MOODi

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Photo by Laura Chouette on Unsplash

Introduction

In the beginning stages of our project, we identified that many long distance couples and couples in general struggle with maintaining connection and unification due to a lack of communication, empathy, and emotional literacy.

Thus, we decided that our research's goal was to learn about and analyze how couples, primarily long-distance partners, communicate with each other. Our topic is important for personal well-being since **facilitating communication** and **maintaining social connections** are biologically tied to evolutionary survival, quality of life, and life expectancy [1].

Social ties directly and indirectly impact a person's physical, and they can also aid in boosting emotional and mental health. Facing relationship issues can cause great mental distress, but boosting empathy can help prevent issues that are resulted from miscommunication.

User Group

When first designing our user group, we decided on the following characteristics for our future study participants:

1. Students at Georgia Tech
2. Within the age range of 18-24
3. In an active romantic or platonic relationship, preferably long distance
4. Taking full time classes or working full time
5. Feeling disconnected from their friend/partner/ significant other

As busy students, it can be hard to build empathy for others when you are unable to manage personal stress or a busy timetable on your own. Thus, we aimed to address the following user goals:

1. **Connection**: As a user I want to feel more connected to my partner (romantic or platonic) in day-to-day settings, so that I have a healthier emotional state.
2. **Communication**: As a user I want to openly communicate how I am feeling to my partner (romantic or platonic) in my relationship, so that I can increase my relationship satisfaction.
3. **Reciprocity**: As a user I want to know how my partner (romantic or platonic) is feeling, so that I do not have to rely on empathic inference and so that I can increase reciprocity in our relationship.

Photo from: https://www.isye.gatech.edu/news/isye-undergrad-and-gt-cheerleader-wilson-harmond-pops-question

Design Context

After analyzing our initial secondary research and our target user group, we identified the social and technical context of our project, which is explained below.

Social Context

The school/work life that users foster is typically associated with having spillover to romantic and platonic relationships.

Especially among women in emerging adulthood, negative work experiences can lead to negative relationship experiences [2].

Aside from having busy schedules that affect their relationships, many of our users are experiencing long-distance relationships.

Relationship satisfaction is a priority for many seeking happy and healthy relationships, including long-distance relationships.

Technical Context

Through the use of text messages, phone calls, social media, and various other apps and forms of communication, our users have made an effort to maintain their relationships.

According to studies previously done, " perceived similarity of texting behaviors within couples — both in terms of initiation and content — may have consequences for relationship satisfaction" [3].

As much as technology has been used to mitigate the strain between our users' relationships, many also report that technology can sometimes stand in the way.

Research Methods: Interview and Survey Results

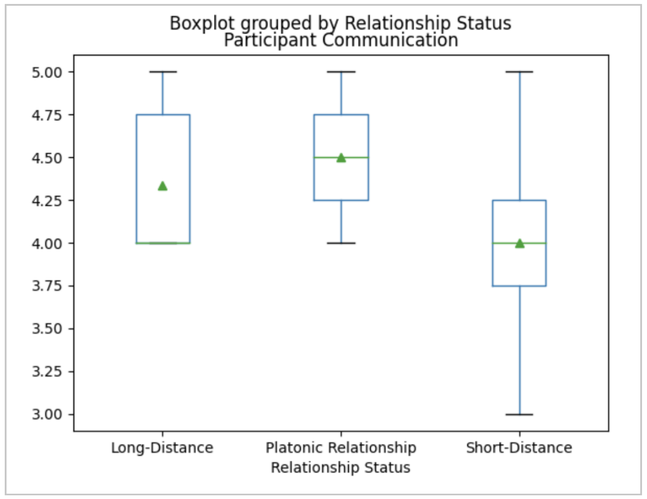
In-person Interviews

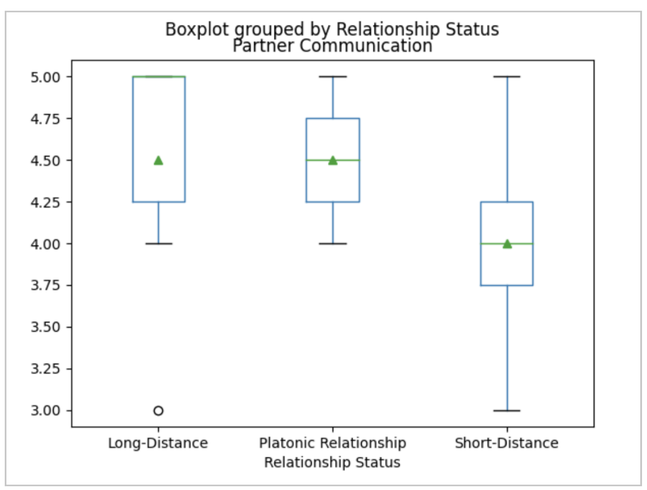
In order to better understand our target user group, we conducted eight in-person interviews to gather participants' insights and experiences.
Some of our key findings were that:

- Most of the couples in long-distance relationships had issues with trying to schedule times to talk with their partners.
- Participants had communication fatigue and felt tired of having to text their partners often in order to maintain a feeling of connection.
- A lack of consistency with seeing each other in person led to them relying on different modes of digital communication like video chatting, sending voice memos, calling, sending funny posts on Instagram, etc.
- Partners, regardless of type of relationship, often faced issues with emotional literacy and communicating how they felt.

Surveys

To gather more quantitative data, we sent out a survey for participants to take in order to understand how communication patterns and technologies affect relationship satisfaction. A few of the charts synthesizing our data are pictured below:



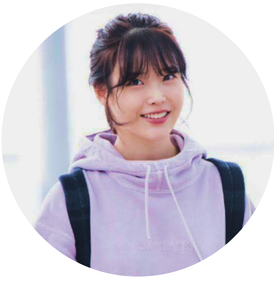


Research Methods: Personas

Primary Personas

Of the four personas created for the user study, two of these were primary personas. The personas were given the following goals.

Lily



1. Find a way to better express her emotions
2. Communicate with her partner more often
3. Be more aware of her partner's feelings

James

1. Balance time for his relationship and his career
2. Work on becoming a better communicator with his partner
3. Continue his extracurricular and outside activities

Why?

Based on the interviews that were conducted with potential users, the following characteristics and issues recurred among many of the participants that faced difficulties with relationships.

Students were not comfortable with sharing their emotions with their partners. This was often because, they struggled with putting how they felt into words. Students in long-distance relationships formed communication fatigue, disliked texting, and found it difficult to keep up constant communication. Similarly, many of the students struggled to find time in their schedules to have quality time with their partners.

Lily's goals demonstrate the outcomes of communication fatigue and the need to increase emotional literacy through open communication. James' goals show the hectic schedule many students faced and the toll that it is taking on his long-distance relationship

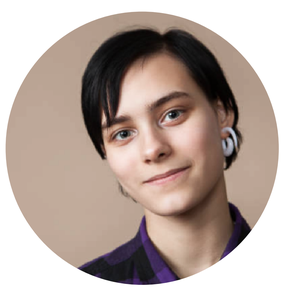
Research Methods: Personas

Secondary/Tertiary Personas

The last two personas that were created for the user study were secondary and tertiary personas.

Cara

1. Find new ways to communicate with her daughter that recently moved
2. Open her emotional availability to her whole family
3. Find new ways not to depend on her relationship with her daughter



Jett

1. Spend more quality time with their friends
2. Successfully help others

Why?

The secondary and tertiary personas had goals and qualities that were similar to those of our users, but that were grounded in differing contexts.

Cara struggles with communicating in a long-distance familial relationship, and it consequently takes a toll on other aspects of her life. As a secondary user, the proposed prototype is not made for her, but could easily apply to her needs. As such, her goals reflect the difficulty of emotional literacy with motherhood.

Jett's persona is used to demonstrate how a primary user's problems can affect those around them. Jett's primary-user friend struggles with communicating in their long-distance relationship. The effects of this relationship have spurred the reasoning behind Jett's first and second goals. Jett's reactions were determined based on similar scenarios that came up in our interviews for primary users.

Research Methods: Task Analysis

Task Analysis

The tasks chosen to investigate further into were “communicating with a partner” and “resolving conflict with a long-distance partner”.

The specific task of communicating with a partner was chosen, because interviews showed most users rely on some sort of communication through technology. One of the main opportunities for design in this task would be to provide different options for users to communicate with each other.

Communicating with a Partner

1. Open/Turn on device
2. Decide on mode of communication
   - 2.1 Decide on text messaging
   - 2.2 Decide on calling
   - 2.3 Decide on video calling
3. Open communication app
   - 3.1 Open text application
   - 3.2 Open call application
   - 3.3 Open video call application
4. Construct Communication
   - 4.1 Write text message
   - 4.2 Press call button
   - 4.3 Press video call button

Research Methods: Task Analysis

Task Analysis

In user interviews, participants expressed difficulty with correctly labeling their feelings and handling conflicts that arose. Some suggested that they would avoid it entirely. To understand this issue, “resolving conflict with a long-distance partner” was chosen for task analysis.

Potential opportunities to design solutions around this issue are encouraging empathy in conflict and defusing stress during compromises.

Resolving Conflict with a Long-Distance Partner

1 Initiate Communication

- 1.1 Write out a text message
- 1.2 Call partner
- 1.3 Video chat with partner

2 Clarify source of conflict

- 2.1 Express emotions & personal opinions
- 2.2 Listen to partner feedback and emotions
- 2.3 Respond to their opinion and acknowledge their perspective

3 Devise a solution or compromise together

- 3.1 Discuss potential solutions
- 3.2 Agree to solutions
- 3.3 Disagree on solutions
- 3.4 Discuss potential compromises

Research Methods: Storyboards

Storyboards

Storyboards were created to build a deeper understanding of the scenarios for how users would find solutions to their problems. In the following two storyboards, negative emotions build in the user. The first storyboard depicts a scenario in which communication does not take place. The second scenario resolves conflict after the user's partner reaches out to communicate. In both situations, communication is damaged and leads to harsher outcomes for the user.

These scenarios were chosen to represent the real-life occurrences where communication can fall short. The responses of both of users in these storyboards are based on reactions that were explained in the in-person interviews.

As depicted in the first storyboard, several users would want to share information about their lives with their partner. They would feel like they didn't know their partner's schedule and they wouldn't want to bother them.

LILY GETS A TEXT FROM HER PARTNER
THAT HURTS HER FEELINGS
LILY DOESN'T RESPOND AS USUALLY
WHICH WORRIES HER PARTNER
LILY FEELS DISTRACTED
CAN YOU TALK?
8:08
UNTIL HER PARTNER CALLS
AHAHAHA

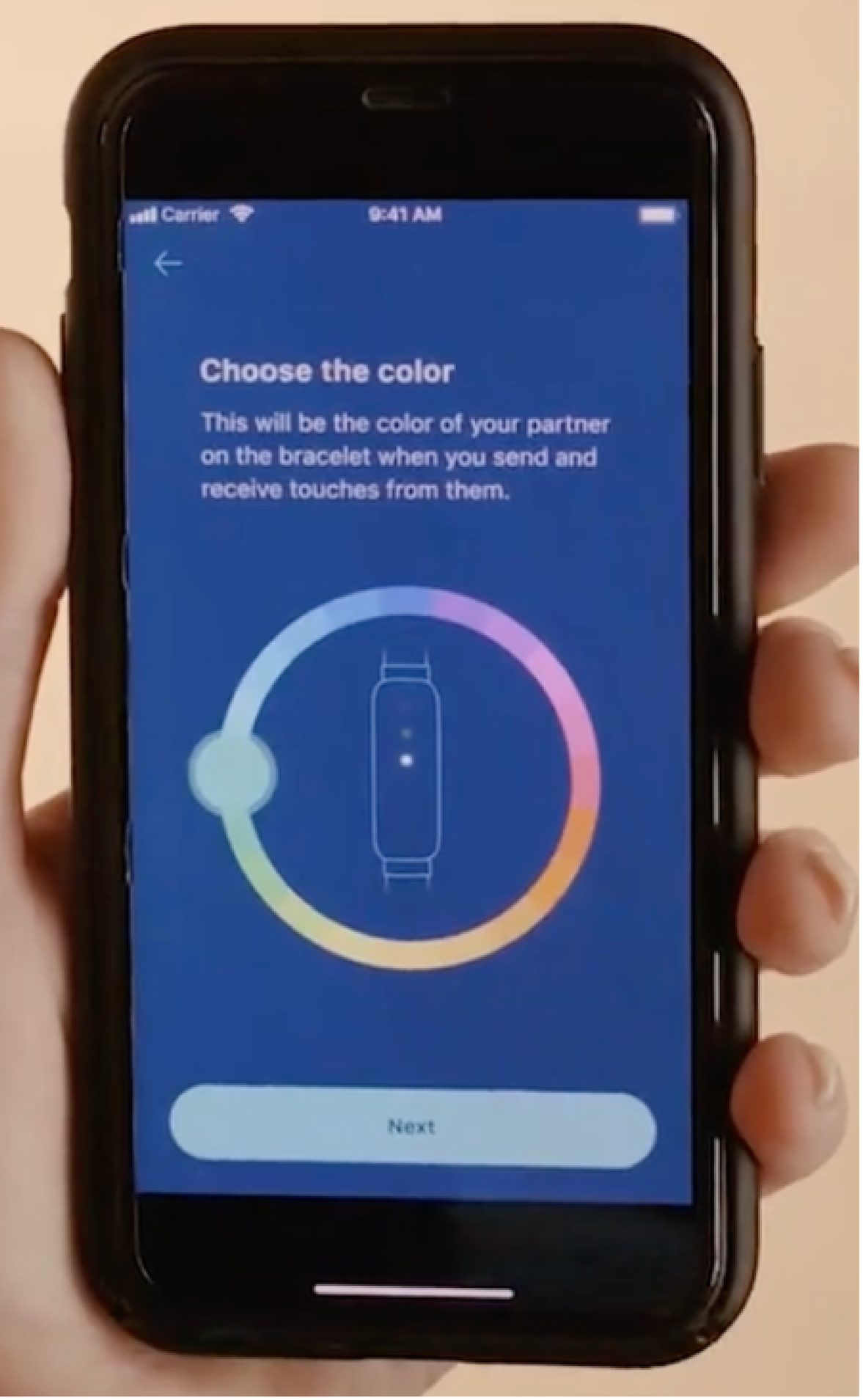


Photo:
from https://bond-touch.com/testimonials

Design Space Critique

Existing Technologies

Five applications that existed prior to the beginning of research were examined to find the requirements to be addressed in the new prototype. Two were determined to be significant to the design.

Bond Touch uses a vibration bracelet to simulate touch between long distance partners. The interviews among users suggested that this would be an effective communication alternative. For improvement: the bracelet is bulky and may not be aesthetically pleasing to a variety of students.

Between combines several features such as a text messaging system, voice chatting, anniversary trackers, and a shared calendar. From the interviews, many users shared a need for keeping track of their partner's schedule. For this design however, the number of features may overwhelm new users.

Design Space Critique

Design Requirements

Functional and non-functional requirements were made from the conclusions derived from user research and the design space critique.

The **functional requirements** for the prototype are as follows:

- Allowing users to communicate with each other
- Allowing users to receive live updates from their partners
- Inclusion of a physical artifact

The **non-functional requirements** are:

- Clean user interface
- User customization
- Simple onboarding tasks

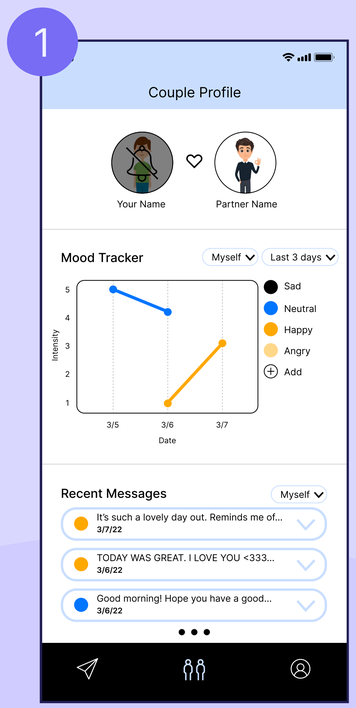
Functional Requirements

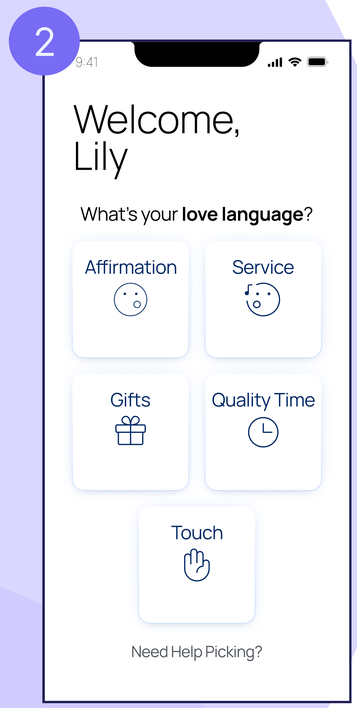
Allowing users to communicate was essential to addressing the root of the problem in increasing relationship satisfaction among long-distance and short-distance relationships.

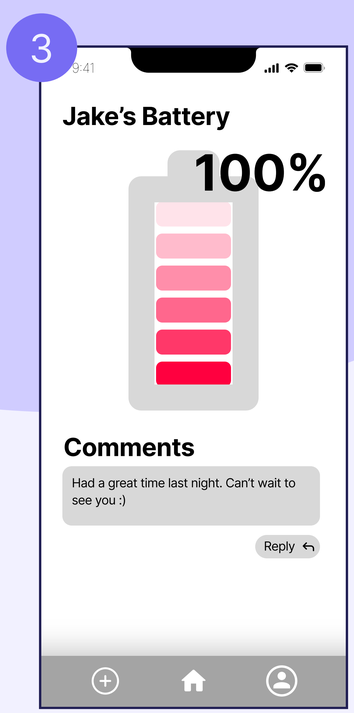
Having the users receive live updates was included to lessen the burden of busy schedules. Since so many student reported feeling busy or not wanting to bother their busy partner, a method to communicate their timings is essential to the design.

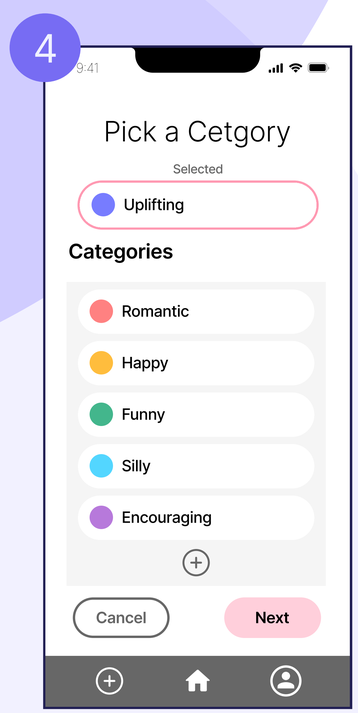
Including a physical artifact was taken into consideration following the design critique of *Bond Touch*. Many users suggested looking for alternative methods of communication due to fatigue of messaging and direct contact. A physical application to help attend to that need was determined as a possible solution.

Prototype Ideation









As a group, we originally created 10 different prototypes to fulfil our functional and non-functional requirements

The prototypes shown are some early ideas we had for the project.

1. Mood ring/tracker
2. Love Language
3. Emotional Battery
4. Teddy Grams

After going through our iterations and deliberating, we decided on creating the Mood Tracker application

Design Requirements

Functional Requirements

- Allow users to communicate with each other
- Allow users to receive live updates from each other about availability/status
- Includes a physical artifact that works with a digital artifact

Non-functional Requirements

- A clean and simple user interface
- The ability to customize the aesthetics of the system
- Include simple instructions for new users to learn about the application

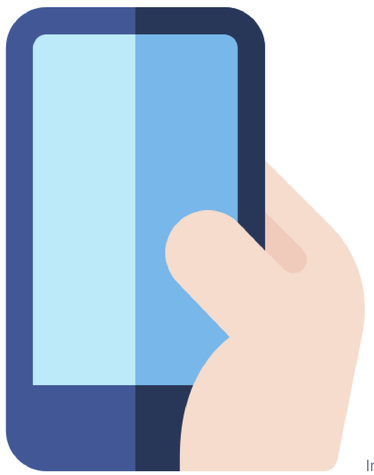


Image from Freepik

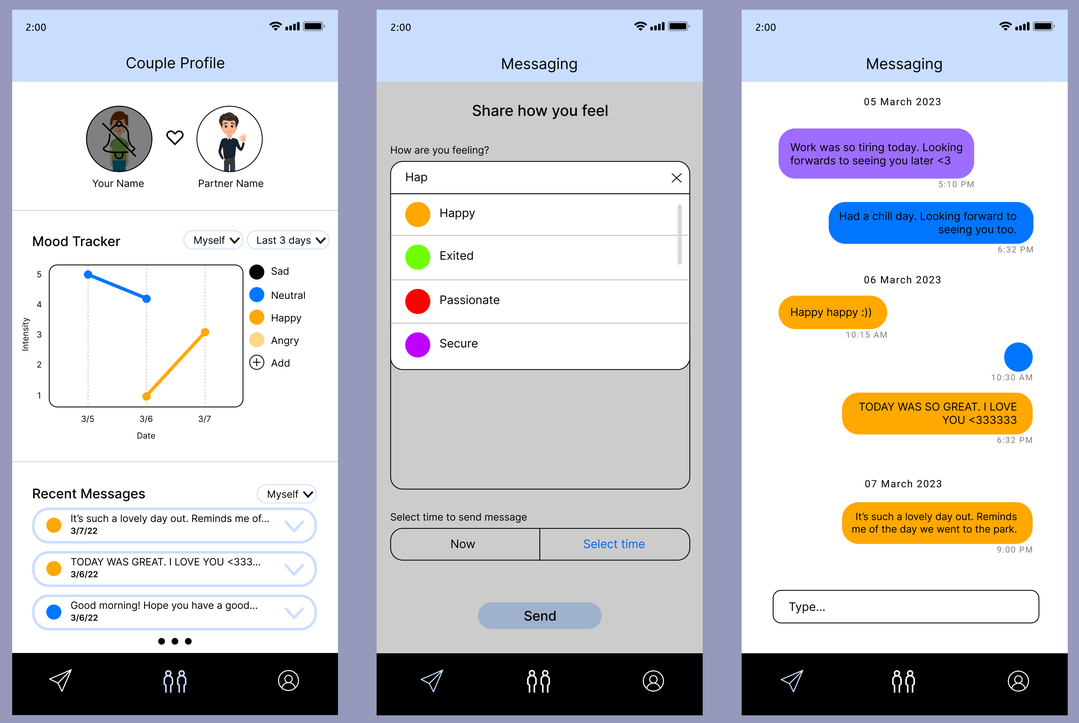
Beginning Prototyping

For our prototype idea, we decided to go with creating the Mood Tracker App. For this prototype, it would be used with an additional physical prototype: a mood ring.

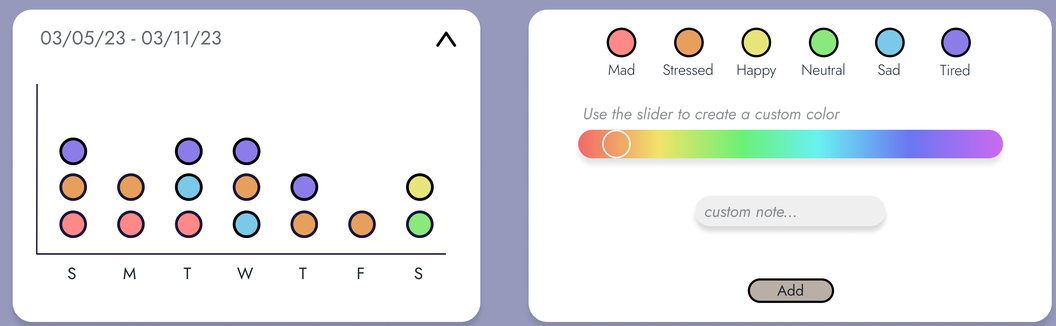
We chose to use a purple monochromatic color palette with varying hues, saturation, and values. We chose to base our color palette after the color purple, because it represented a calming emotion that still has passionate feelings.

This representation was an important aspect to our design due to the high volume of our users that feel expressing their emotions is difficult and stressful

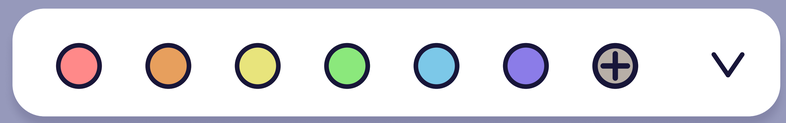
Image from Ana Luisa official listing: MOOD RING https://www.analuisa.com/products/gold-mood-ring-mood-ring



Early Prototype Designs



Various App Elements



Various App Elements

Evaluating and Iterating

Heuristic Evaluations

A heuristic evaluation was performed to test the functional design requirements among fellow designers. Five tasks were completed by three different participants.

There were no interaction conflicts with the initial prototype. Severity ratings for all features only called for cosmetic changes. Suggested changes consisted of giving larger real estate to the color messaging on the home page and text alterations to the return button on the home page.

Response

In response to these suggestions, the mood tracker was given a separate page to give the color messaging feature a greater impact on the home page and consistently expanded labels. The return button after sending a color message was changed to a home button. The text sizing for warning messages was altered to better convey the severity of a user's actions. Additionally, a color slider was implemented instead of a set custom colors so users have more options if they want to create a custom color option.

Image from Freepik

“Turn off Do Not Disturb”

Evaluation

Cognitive Walkthrough User Studies

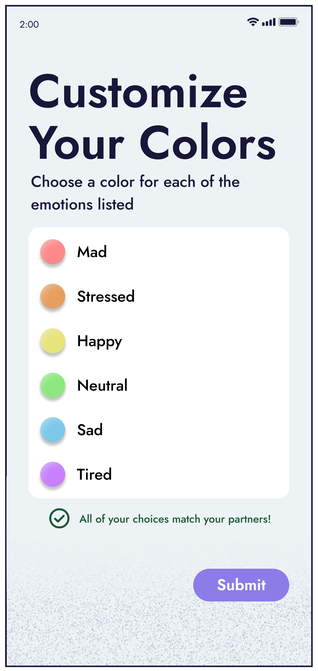
Direct interviews were conducted with six students from the Georgia Institute of Technology. The participants were ages 20-22, and all of them were in relationships at the time.

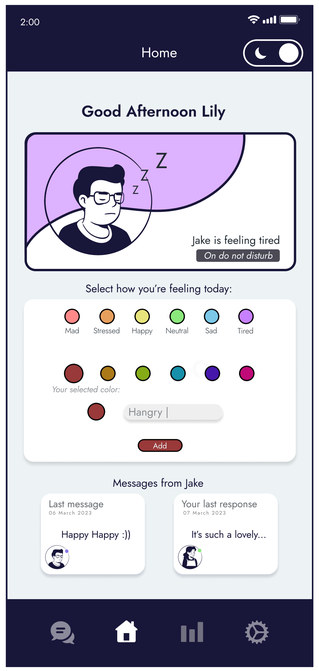
During the interviews, users were asked to complete vague but simple tasks. To evaluate the prototype, a cognitive walkthrough with simple scenarios was conducted. This method was chosen, so that users could highlight key points where they struggled to find features, could not complete necessary tasks, or encountered pain points in the application.

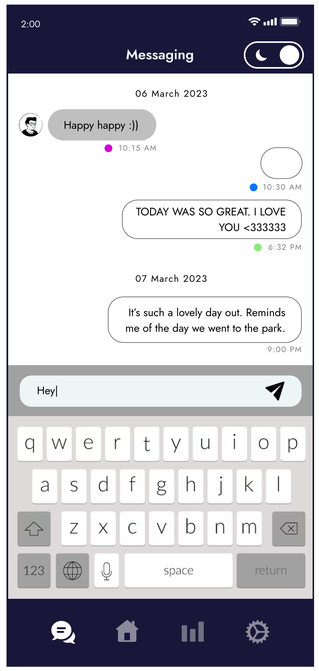
From the findings of the interviews, various users encountered difficulty with navigating the mood tracker, distinguishing UI elements, and returning after sending a note. In response to these challenges, changes were made to the final prototype’s mood tracker, color palette, and button text and placement.

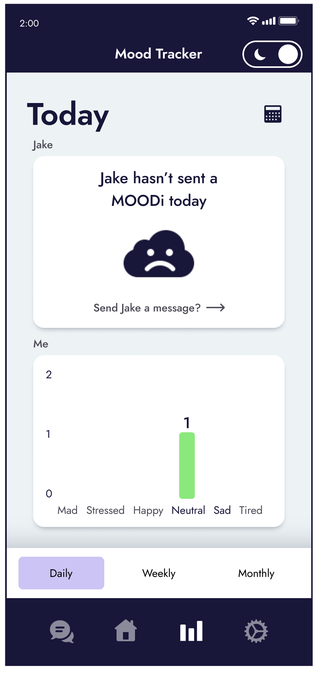
Final Prototype

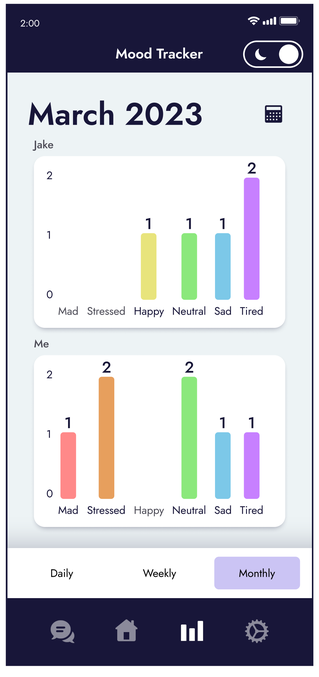
Final Prototype (cont)

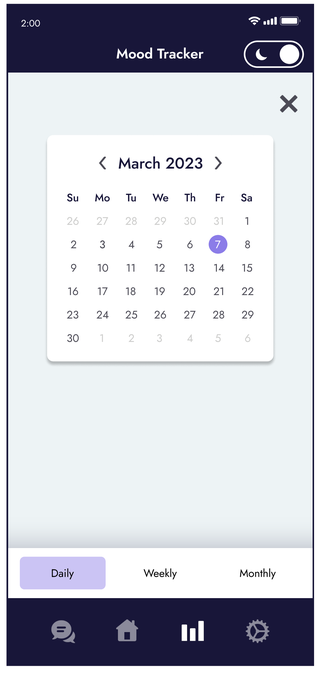








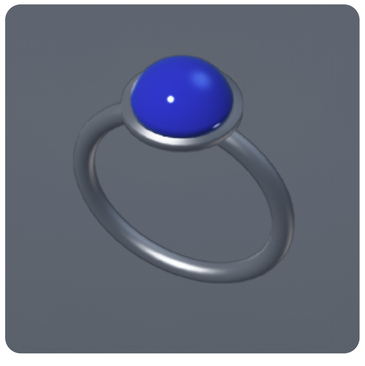




For our final prototype, we finalized our color scheme to stick with the purple monochrome theme similar to our older prototypes due to positive feedback regarding our UI.

For our fonts, we went with a san-serif typeface which also remained the same to focus on readability and a clean, modern looking UI.

The screenshots include the finalized screen of an onboarding page, the home page, messaging page, and three pages of our mood tracker/calendar feature. Finally, we created a ring mockup that would be paired with the application.



Mockup created in Blender

Reflection

General Takeaways

Our initial goal with the Moodi project was to aid Georgia Tech students as they tried to navigate difficult situations with relationships. Through our research we gained a deeper knowledge of the struggles of long-distance relationships and the difficulties that come with trying to communicate.

We learned that we needed to research and investigate before being able to design for this group and their needs. Specifically we grew researchers and we navigated the user research process and formulated tests to determine if our solutions worked appropriately.

Although design seems like an art form, we learned it is more of a rigorous process. There is nothing above the needs of the user group.

What did we learn? What to do differently?

Over the course of this semester, our group learned many useful skills that will carry over in the future. Some of these include:

- How to **conduct user research**
- **Creating prototypes** and the iterative process
- Thinking about user flows and the **user experience** of an app
- Creating both aesthetic and **user friendly interfaces**
- Conducting **user tests and evaluations**
- **Design critiques** and integrating user **feedback**

As for what we could have done differently, there could have been more focus on refining user flow diagrams to better solidify how our features would work and connect with one another.

References

[1] Holt-Lunstad, J. 2018. Why Social Relationships Are Important for Physical Health: A Systems Approach to Understanding and Modifying Risk and Protection. Annual Review of Psychology, 69(1), 427-458. Retrieved February 1, 2023 from https://www.annualreviews.org/doi/full/10.1146/annurev-psych-122216-011902.

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