

# Build Your Own Love Messengers

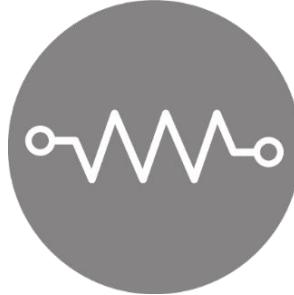
**Today,  
3:00PM - 5:00PM**

**Connect to Wifi:**

Username: NYCR24

Password: clubmate





**Thanks NYC Resistor for hosting**

And @Kari for helping us organize

# ❤️ Introductions ❤️

- Name
- Pronouns
- What was your last biggest fuck-up?







**Before we begin, we need to Download:**

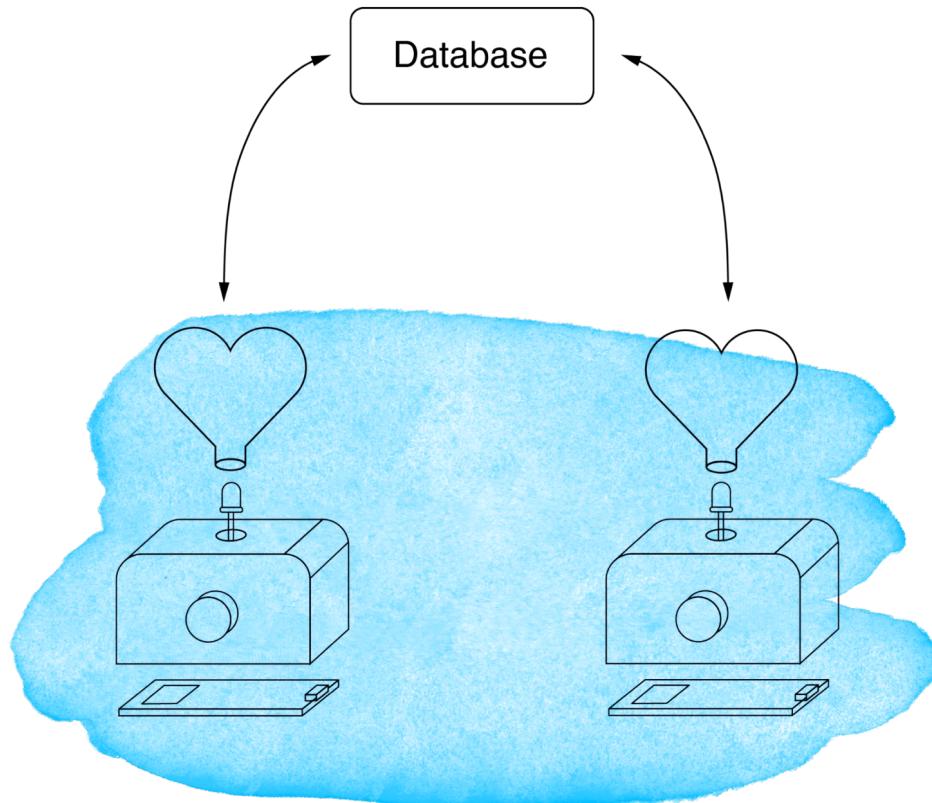
Arduino IDE  
Board Packages



**Download Arduino IDE:**

[www.arduino.cc/en/software](http://www.arduino.cc/en/software)

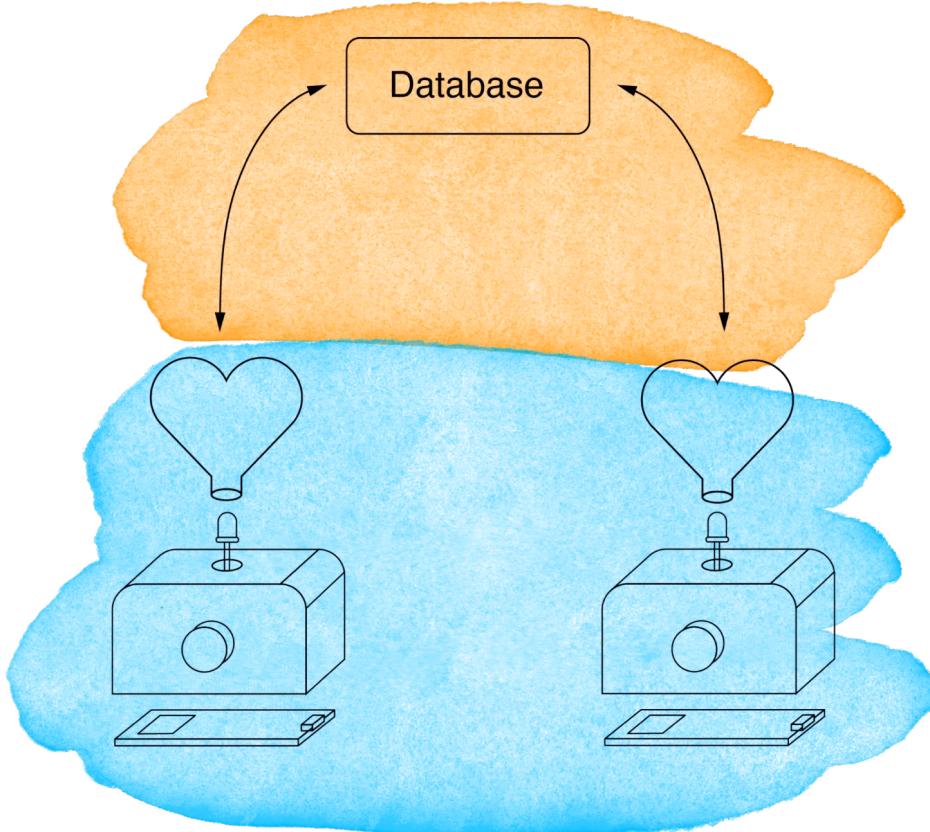
# Schedule:



## Physical Segment (1hr)

- Soldering
- Assembling

# Schedule:

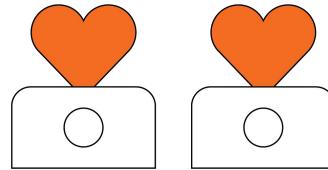


## Digital Segment (1hr)

- Database
- Code

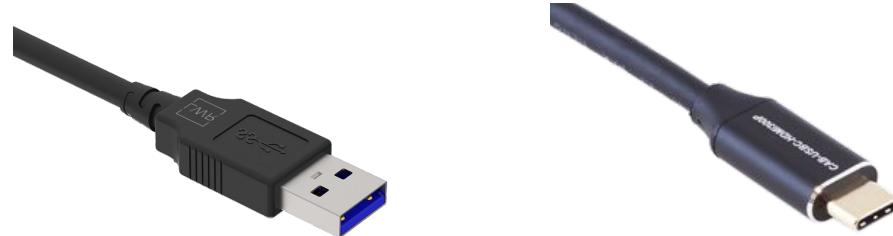
## Physical Segment (1hr)

- Soldering
- Assembling



We will now give out the base material kit!

Choose between: **USB-A** or **USB-C**

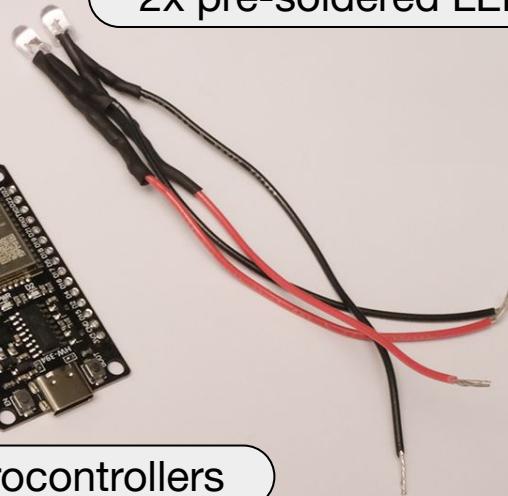


# Materials provided in your base materials kit

2x Cables to upload code



2x pre-soldered LEDs



2x ESP32 microcontrollers



4x screws

1x Wormi Collective Sticker <3

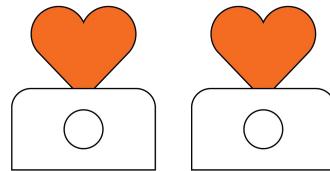


# Items to customize!



1x box floor  
labelled “2”





Come to the front to customize your own Love Messengers!

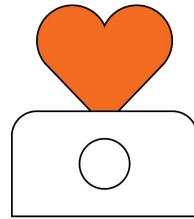
Settle at the front soldering station



Who here has soldered before?



**Live demo of soldering** 

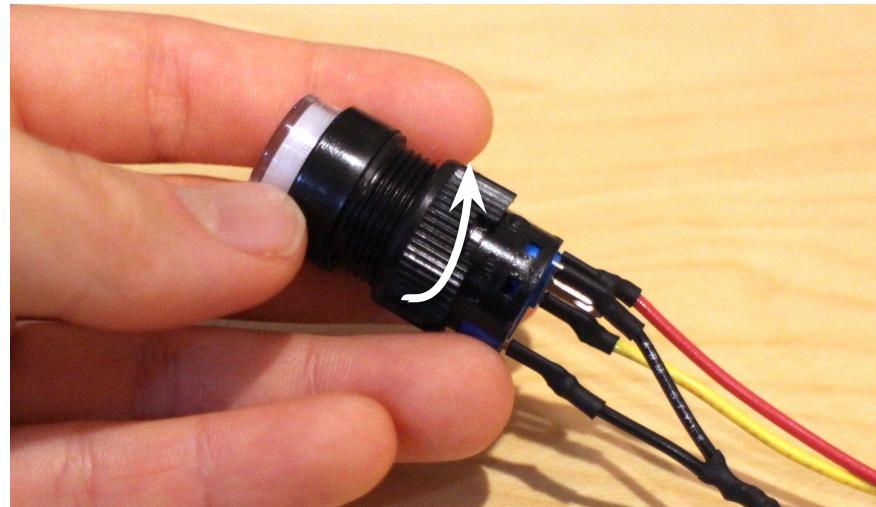


Let's start with just one love messenger!

# Part 1: Pre-assembly

## STEP 1

- Unscrew the plastic piece from the back of the button

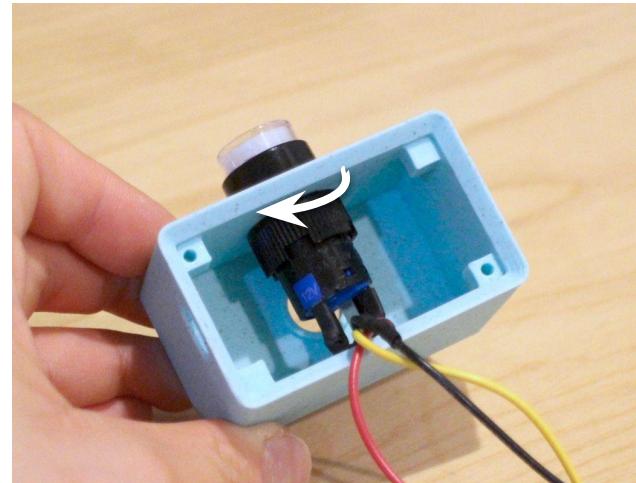
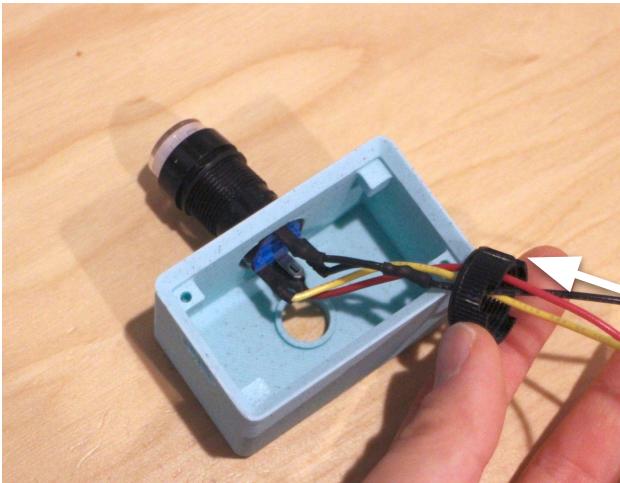
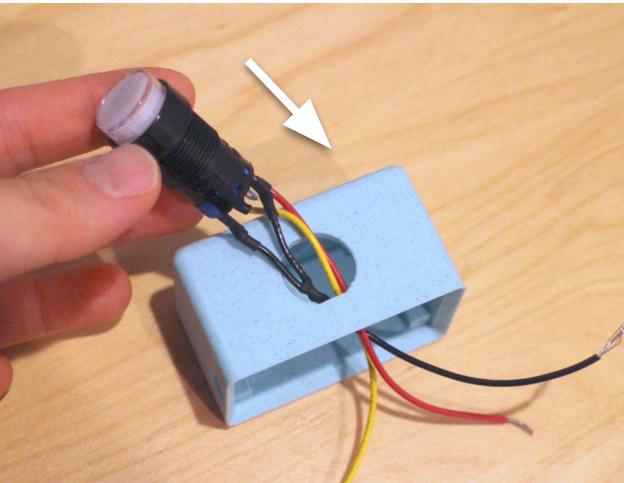


# Part 1: Pre-assembly

## STEP 2

Insert button

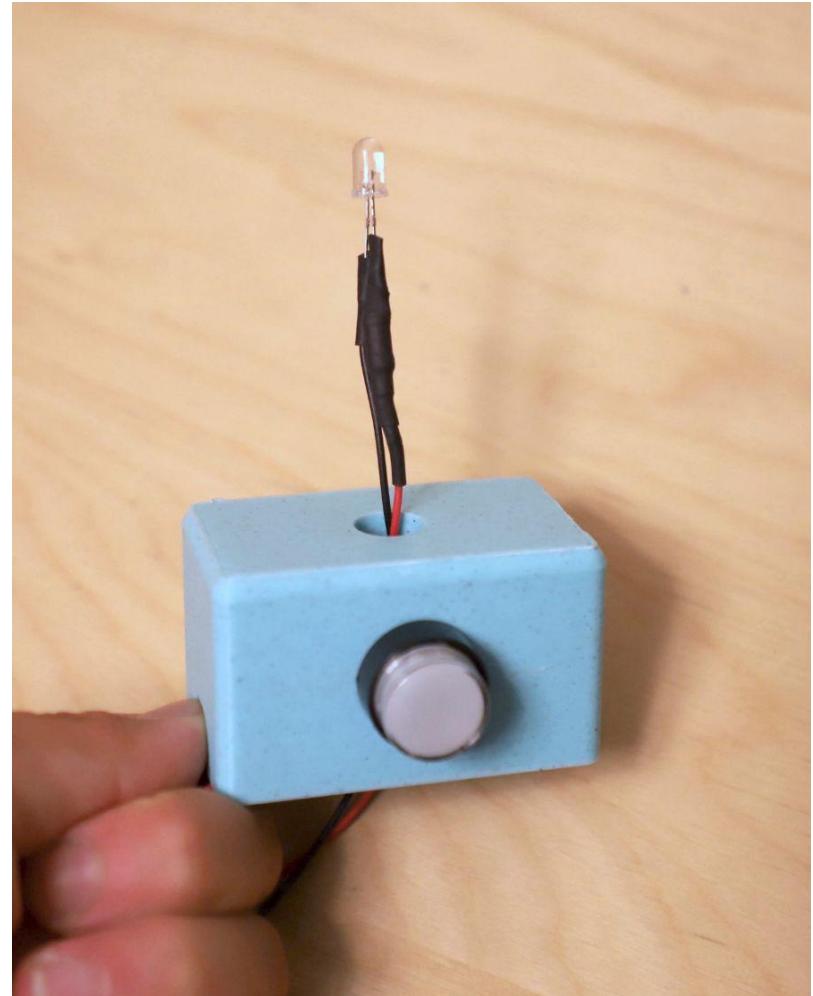
Screw button into the encasing



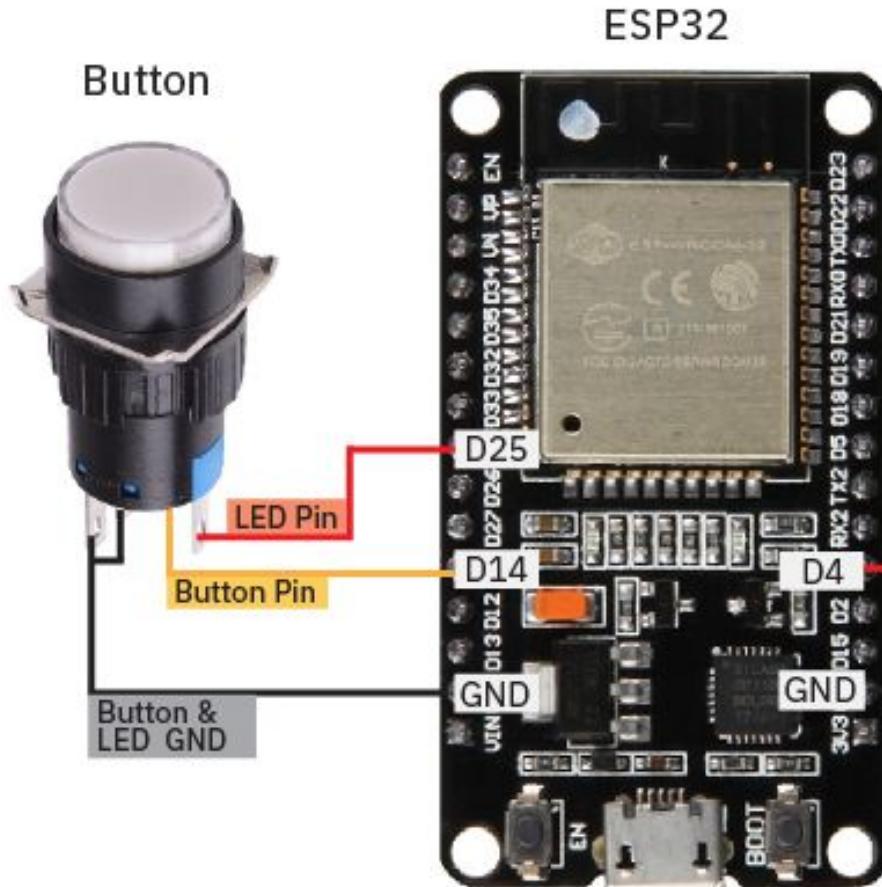
# Part 1: Pre-assembly

## STEP 3

Stick the pre-soldered LED through the hole at the top of the box encasing.



# Part 2: Soldering



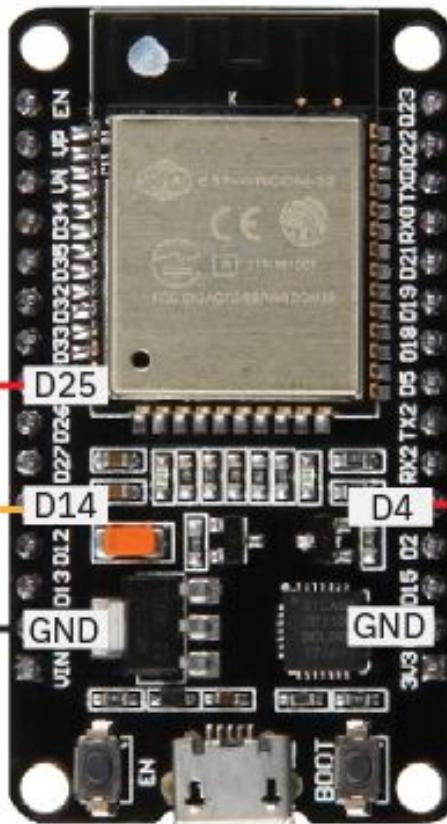
Pre-soldered LED

ESP32

Button



Button &  
LED GND

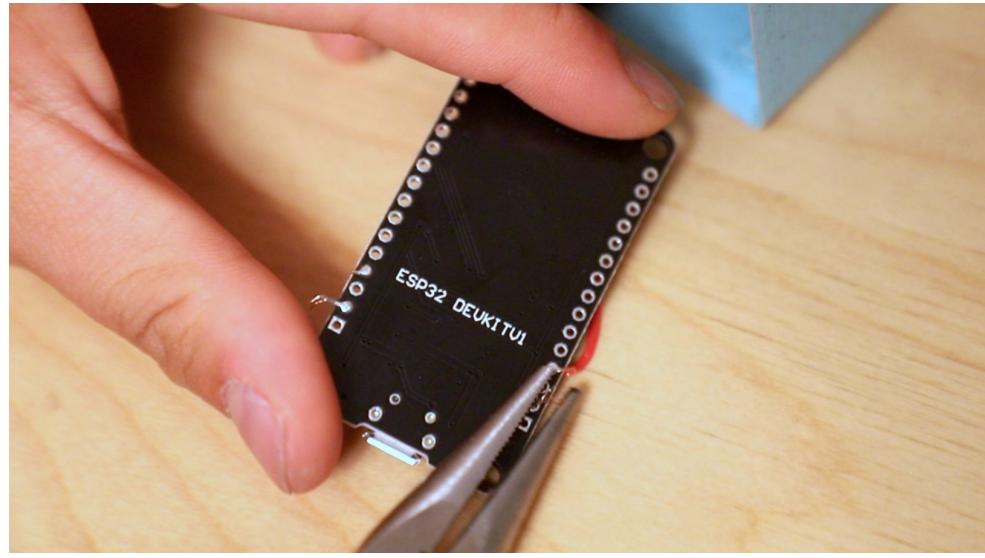
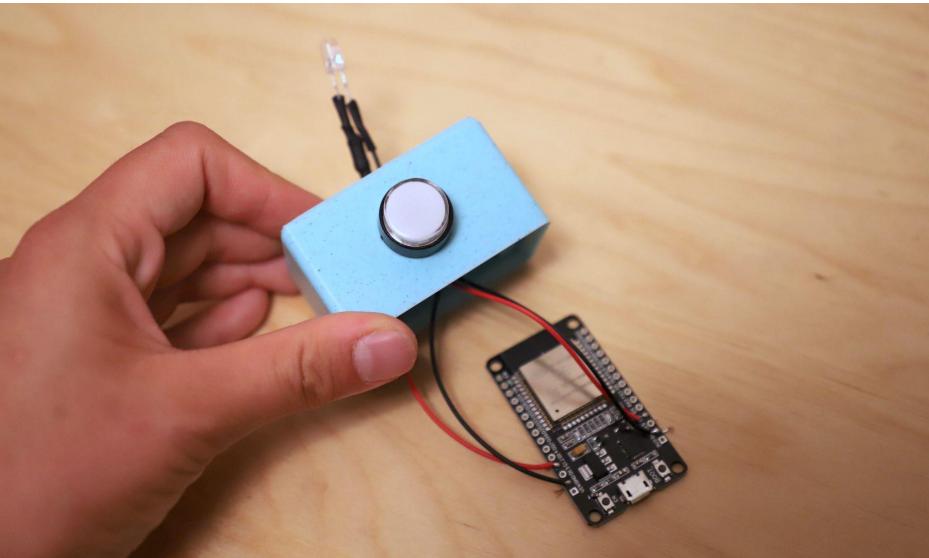


220  $\Omega$   
Resistor

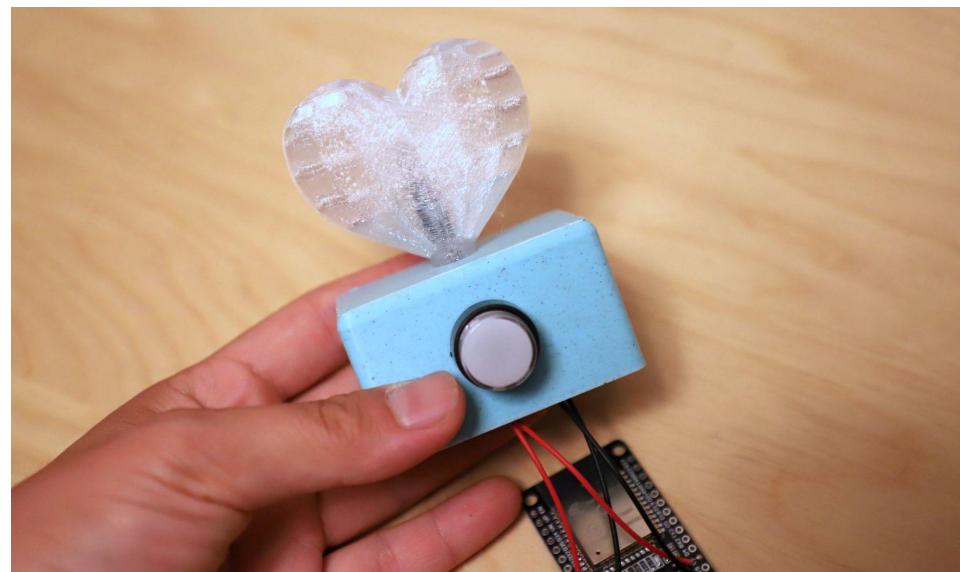
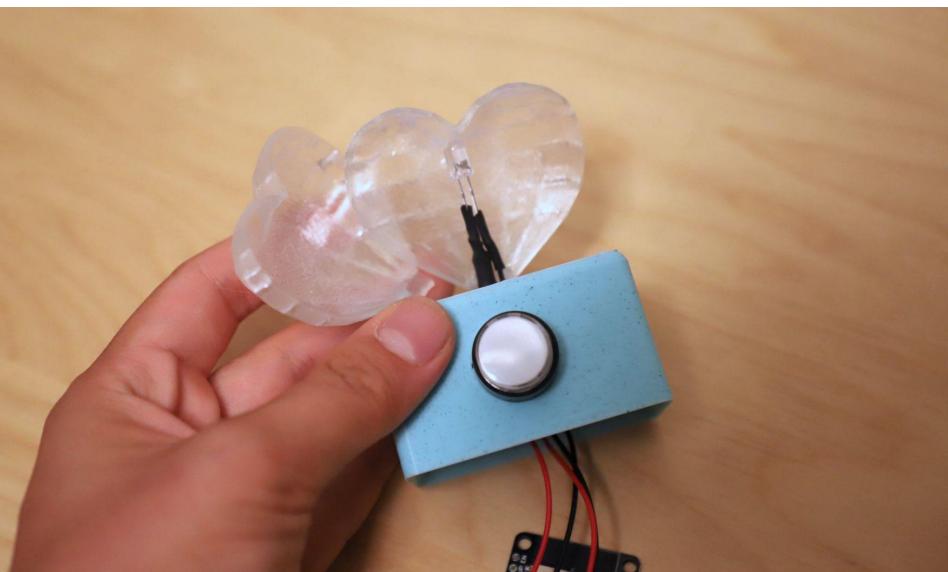


## Part 2: Soldering

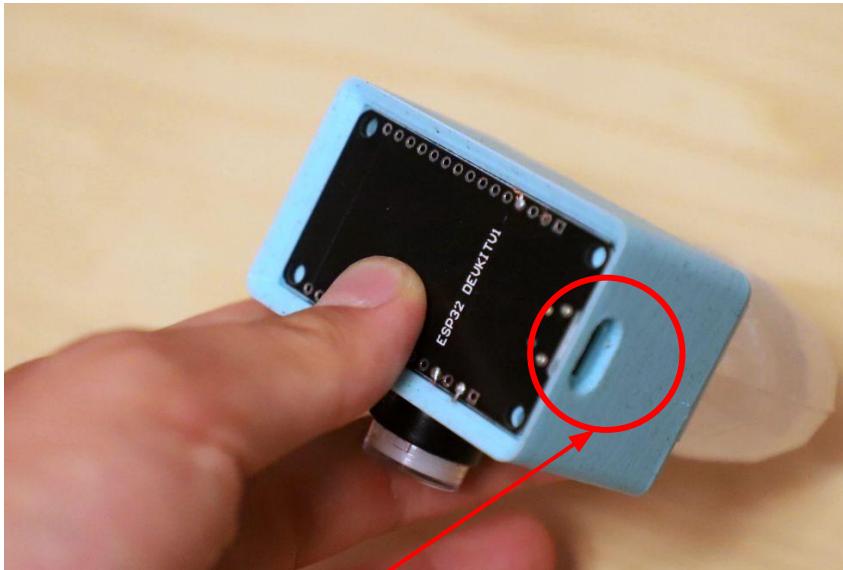
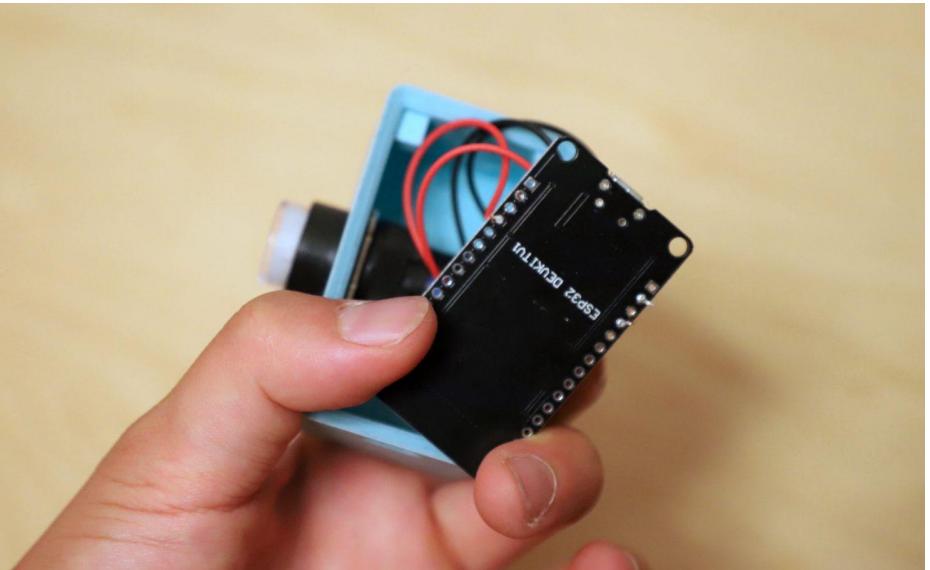
Use pliers to cut off any excess wires



# Finally: Putting everything together! 😊

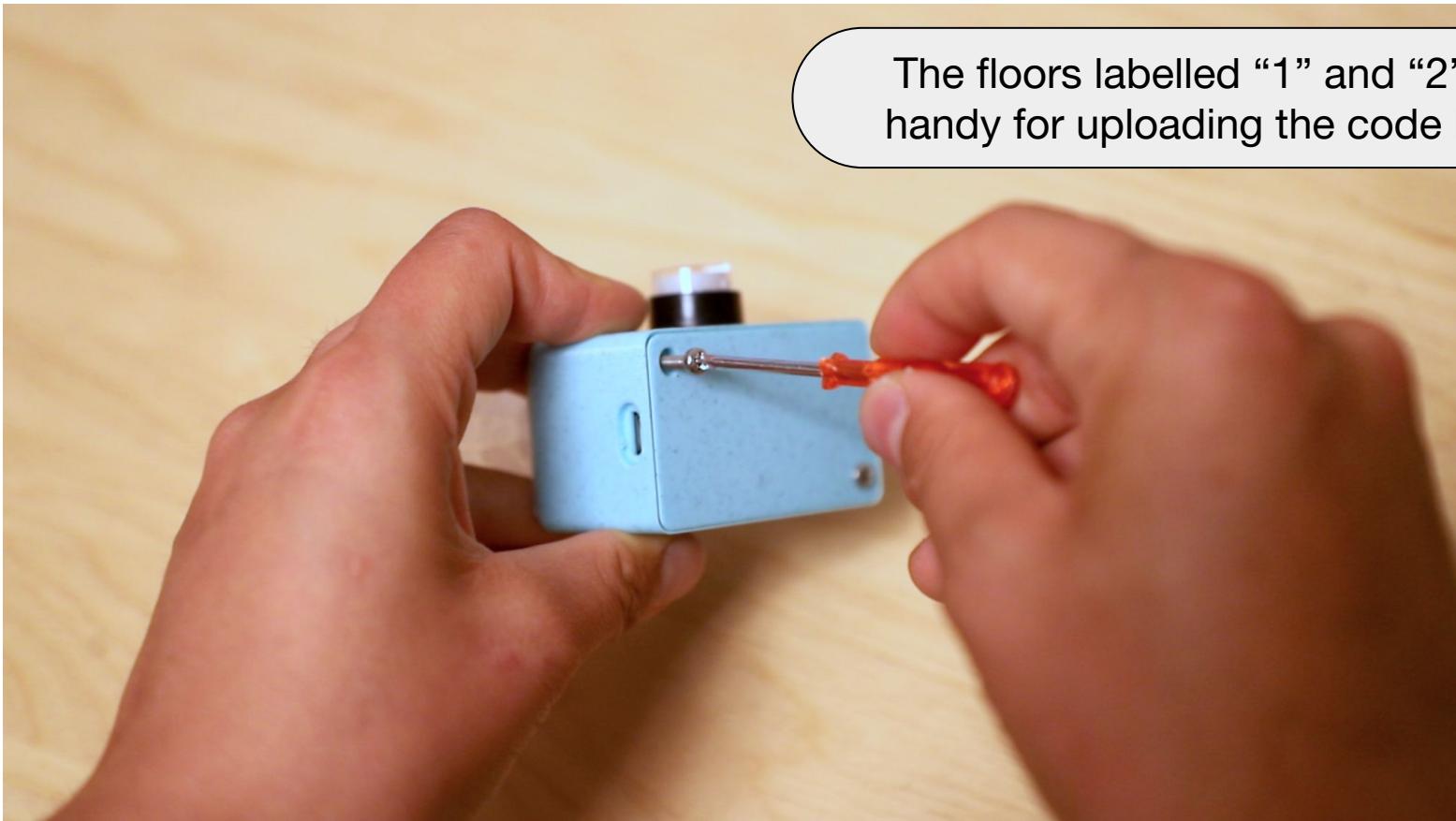


# Finally: Putting everything together! 😊



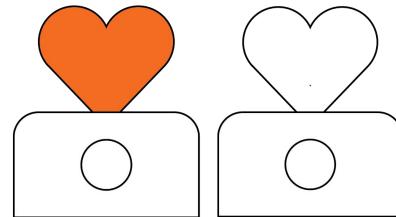
Output of the microcontroller  
faces the hole on the encasing.

# Finally: Putting everything together! 😊



The floors labelled “1” and “2” are handy for uploading the code later!





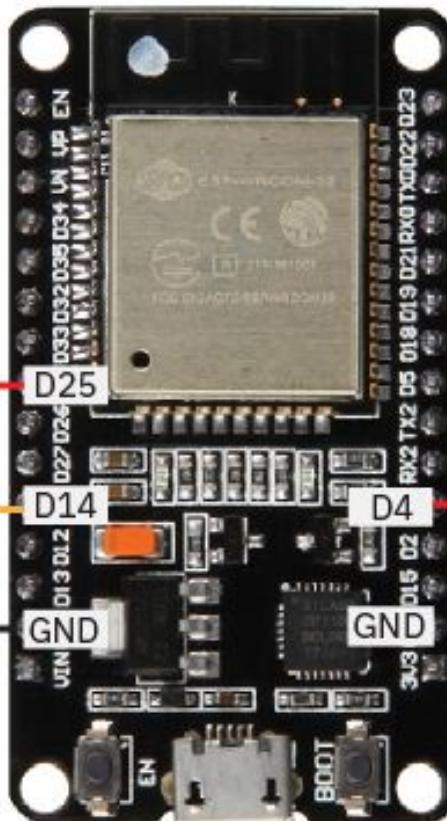
You're all done with one love messenger!

Let's now make the second one!

Pre-soldered LED

ESP32

Button

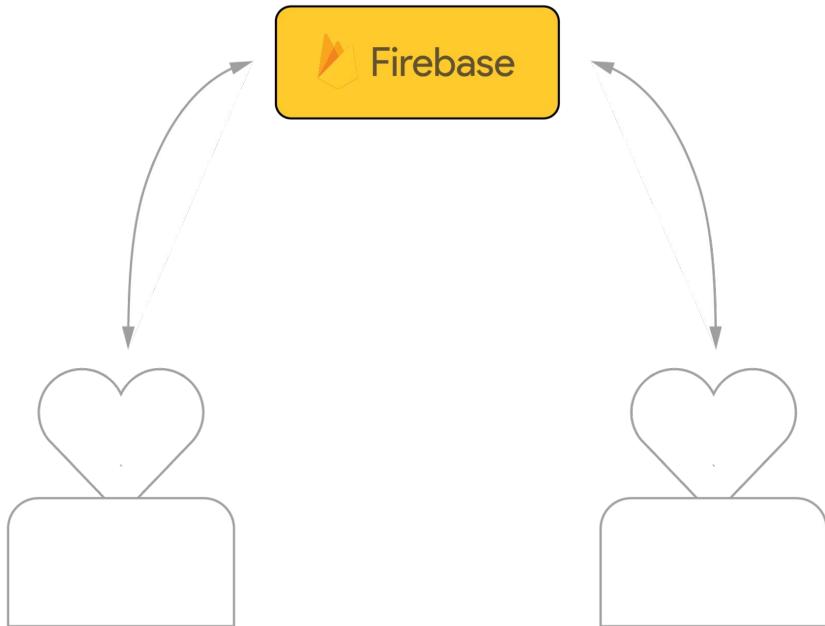


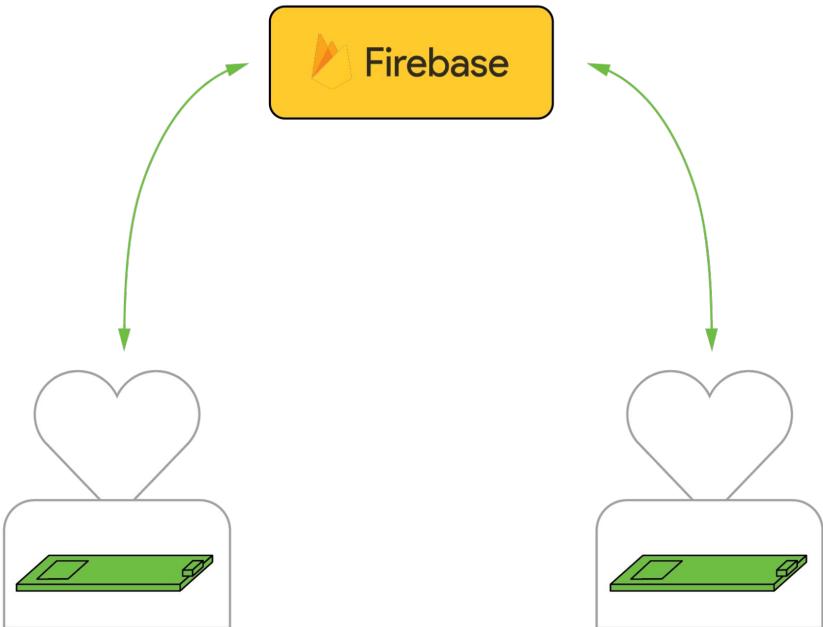
220  $\Omega$   
Resistor



# Digital Segment

# Step 1: Set up Database





**Step 1: Set up Database**

**Step 2: Upload Code**

**Instructions: [shorturl.at/HUtTH](https://shorturl.at/HUtTH)**

We will regroup when everyone is done!



Who has written Arduino code before?



# Pseudo Code

Setup-code:

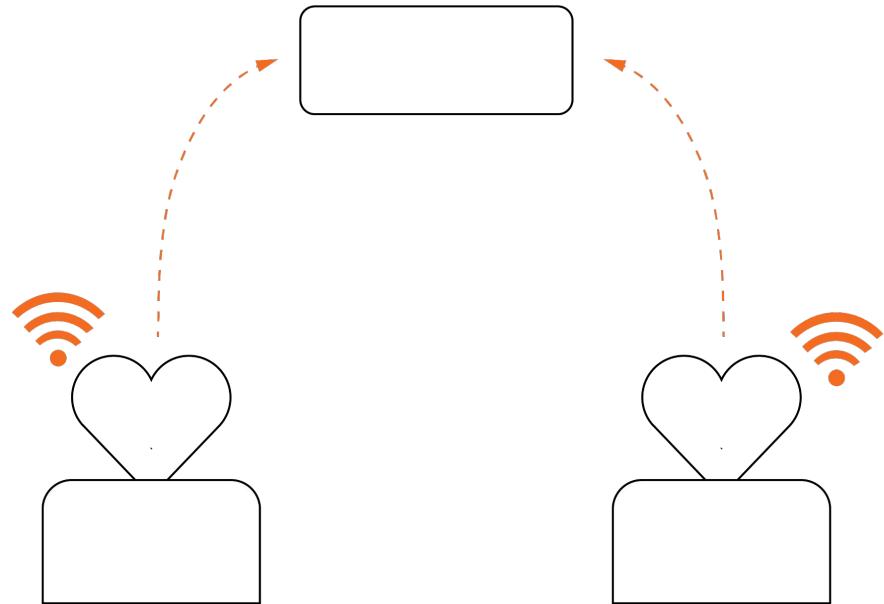
Main Code (runs in a loop):

# Pseudo Code

Setup-code:

1. Connecting to **Wifi**
2. Connecting to **Firebase**

Main Code (runs in a loop):



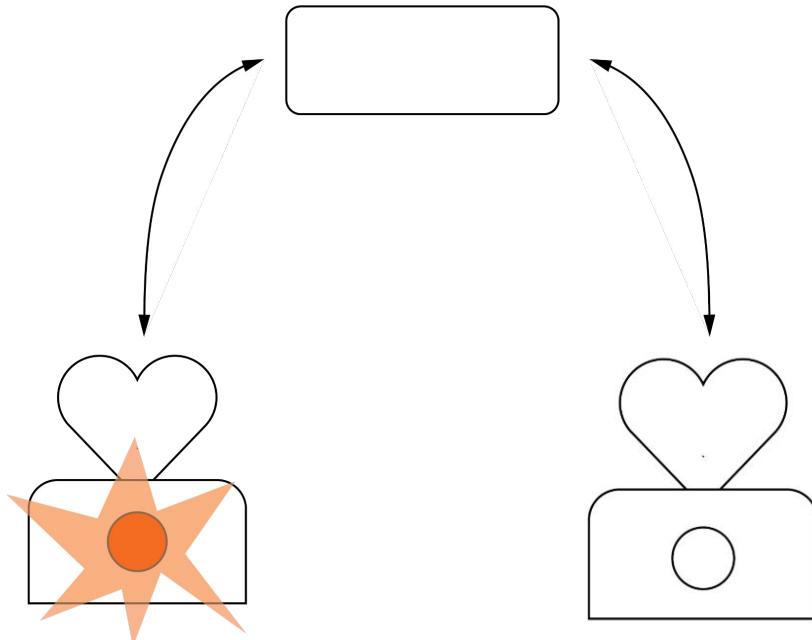
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Setup-code:

1. Connecting to **Wifi**
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Main Code (runs in a loop):

1. Reading the **Button State**



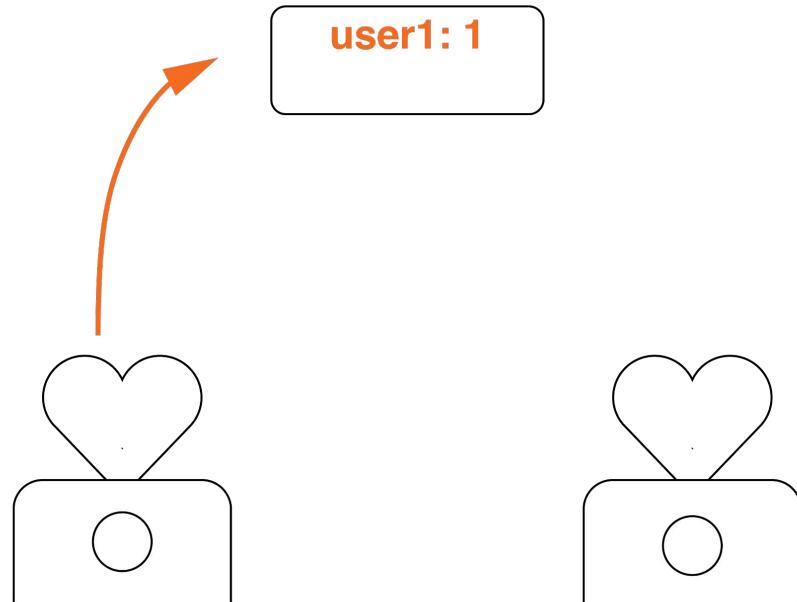
# Pseudo Code

Setup-code:

1. Connecting to **Wifi**
2. Connecting to **Firebase**

Main Code (runs in a loop):

1. Reading the **Button State**
2. **Uploading** Data to Firebase



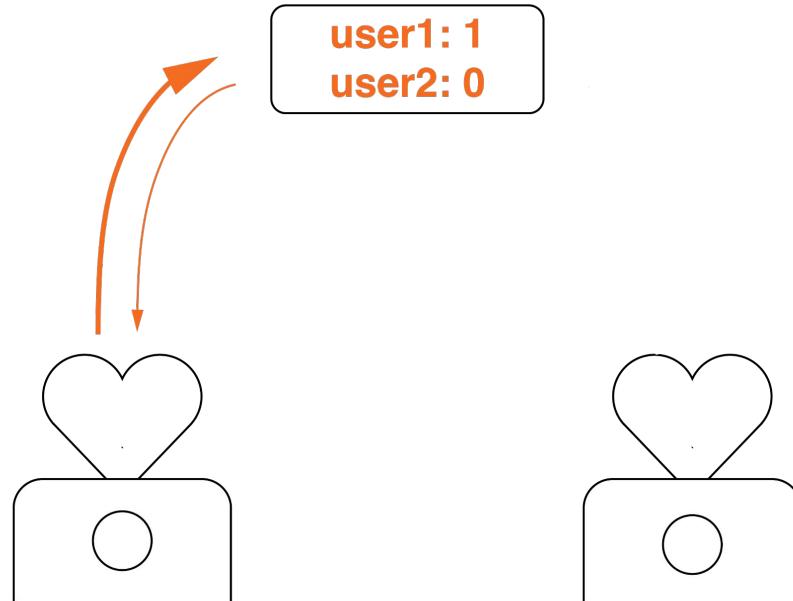
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Main Code (runs in a loop):

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2. **Uploading** Data to Firebase
3. **Downloading** Data from Firebase



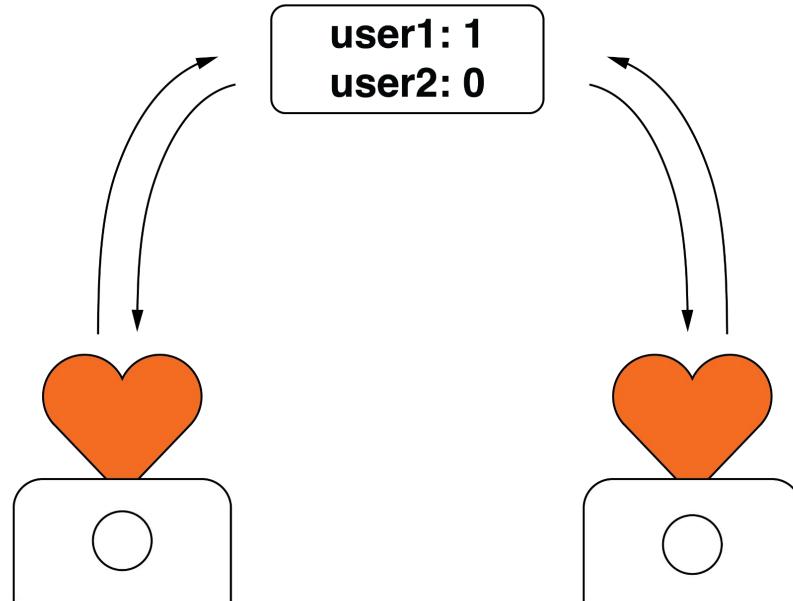
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Main Code (runs in a loop):

1. Reading the **Button State**
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4. Manage **LED** (turn on/off)



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# Arduino Code (C++)

```
void setup() {  
    Serial.begin(115200);  
  
    pinMode(ledPin, OUTPUT);  
    pinMode(buttonPin, INPUT_PULLUP);  
  
    connectWiFi();  
    connectFirebase();  
}  
  
void loop() {  
    if (Firebase.ready() && signupOK && (millis() -  
lastFirebaseUpdate > 2000)) {  
        lastFirebaseUpdate = millis();  
  
        buttonState = digitalRead(buttonPin);  
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    }  
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# Let's Upload the Code!



Access Code from Github:

**[shorturl.at/fV1KB](https://shorturl.at/fV1KB)**

Time for...  
**Troubleshooting**

# Everything is in our GitHub page!

 **NYCResistor\_LoveMessengers** Public

 main  1 Branch  0 Tags

 Go to file  Add file  Code

 **juliadaser** Update README.md bcba93d · 1 hour ago  16 Commits

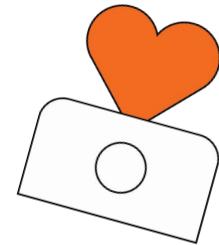
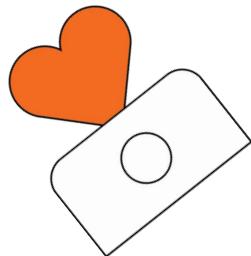
 3D Models	Add files via upload	4 days ago
 Media	Add files via upload	11 hours ago
 Slides	Add files via upload	1 hour ago
 README.md	Update README.md	1 hour ago
 code.ino	Add files via upload	2 hours ago

You can purchase wires for \$2 each!



*venmo*

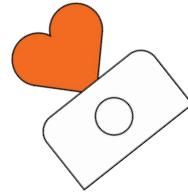
# Help us fill out this feedback form!



You can purchase wires  
for \$2 each!



**venmo**



Help us fill out this  
feedback form!



# Open to Questions!

 @wormicollective

## Access the code:

[https://github.com/pepzicles/  
NYCResistor\\_LoveMessengers.git](https://github.com/pepzicles/NYCResistor_LoveMessengers.git)

## Contact us:

yiqing.ng@gmail.com

