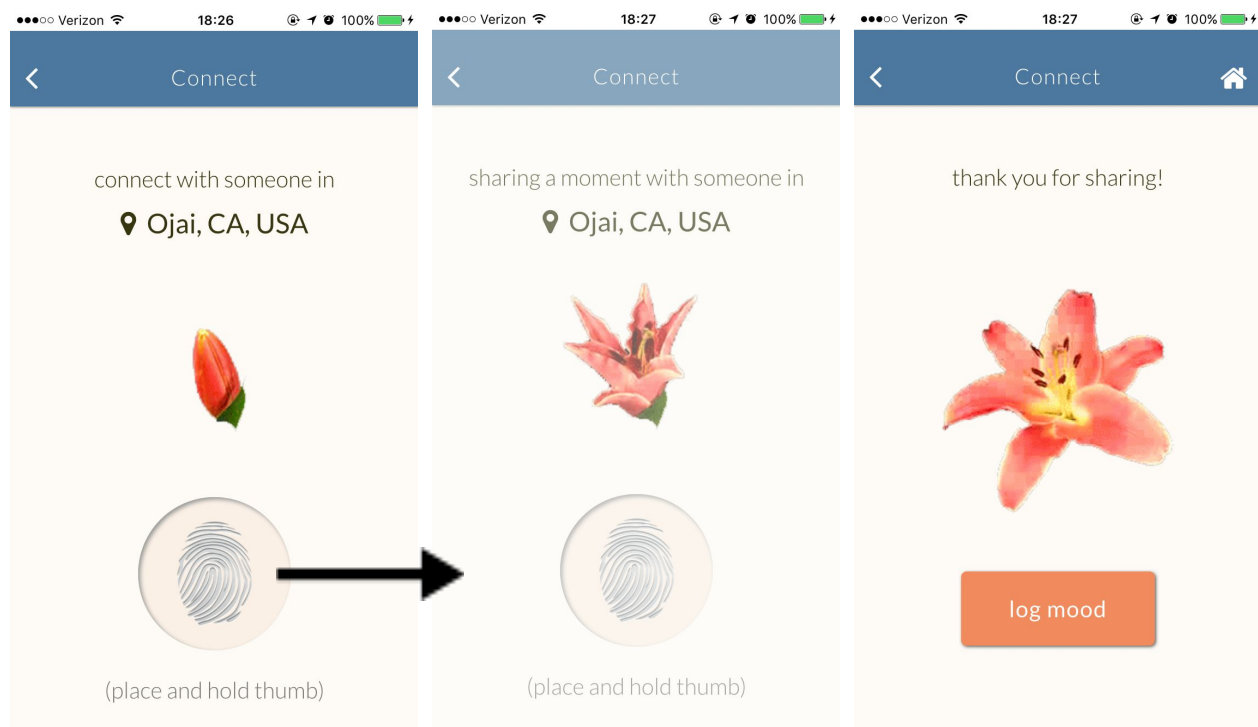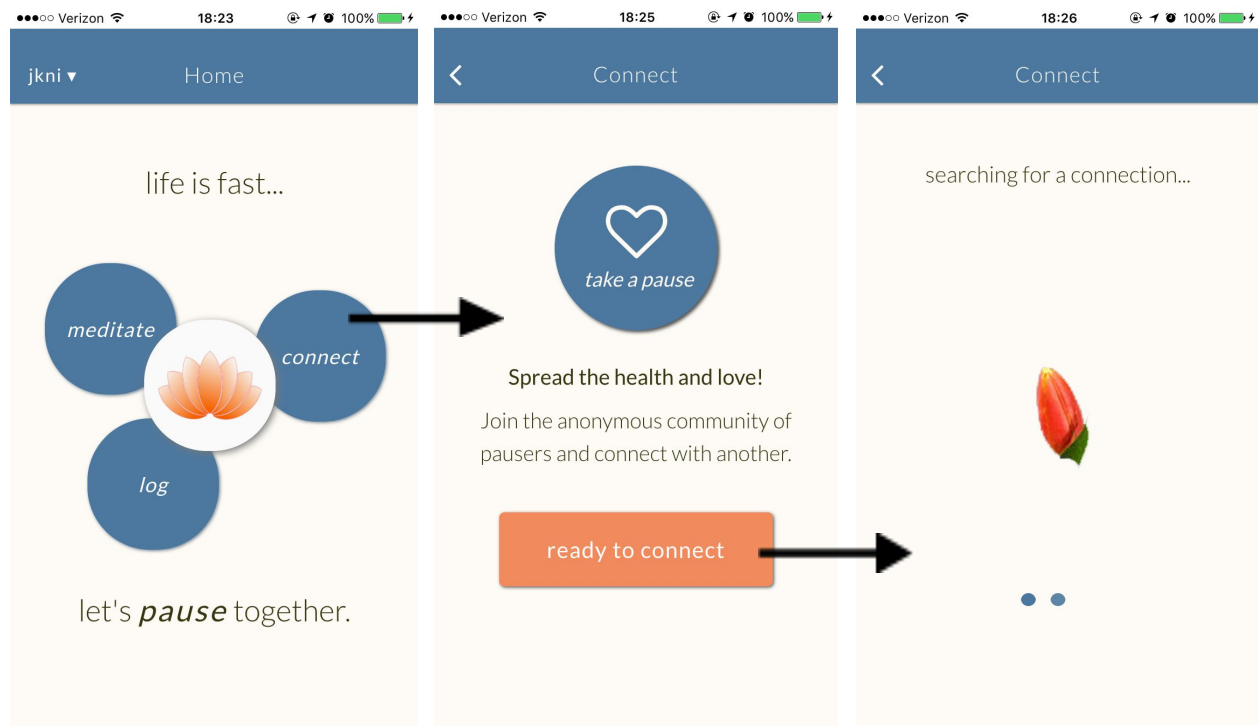
task **flows**

Simple task: *record your current mood*

Moderate task: *meditate individually*

Complex task: *pause with someone else*

Screen 1 — Home

●●●○○ Verizon 📶 18:23 🌐 ✈ ⏰ 100% 🔋⚡

jkni ▾   Home

life is fast...

meditate

connect

log

let's **pause** together.

Screen 2 — Connect

●●●○○ Verizon 📶 18:25 🌐 ✈ ⏰ 100% 🔋⚡

‹   Connect

♡

take a pause

Spread the health and love!

Join the anonymous community of
pausers and connect with another.

ready to connect

Screen 3 — Connect

●●●○○ Verizon 📶 18:26 🌐 ✈ ⏰ 100% 🔋⚡

‹   Connect

searching for a connection...

● ●

Screen 4 — Connect

●●●○○ Verizon 📶 18:26 🌐 ✈ ⏰ 100% 🔋⚡

‹   Connect

connect with someone in

📍 Ojai, CA, USA

(place and hold thumb)

Screen 5 — Connect

●●●○○ Verizon 📶 18:27 🌐 ✈ ⏰ 100% 🔋⚡

‹   Connect

sharing a moment with someone in

📍 Ojai, CA, USA

(place and hold thumb)

Screen 6 — Connect

●●●○○ Verizon 📶 18:27 🌐 ✈ ⏰ 100% 🔋⚡

‹   Connect   🏠

thank you for sharing!

log mood

design **evolution**

Low-fidelity prototype (cs247)

One of our low-fidelity prototypes tested the experience of fostering an emotional connection between anonymous strangers by touching thumbs through a quilted sheet.

Our users expressed general contentment and common reactions of feeling physically and emotionally connected with the stranger when they touched thumbs.

Due to this, the thumb connection became the single, core feature in Pause's early stages.

Medium-fidelity prototype (cs247)

Our medium-fi prototype brought our conception of the thumb connection to life. We used a wireframe prototype hooked up with Invision.
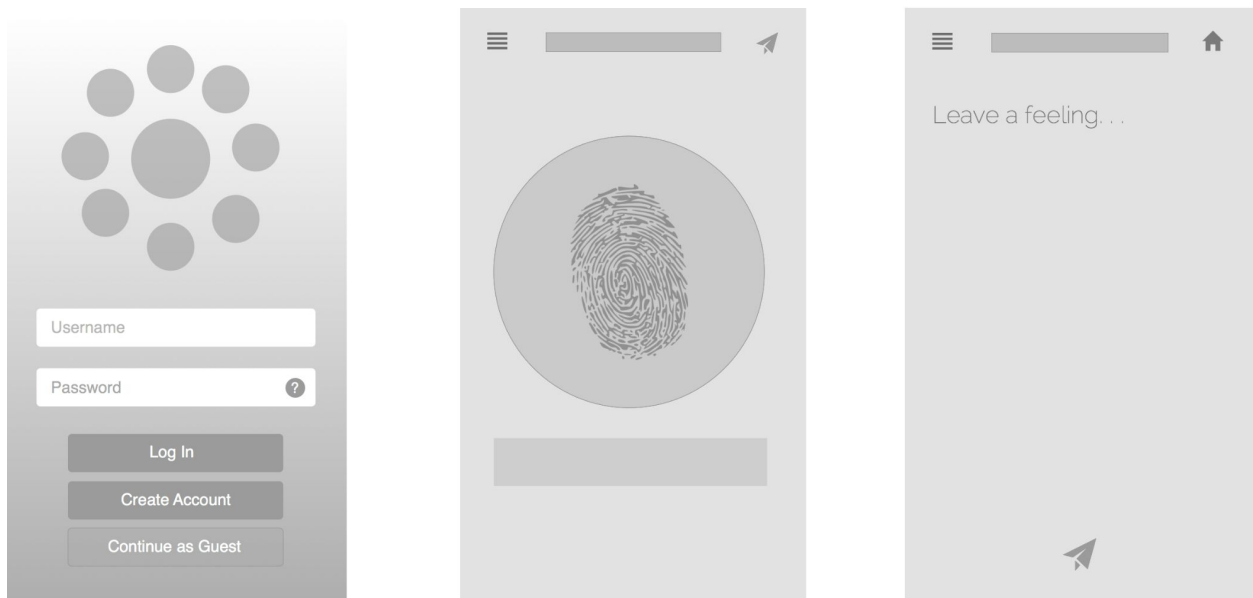

The core feature of the application was the thumb connection interaction from the low-fidelity prototype. The biggest change to this concept was the addition of a "reflection" afterwards. In our medium-fidelity iteration of the application, users were able to "leave a feeling" for the

person that they interacted with. Users had an "inbox" where they could read the feelings given to them by users they had connected with. Feedback to the thumb connection was positive - testers liked the idea of sharing a moment of reflection with someone else. However, users felt awkward about leaving a feeling for a stranger. Users were not sure what to write, and didn't find great meaning in the few words left to them by others.
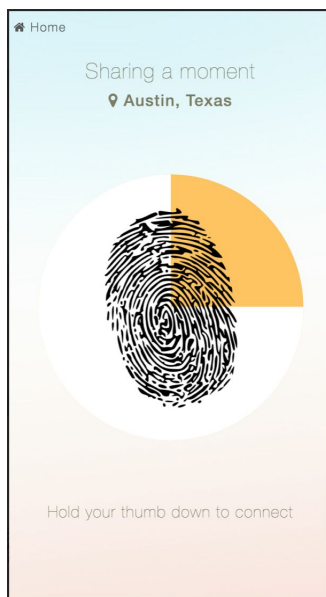
High-fidelity prototype #1 (cs247)

Our final prototype at the end of CS247 was implemented in HTML/CSS. The UI was comprised primarily of static image assets. The core and singular functionality of the application remained the thumb connection interaction.
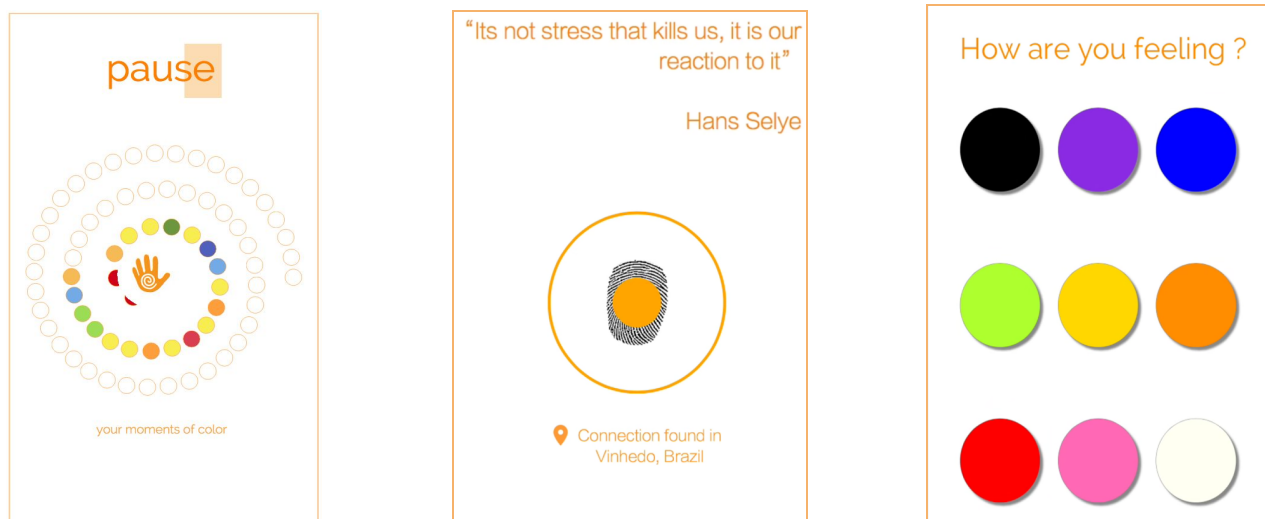

The biggest change from our medium-fidelity prototype to our first high-fidelity prototype is the elimination of "leaving feelings" for the person on the other end of the thumb connection. Instead of leaving feelings for someone else, this version of the application encourages the user to self-reflect. Instead of using words, the high-fidelity prototype introduced the idea of self-reflection by picking a color (something that stuck with the prototype for a couple of iterations). After completing a thumb connection, users pick a color to reflect on how they are feeling. The color the fills in a dot on the spiral of colors in the home screen. Over time, users fill in a color map that serves as a visualization of self-reflection they have had while using the application.

High-fidelity prototype #2 (cs194h)

Our second high-fidelity prototype aimed to make the thumb connection experience feel more real by adding haptic feedback and visual pulsing, simulating a heartbeat. We did so since users said that our previous iteration of the connection didn't feel genuine and that they didn't believe someone else was on the other end.

We also eliminated the color spiral on the home screen and added the color logging features to its own screen.
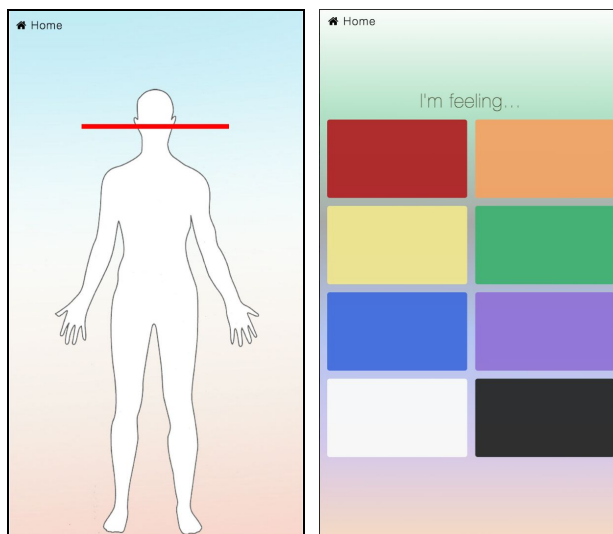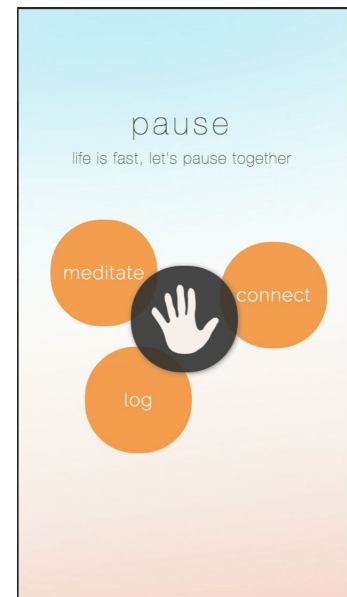
We added a mindful meditative activity (body scan) to let users de-stress individually in addition to the paired thumb connection. The screen featured a red "scanner" that swept over a body silhouette with a guided audio recording playing in the background.

We also extended color logging so that it would render a background gradient. Each time a user logged a new mood, the background gradient would update to reflect the new data point.

Finally, we migrated our application to Meteor.js which allowed us to export our web application to a native iOS product. It is because we ported our code over to Meteor.js that we were able to add features that utilized the hardware such as haptic feedback.

High-fidelity prototype #3 (cs194h)

From our second high-fidelity prototype, the major changes in our next iteration were improving the mood logging experience and making the thumb connection experience feel more organic.
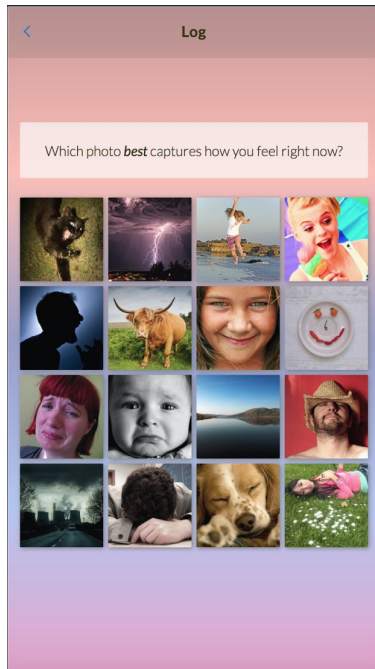
For mood logging, we changed our color logging system and moved entirely away from our gradient visualization. From our user tests, we learned that the color logging screen was a point of friction as users had a hard time associating their mood with a color. In addition, users did not understand the gradient visualization and many did not even notice a change when a new mood was logged. Instead, we integrated the Photographic Affect Meter (PAM) to better help users log their emotions. We chose PAM because it has been validated through research at Cornell to effectively discretize and map the wide spectrum of human emotion along axes of valence (positive to negative) and arousal (high arousal to low arousal). Each of the 16 photos corresponds with both a color and a descriptive word, neither of which are revealed to the user at the time of selection.

For the thumb connection, we divorced the progress animation from the thumb touch and replaced the piece-wise loading circle to a gradual flower blossom animation. In our user testing, we noticed that users didn't actually know when the thumb connection was over because their thumb was covering the progress animation. Additionally, the circle animation felt too much like a loading screen. The flower blossom animation received positive feedback as a more pleasing visual and users felt less rushed.
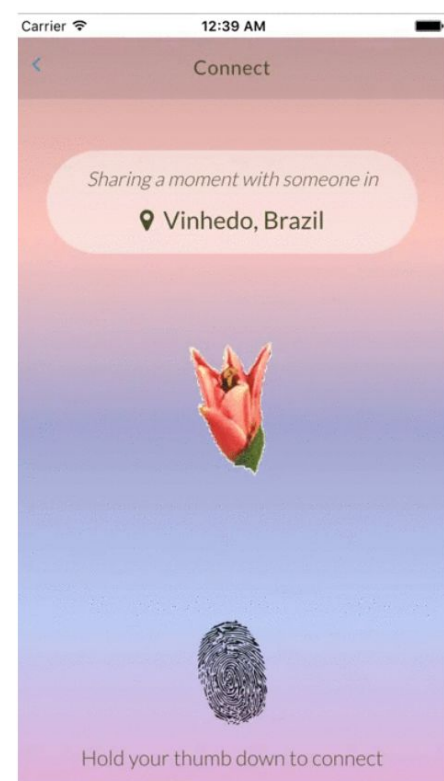
Evaluation

Across all periods of testing, we found the lab usability test to be the most helpful. It was after the lab usability study that we fixed long-standing issues with our application. For example, the circular loading animation and the use of colors to depict emotions were present in our prototype since CS247. However, it was only until the lab usability study that we tracked quantitative metrics and used data to inform and drive our design changes. In addition, the context of the lab setting promoted honesty in users and allowed them to provide candid feedback.

final **interface**

Our final interface features mood logging and history, an individual meditative activity in the form of a body scan, and a paired thumb connection experience.
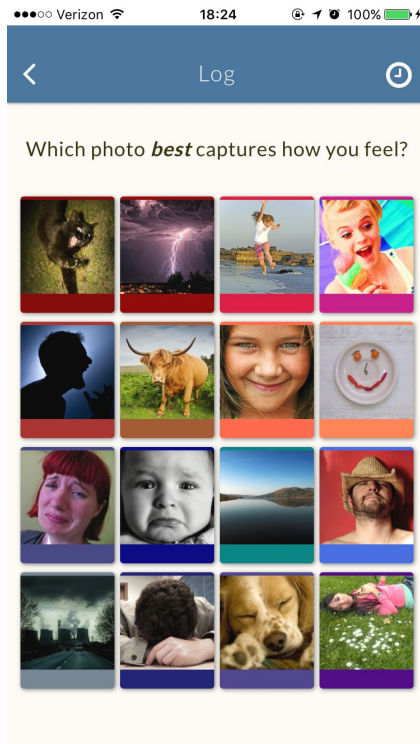
Mood logging

Users can log their current mood on the log screen through selecting one of the photos on the PAM board. The PAM tool maps each emotion to a color that we later use in the mood history visualization. For each emotion on the PAM board, we include that emotion's associated color in a card-like border in order to help users associate the pictures with the colors that we will use to visualize them.
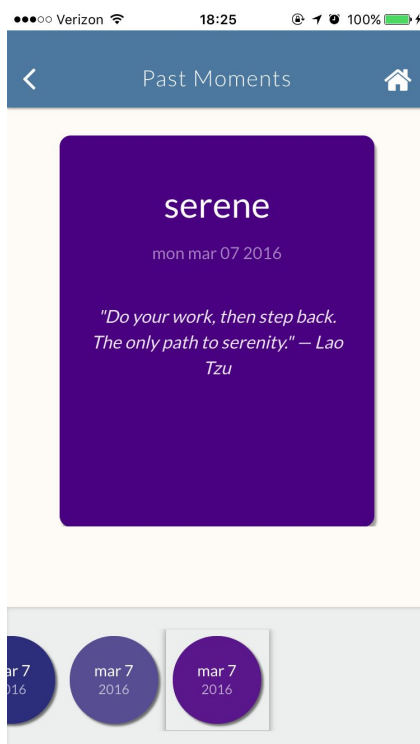
Mood history visualization

After a user logs their current emotion, they are redirected to the mood history page where they can browse through their past emotions. This page was not present in any of our previous iterations. Each emotion is visually represented as a card with the name of the emotion, date of the log, and a famous quote about that emotion. The emotion history is displayed with a scrolling gallery view where users can swipe through the cards to view their past emotions.

Body scan

Users can perform a body scan, an individual meditative exercise, through selecting the meditate button from our home page. For the body scan, users are first presented with an instruction screen that briefs them on what the body scan is and what to expect. On the instruction screen, users can tap on the icon to learn more about the benefits of meditation and mindfulness. Once users are ready to begin, they will be guided through the body scan through both visual animations and audio instructions.
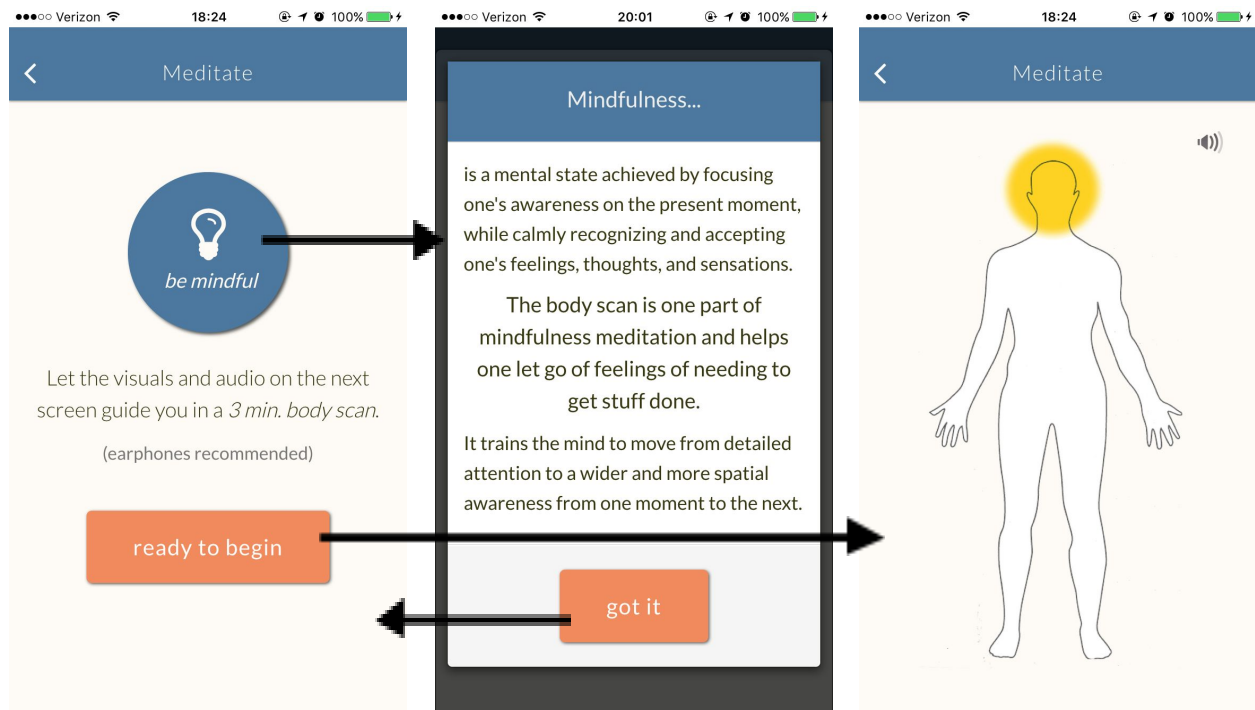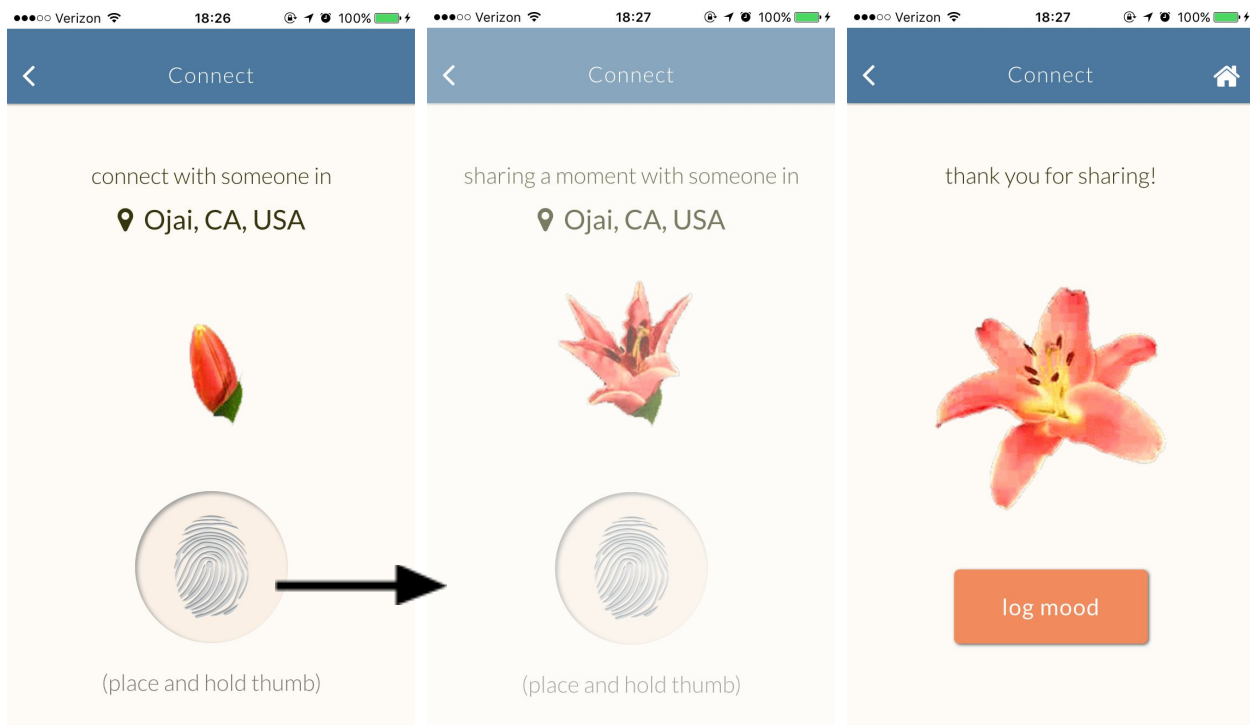

Thumb connection

Users can take a pause and perform a thumb connection with another user through selecting the connect button on our home page. Users are first presented with an instruction screen that briefs them on what to expect. They can also tap on the icon to bring up a window that explains more on what a thumb connection is and why we chose to include it in our app. Once users are ready to begin, Pause will search for another user on the app. When a match is found, the user can hold their thumb down to begin the thumb connection animation. Once the moment is over, we encourage users to log their mood.

Screen 1:

●●●○○ Verizon 📶 18:25 🔒 ✈ ⏱ 100% 🔋⚡

‹ Connect

♡

take a pause

Spread the health and love!

Join the anonymous community of
pausers and connect with another.

ready to connect

Screen 2:

●●●○○ Verizon 📶 18:25 🔒 ✈ ⏱ 100% 🔋⚡

Taking a moment...

to stop and breathe helps reset your
mind, allowing you to approach the same
thing with a fresh, holistic perspective.

We believe that building an
anonymous community of others
similarly searching for moments of
calm in their day will spread the
health and love.

Through a physical connection by
touching thumbs, it's as if you are sharing
your vibes with the individual on the
other end.

got it

Screen 3:

●●●○○ Verizon 📶 18:26 🔒 ✈ ⏱ 100% 🔋⚡

‹ Connect

searching for a connection...

• •

Screen 4:

●●●○○ Verizon 📶 18:26 🔒 ✈ ⏱ 100% 🔋⚡

‹ Connect

connect with someone in

📍 Ojai, CA, USA

(place and hold thumb)

Screen 5:

●●●○○ Verizon 📶 18:27 🔒 ✈ ⏱ 100% 🔋⚡

‹ Connect

sharing a moment with someone in

📍 Ojai, CA, USA

(place and hold thumb)

Screen 6:

●●●○○ Verizon 📶 18:27 🔒 ✈ ⏱ 100% 🔋⚡

‹ Connect 🏠

thank you for sharing!

log mood

User Accounts

Our final iteration includes a functioning backend, complete with user accounts. We use these accounts to save a user's mood history as well as enable the thumb connection process. Mood logging and the thumb connection are unavailable until a user logs in.

To Be Implemented

Our current mood history screen is a simple card gallery view. We left real estate space on each mood card because, ideally, we would like to include a layer of analysis and graphical visualization on top of the mood logs. Since our mood logging feature went through many high level changes in our process, we did not have sufficient time to fully explore mood analytics .

Our thumb connection screen uses a minor wizard-of-oz technique to simulate a real connection. Currently, given the small size of our user base, our thumb connection backend connects the current user with another random user in our database. Ideally, we would connect the current user with another user who is on the app at the exact same time but it is unlikely that two users would be using the application simultaneously given our current limited member base.

On the thumb connection screen, touching down on the thumbprint begins the pulsing and flower blossom animation. However, lifting the thumb up does not stop the animation. We had to make a technical tradeoff between functionality and visual aesthetics. If we rendered the animation as a HTML5 video, we would be able to play and pause the video but the transparent background would have been lost. If we rendered the animation as a .gif image, we are able to retain the transparent background but cannot pause the animation once it starts playing. We opted for the latter option of a gif because we felt it was less disruptive to the aesthetic of our design. In addition, our ideal behavior is for users to hold their thumb down without lifting up. Looking to the future, this issue would be resolved once our code is built on native iOS rather than web technologies.

Technical Stack

Our application is built using web technologies that we then export to a native iOS application. Our front-end is built using HTML, CSS, JavaScript, AngularJS, and Bootstrap. Our back-end uses MongoDB to store data and our overall platform framework is Meteor.js. Our database is currently hosted using Meteor's hosting platform.

making it **real**

The team

- Sukhi Gulati – a senior studying Computer Science with a focus in HCI
- Raymond Luong – a master's student studying Computer Science with a focus HCI
- Julie Ni – a senior studying Computer Science with a focus in HCI
- Kyle Qian – a junior studying Symbolic Systems with a focus in HCI

Were we to pursue Pause further, our current team has a diversity of skillsets that would position us well to do so. From a technical perspective, we have a designer, a front-end developer, and two generalists. Julie Ni is a visual designer who is constantly learning more about design and improving her skill. Raymond Luong is a front-end developer who is well-versed in JavaScript and excited about the intersection of technology and design. Sukhi Gulati is a full-stack developer who has experience working with large applications at scale. Kyle Qian is also a full-stack developer who is able to develop complete features.

From a non-technical perspective, our team has both an interest in the space and previous experience with small businesses. Raymond has a demonstrated interest in health and wellness and has done independent research in the mental health space. He also brings financial experience to the table through his undergraduate degree in Management Science & Engineering and prior experience serving as the financial manager of a student-run house on campus. Sukhi has successfully launched and operated two non-profits and managed marketing efforts for her family's for-profit skincare center. Between their knowledge and previous experience, Raymond and Sukhi are able to lay the foundation for a successful small business.

However, it is worth noting that a glaring deficit in our collective skill set is mobile engineering experience. Currently, none of our team members know how to develop iOS native applications. Keeping our application on Meteor.js places too many limitations on what we are able to implement. In taking Pause further, we would certainly have to find a mobile developer and port our code over to iOS native.

Business model

As of 2013, there were 15.7 million professional between the ages of 20-34 in the U.S. alone[1]. This large market size is advantageous because it is important for our application to retain a sizeable number of active users as our goal is facilitate realtime thumb connection in the application. Users would have the option to pay for premium features but they are able to download the application with its basic features at no cost. A few examples of possible premium features include extra breathing exercises, new thumb interaction animations, or extra analysis on one's past moods. The in-app purchases may range from one-time feature extensions to a recurrent subscription charge to provide users with features such as monthly mood analysis reports or meditation newsletters. We believe that a freemium model with in-app purchases would be the best way for us to introduce an in-app revenue stream while still keeping a large number of active users in the application. Users who do not pay for any in-app purchases or features will be subject to banner advertisements which will not interrupt the flow of meditation exercises but still provide us with an additional revenue stream.

Our application also has potential for corporate partnerships. As our application is geared towards the mental health of young professionals, we will offer stress management workshops for companies to sign up for. The application will be used in the workshop and employees will be encouraged to use Pause to guide their meditative practice. For an extra fee, we may change certain features to create enterprise specific versions of the application.

We hope that the long-term impact of our application is a normalization of micro-meditative practice and mental health care. Especially in academically or professionally competitive spaces, there is a stigma associated with mental health concerns or taking time off to self-care. Often times, individuals internalize stigma and feel guilty about taking time off to care for themselves. Pause has the potential to start a conversation about mental health in professional spaces. Continued micro-meditative practice can help users reach a place where they do not feel that taking time to care for their mental health trades off with professional success.

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[1] Department for Professional Employees
http://dpeaflcio.org/programs-publications/issue-fact-sheets/the-young-professional-workforce/

the **summary**

Overall, we created an application that we think has great potential to start important conversations about mental health and emotional wellbeing in professional spaces. The art of meditation takes time and practice to refine. Pause is an application that presents easy-to-follow micro-meditative practices with the potential to improve over time. The mood logging feature gives users an intuitive way to track their emotional growth and continued meditative practice. We certainly have room to improve the application, and we have already begun discussing what other small meditative exercises would work best with the app. However, we think Pause effectively illustrates the impact that just a few moments of investing in one's self can have. In a world increasingly consumed by narratives of progress and efficiency, a dedicated space to Pause is a healthy and welcome disruption.