



Aligned

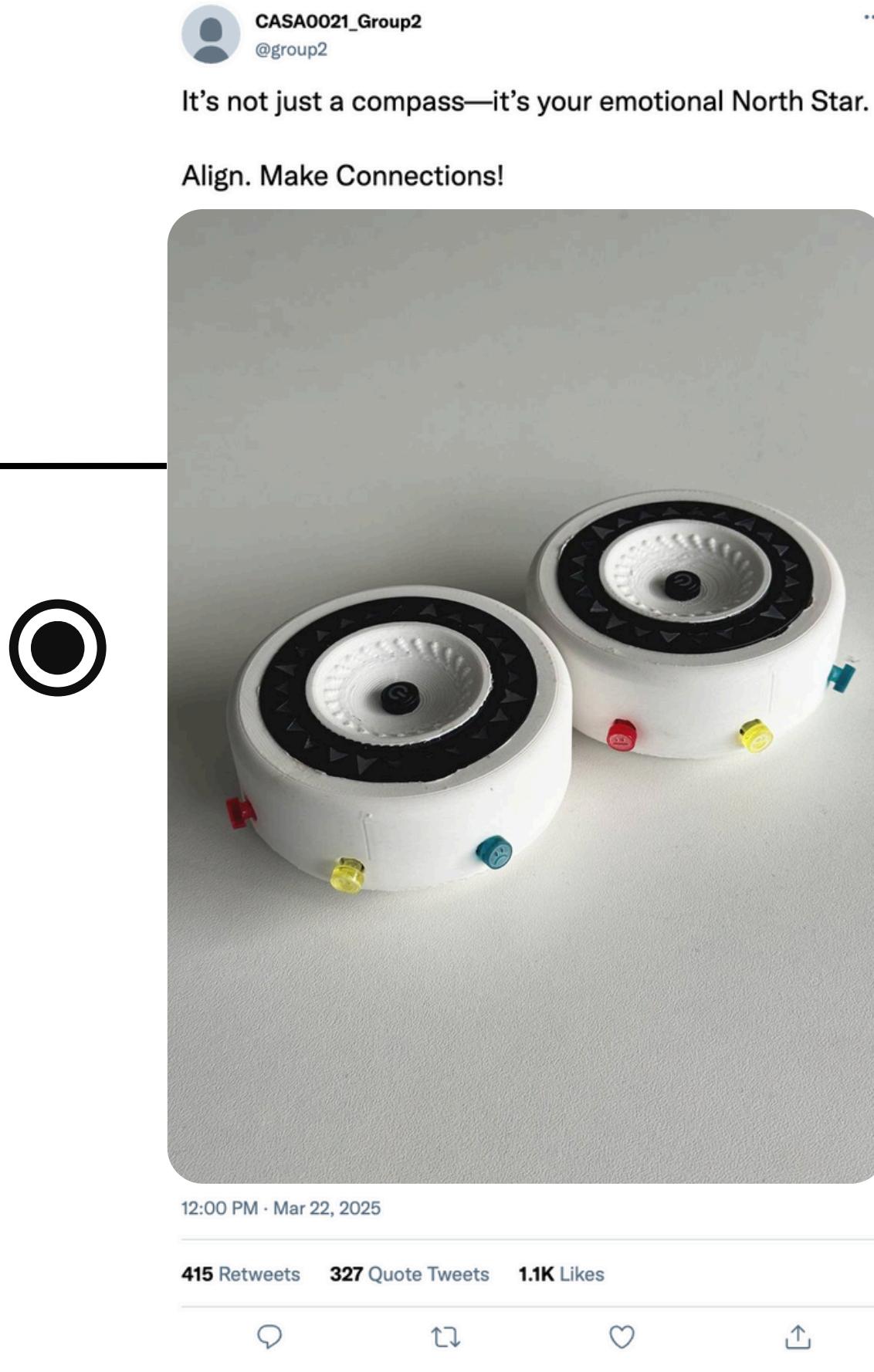
Navigate & Communicate Feelings

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N E X T

Presented by: Group 2
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What Is Aligned?

Aligned

2025

N E X T

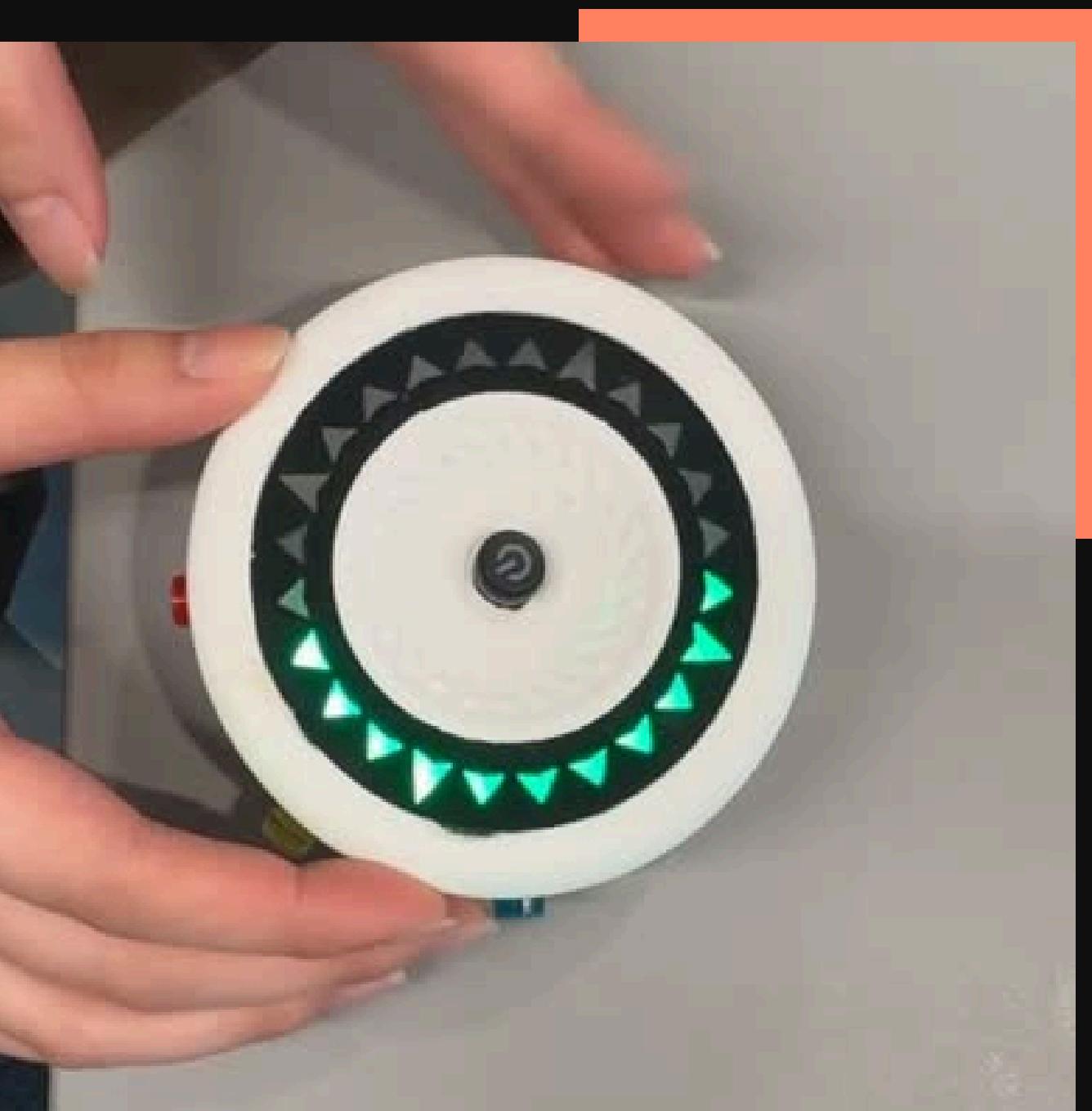
ALIGNED

VIDEO INTRO

WHAT IS ALIGNED?

06

ALIGNED



Device 1

01



Navigate to align

Using your compass slowly turn to find the right angle to face to your partner

02



Select a mood

Choose the mood that you want to express to the other person using buttons

03



Aligned!

Wait for your partner to get aligned as well ! Your device will turn to the color of your mood if they are aligned showing that the message is received!

Device 2

01



You have a message!

The device lights up to indicate a connection request

02



Navigate to align

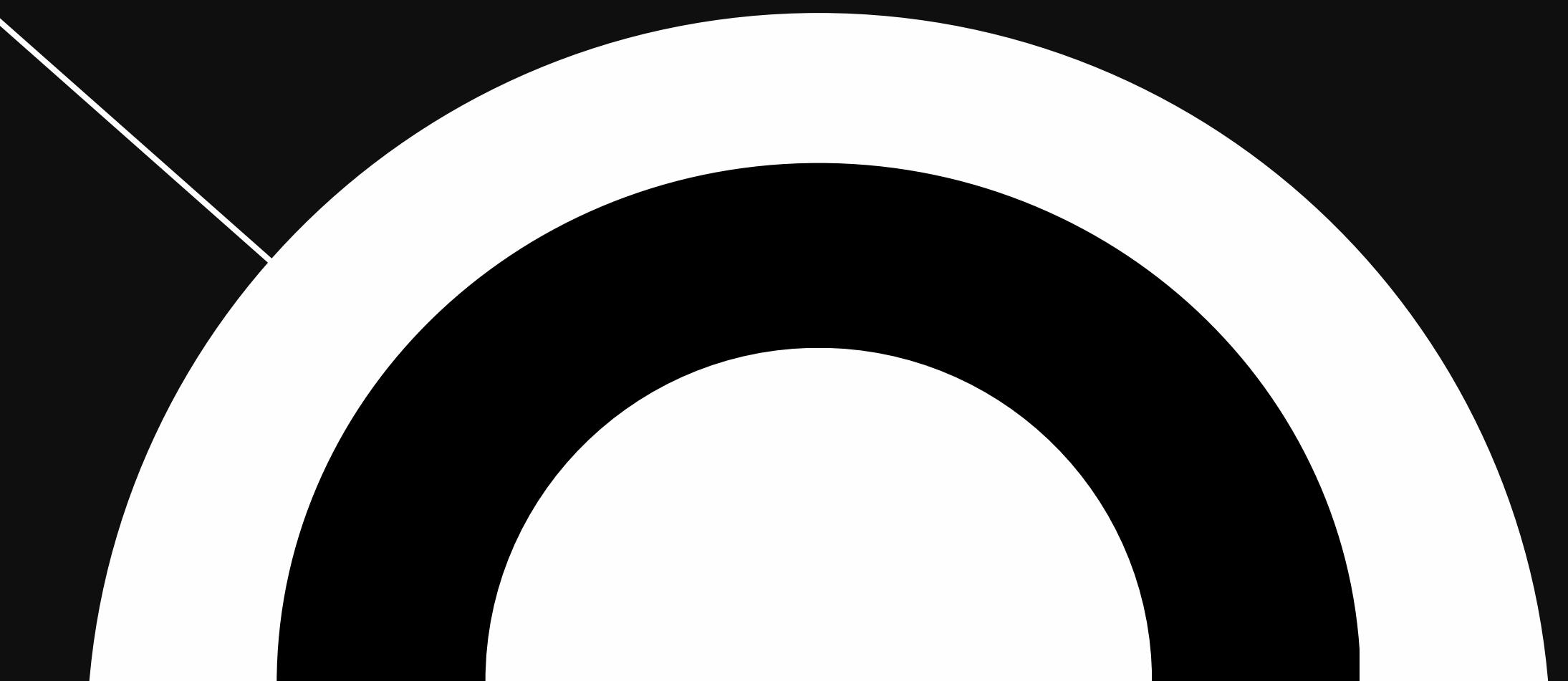
Using your compass slowly turn to find the right angle to face to your partner

03



Aligned!

When you successfully aligned with your partner you will get the mood they are in with the color of the light change to match their mood!



WHO NEEDS ALIGNED?

ALIGNED



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Challenge: Time zone differences create emotional disconnect.

Scenario: Sending rainbow light pulses to show "i'm happy!" when physical presence isn't possible.

Insight: "83% of long-distance couples experience reduced anxiety through visual emotion synchronization."

Synthesis of findings from Chien's longitudinal study (2017) and Gartner 2024 tech-adoption data

"Love is not about being in the same place, but being **aligned** in feelings"

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Challenge: The fading glow of distant friendships.

Scenario: Sending synchronized light effects when feels lonely across time zones.

Insight: "59% of long-distance friends believe light-based rituals maintain bonds"

Synthesized from MIT Media Lab's ambient intimacy studies (2021) and Pew Research Center's digital friendship report (2023)

"Shared joy doubles, shared sorrow halves – when hearts are **ALIGNED**"

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Challenge: Generational emotional translation gaps

Scenario: Projecting rainbow waves on Father's Day to bridge unspoken bonds.

Insight: Nonverbal signals increase the frequency of parent-child deep conversations by 53%

Synthesized from APA's family communication studies (2020) and Fatherhood Institute's tech-adoption report (2023)

"Silent love finds its voice through **ALIGNED's** light"

Extended user groups

1. Nonverbal communication in families with autism
2. Mood warning system for people with depression
3. Emotional Radar in Business Negotiations

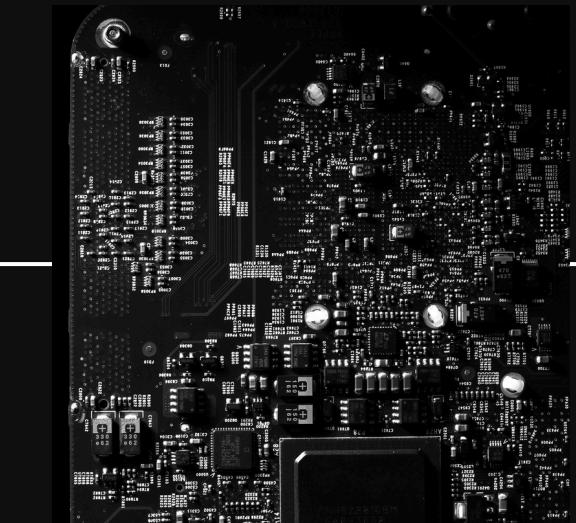


Function Iteration

Design Overview

Hardware Setup

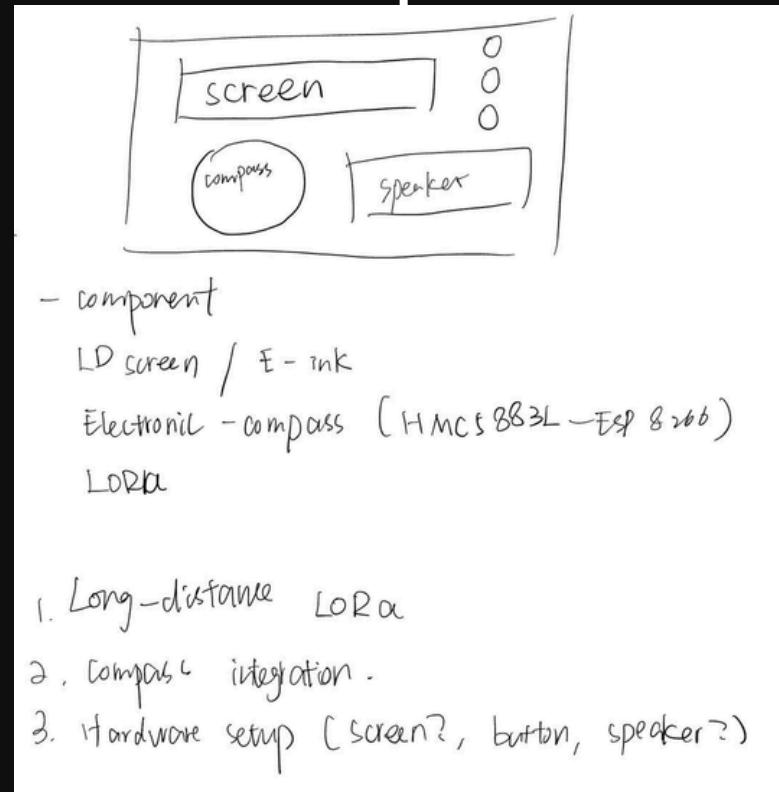
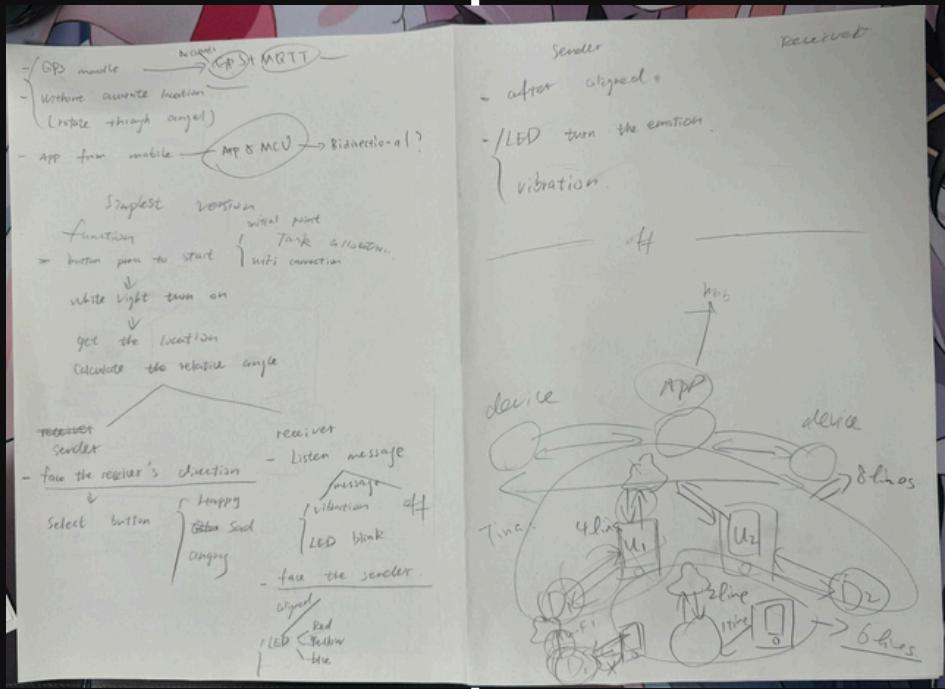
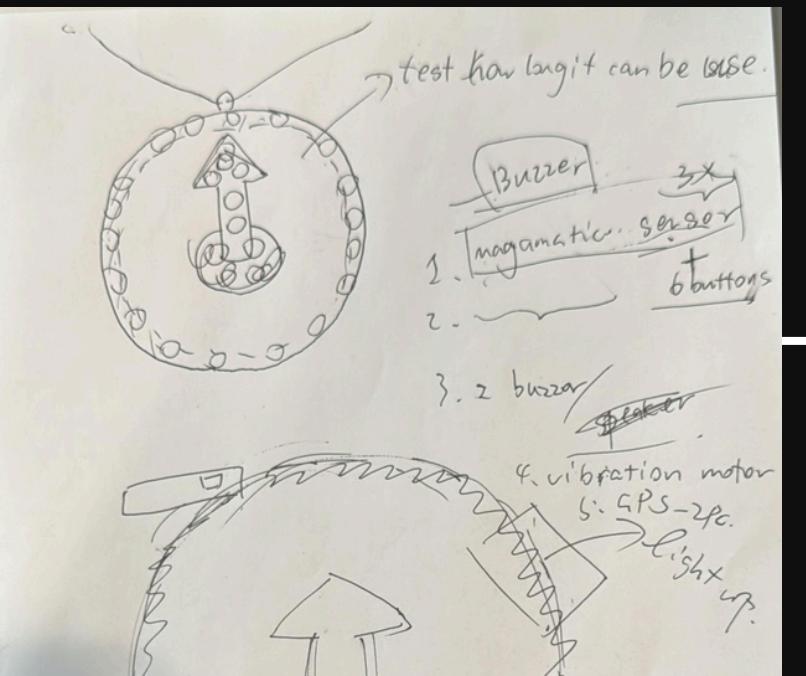
Enclosure Design



Development Roadmap

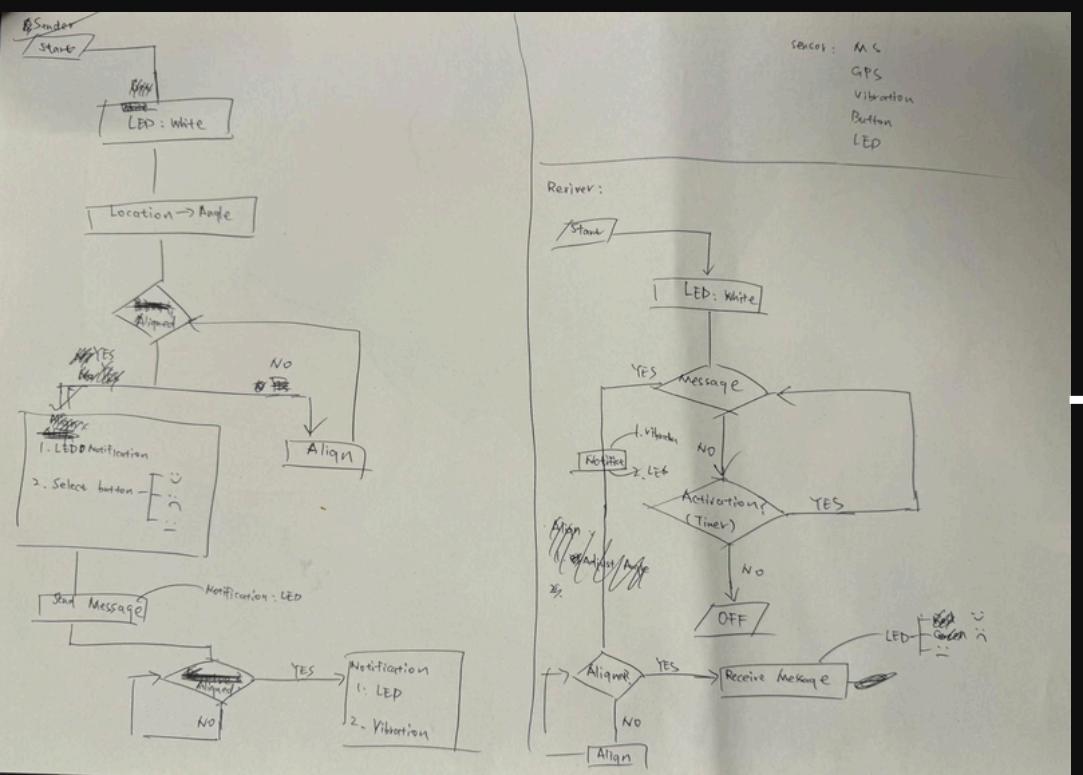


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Design Iteration

Spatial perception emotional communication gamification



Function Comparison

Similar Product	Unique Point	Limitation
Suunto	<ul style="list-style-type: none">• Able to navigate• User friendly• Small size	Not able to deliver emotional transmission
Lovebox	<ul style="list-style-type: none">• Emotional transmission and interaction• visual feeling	<ul style="list-style-type: none">• Not very much human interaction• app based device• USB based device
Hey Bracelet	<ul style="list-style-type: none">• High privacy• Emotional transmission• Small size device	touch feeling only

What does our device enable?

-  **Transmit emotional messages**

Users can send emotional signals (happy, sad, angry) via directional communication

-  **Multi-sensory feedback**

Integrates visual, haptic (vibration), and sound cues to enhance the experience.

-  **Human-centered interaction**

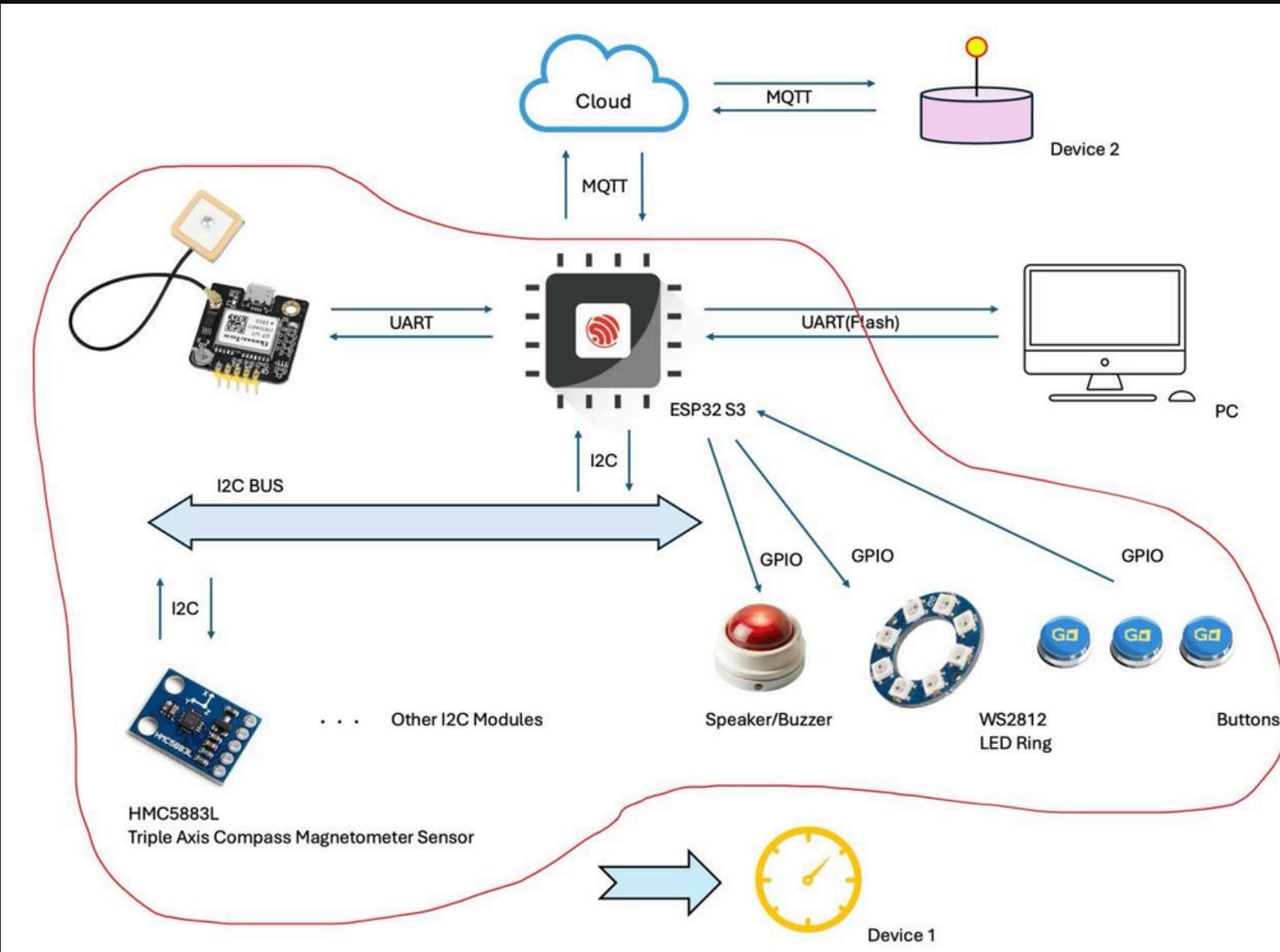
Encourages face-to-face-like engagement by requiring users to align directionally.

-  **High privacy**

Messages are only revealed when the receiver faces the correct direction, protecting emotional content.

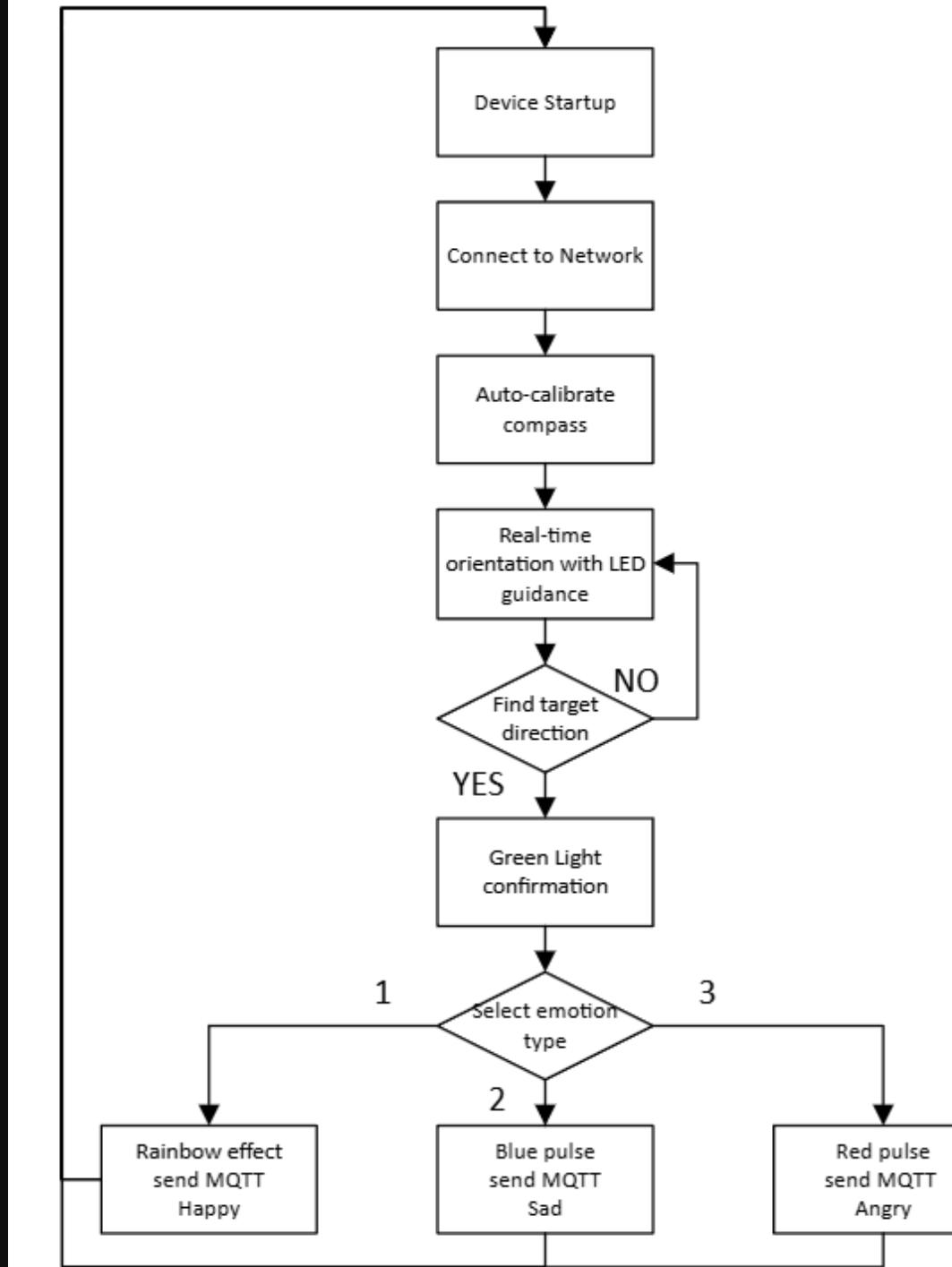
-  **Chargeable and portable**

Small device powered by a rechargeable battery with USB charging support.

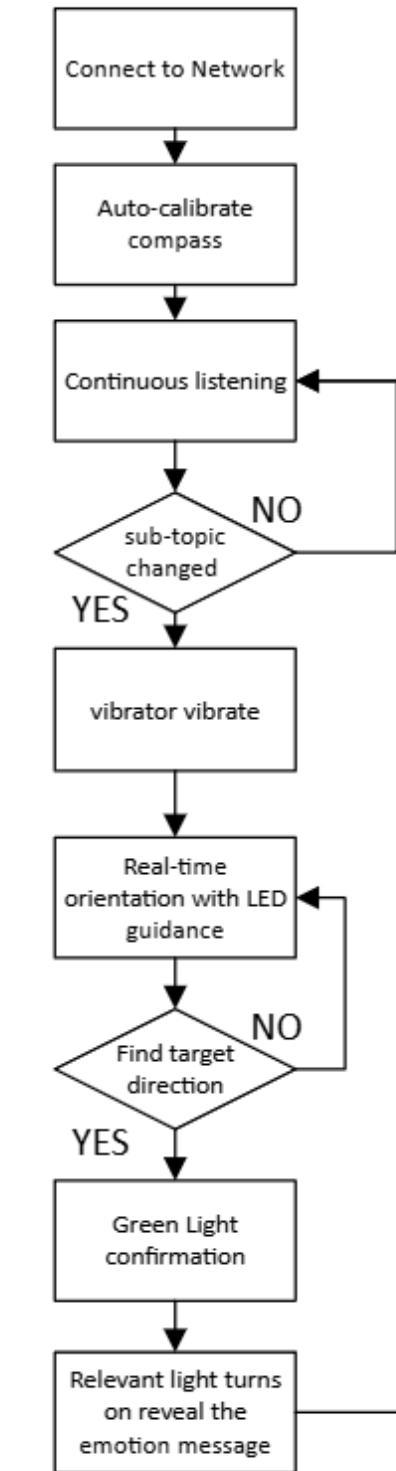


- Both devices can function as either a sender or a receiver
- Deal with each other's emotional events at the same time

Sender:



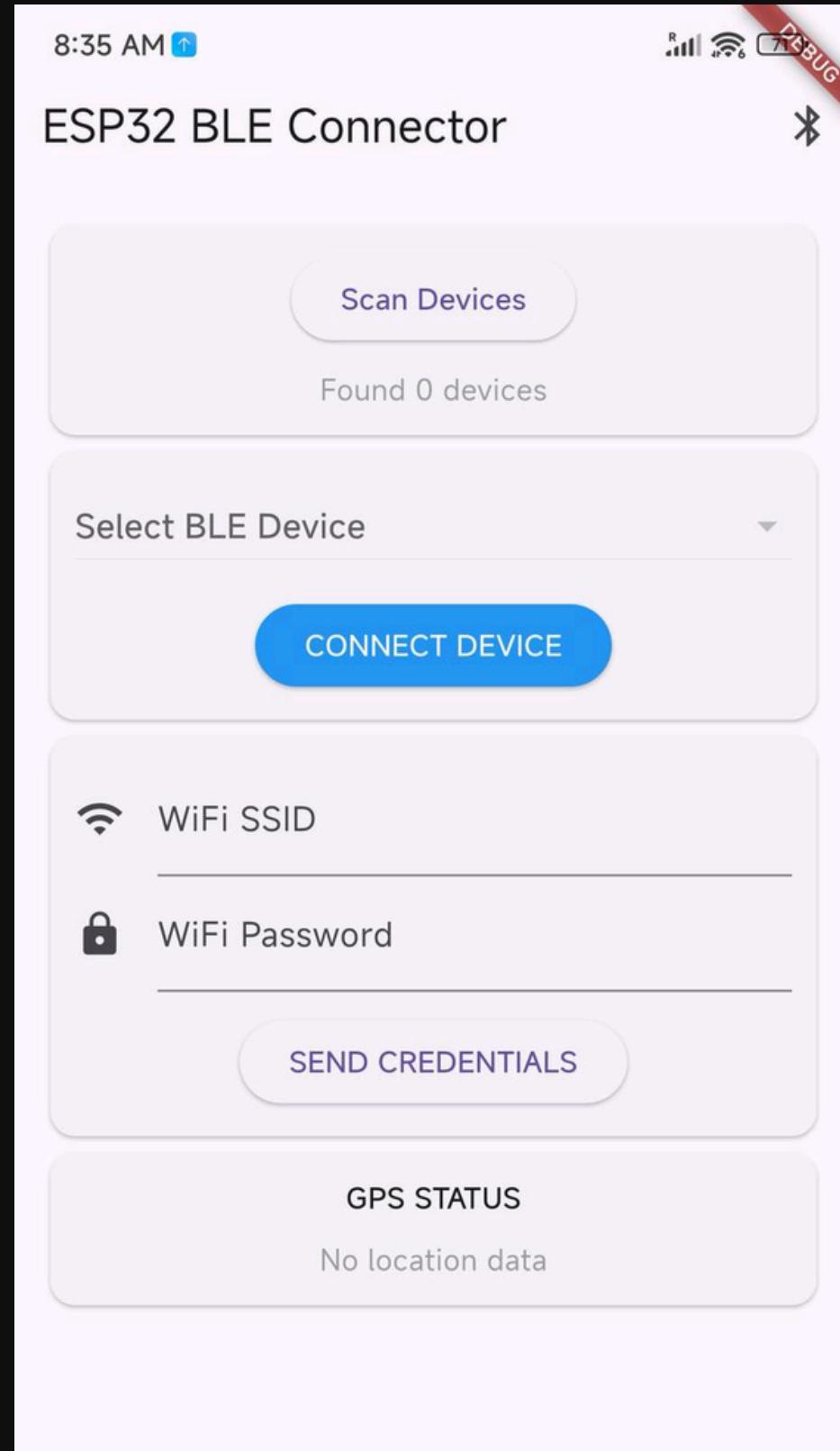
Receiver:



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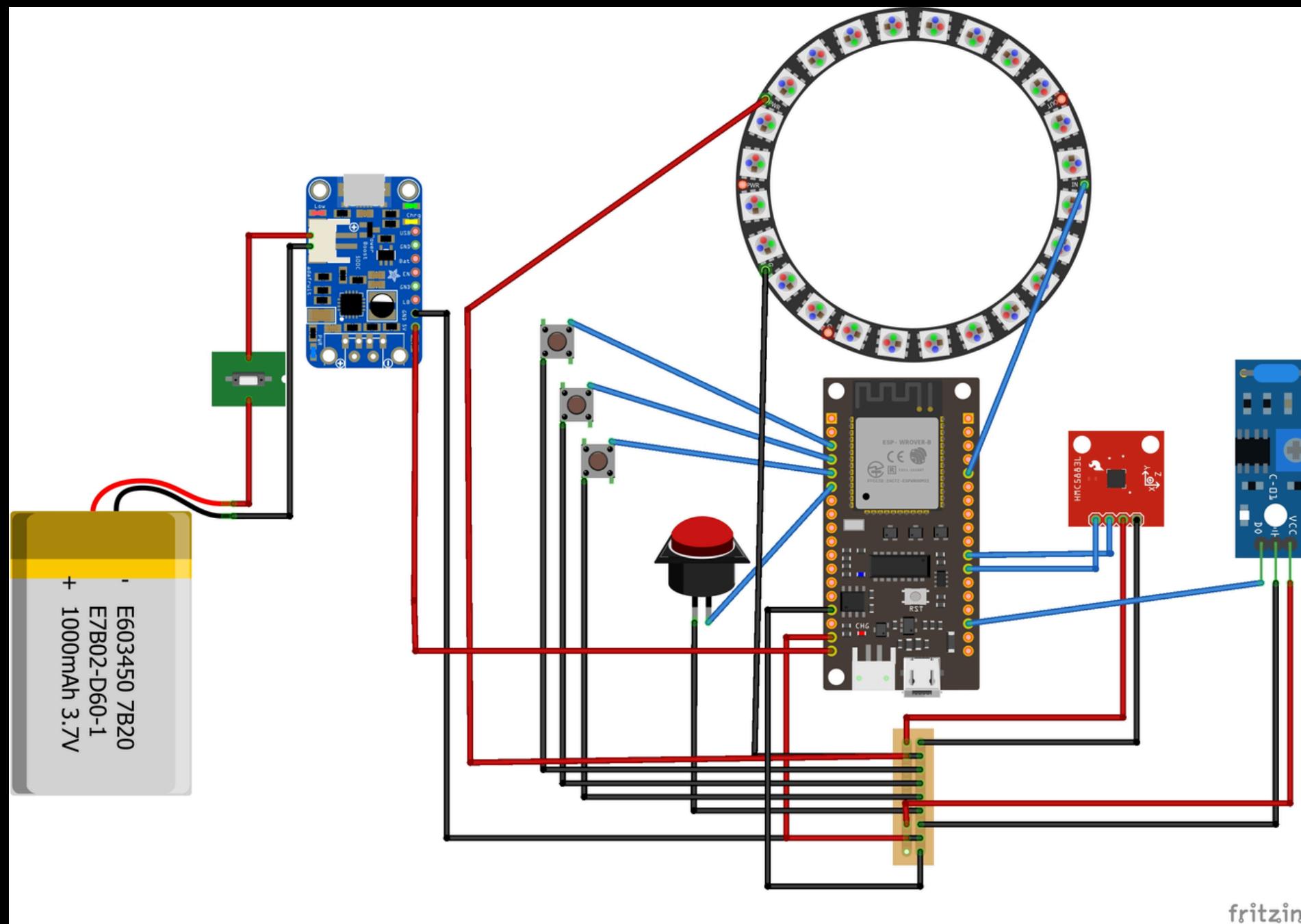
Software Setup

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- An APP was designed for IOS, Andorid and Web
- The Device can be initilized throgh the APP “ESP32-Connector” with Wi-Fi and GPS info
- As they are initialized, no need re-init for Devices

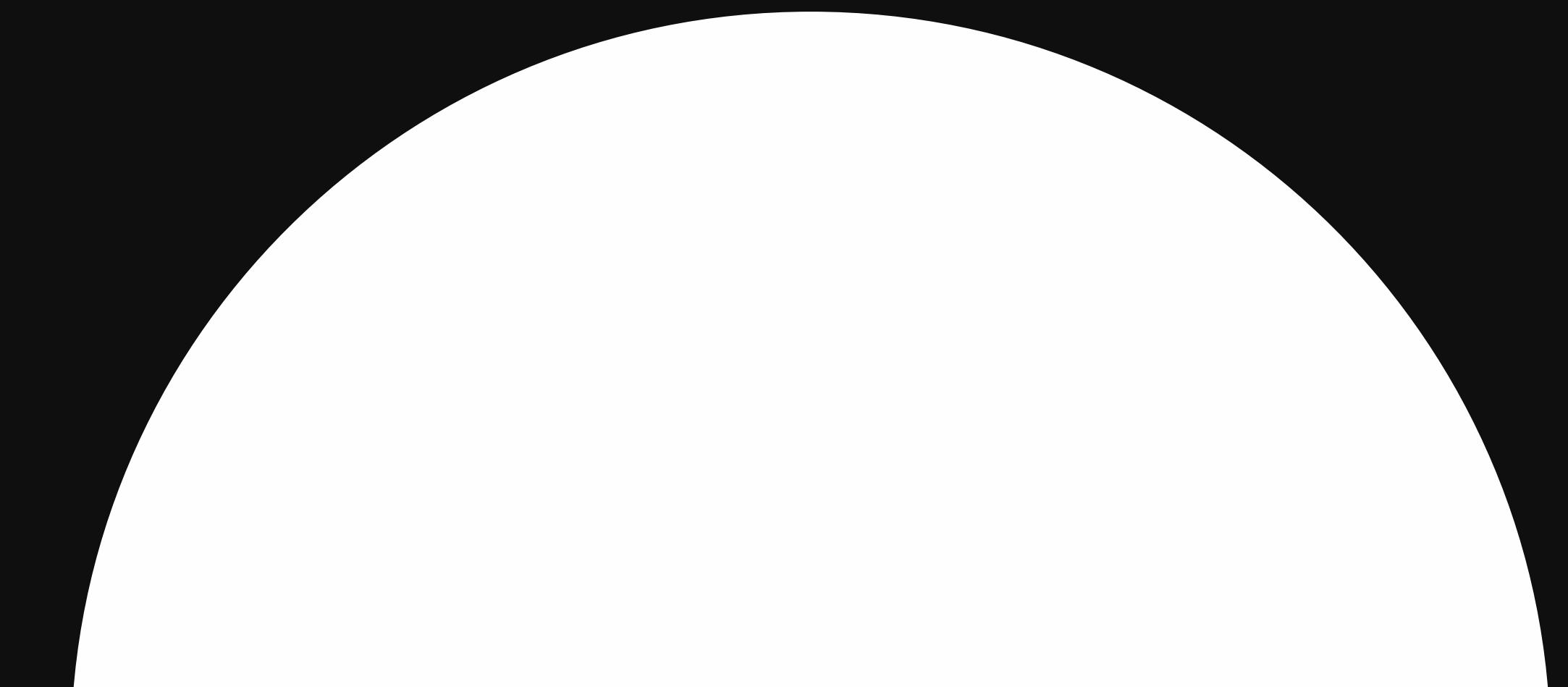
Hardware Setup



Hardware:

- Buttons
- **ESP_WROOM32**
- **HMC5883L**
- **Vibrator**
- **NeoPixel Ring**
- **Battery module**

Enclosure Design



Design Principles



1



2



3

Small and pocket size

It ought to be a wireless and portable device that can be easily and comfortably held in your hand.

Easy to use and intuitive

The interface should be very straight forward to use and it should be fairly easy to follow the signs and colors

Beautiful and slick

It ought to be pleasing to the eyes and preferably customizable

Enclosure Modeling ○

There are Four distinct versions of the enclosure, each tailored for size and user-friendliness.



Seamless integration with buttons



Adding physical signifiers



Buttons on the side + details



Changing the Height and size

○ The Challenges

1

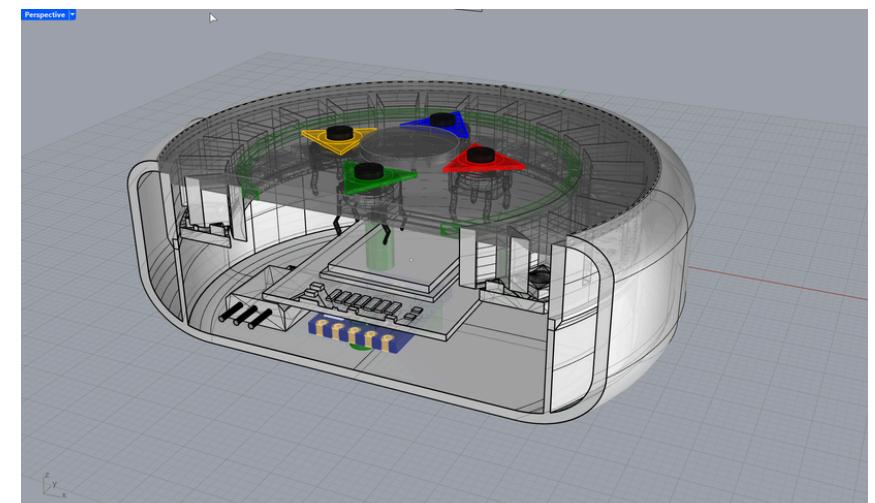
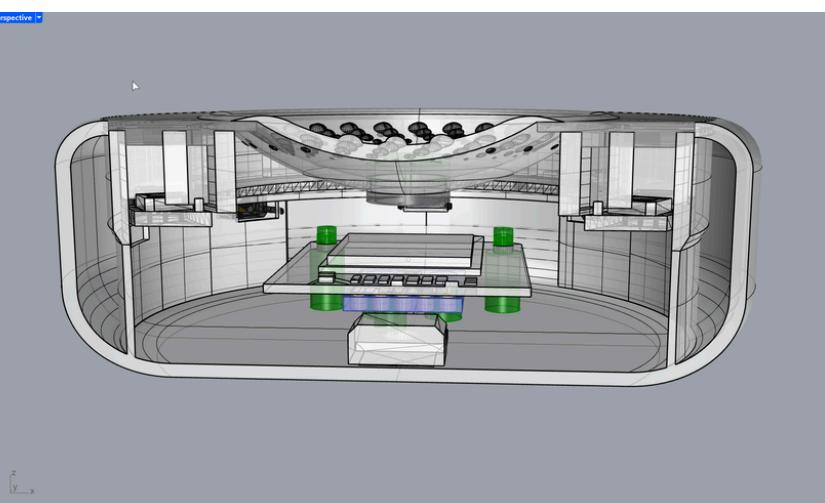
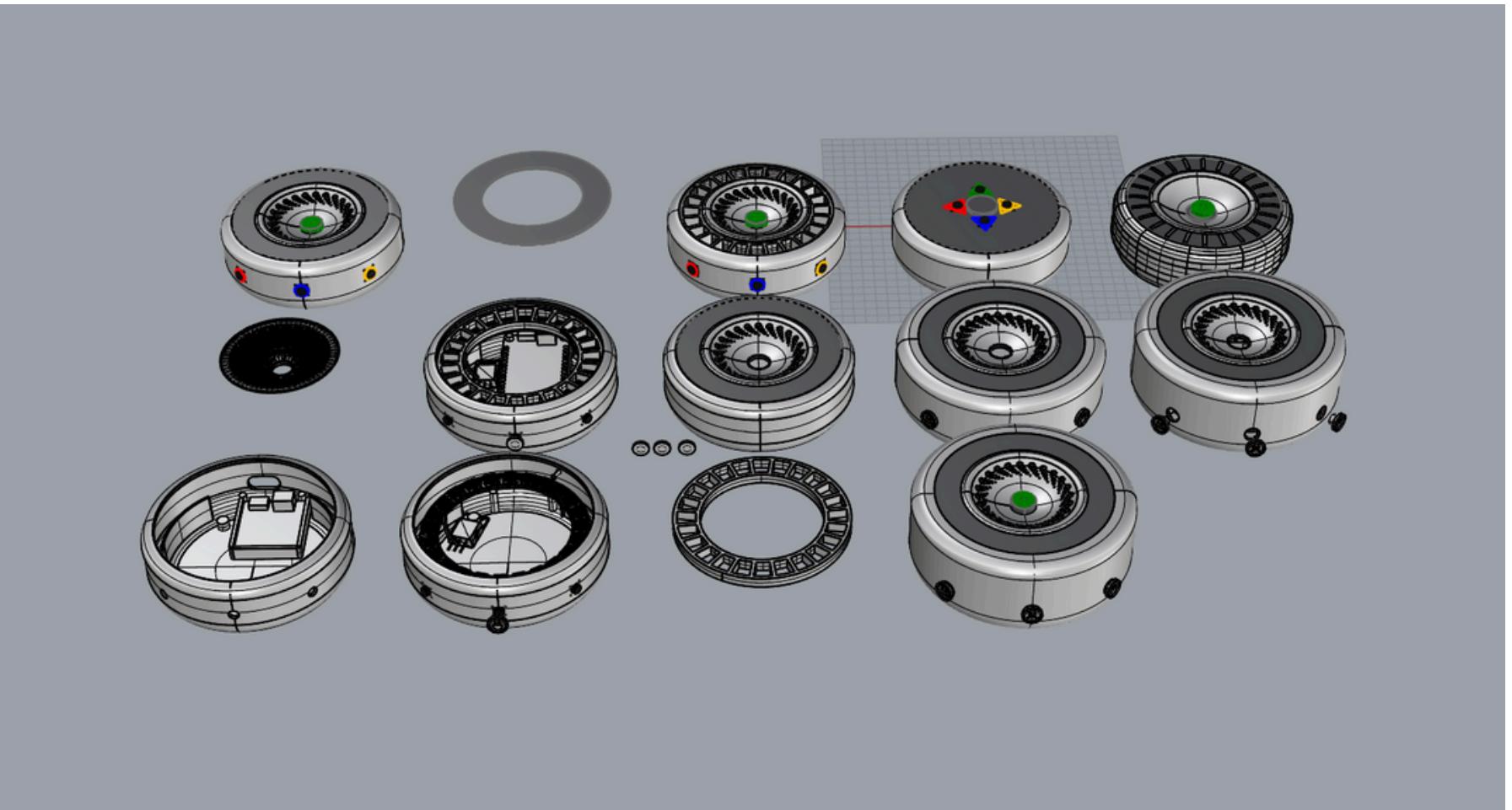
Efficient arrangement of all the components in small space

2

Including the battery and the charger module

3

The fixings and accessibility to the Key components



Prototype Developments



Initial Paper Prototype



Testing Acrylic diffuser



Refined Prototype



Final Prototype



Aligned Explosion

Limitation

- Batteries do not provide power for too long
- Circuit integrated with many wires
 - Circuit Heat Dissipation & lose connection
- long-distance range



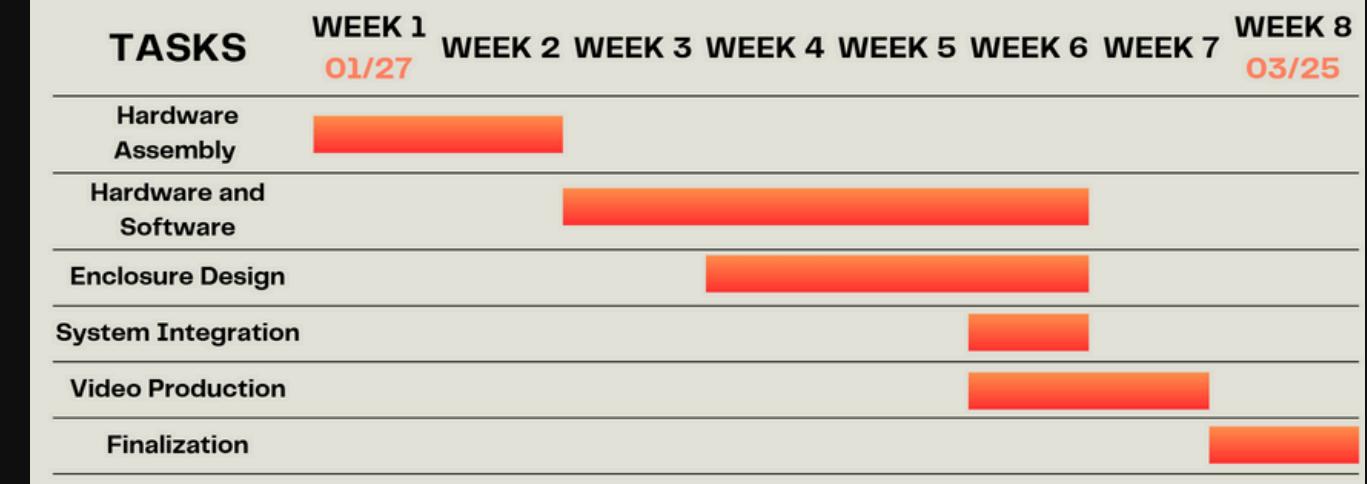
Future Development

- Using PCB instead wire-based circuit
- Enrich emotional expression
- Better app UI/UX to enhance user experience
- Instead of 1 - 1 device, 1 - multiple devices

Reflection

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Timeline



- More experience in team work
 - Skills development (Design & Hardware & Software & communication)
 - Clear DDL setting and work distribution
- Feasible changes towards overall objectives
- Creative “plan B”
- Achieve all the target functions



REFERENCES

Chien, W.-C., & Bardzell, J. (2017). Technology-mediated relationship maintenance in romantic long-distance relationships: An autoethnographical research through design. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (pp. 4873-4884).

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<https://en.lovebox.love/>

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Thank you !