GreyCat2K24

the greyctf 2024 badge
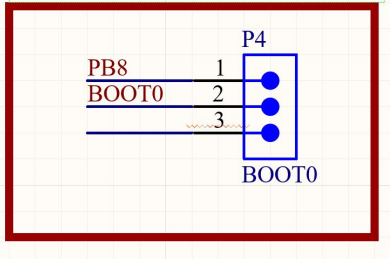
Hardware

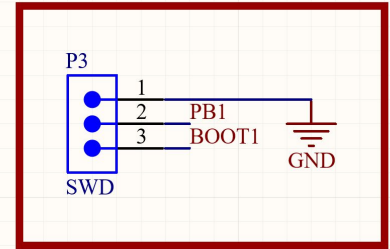# What's on the Badge

Lanyard Ring

Hat

Whisker Left

PB8
BOOT0
P4
1
2
3
BOOT0

Whisker Right

P3
1
2 PB1
3 BOOT1
SWD
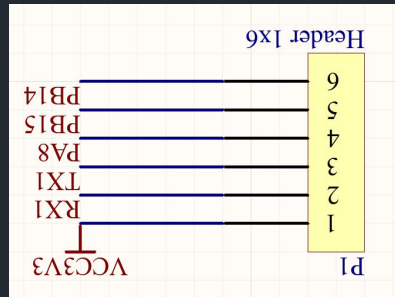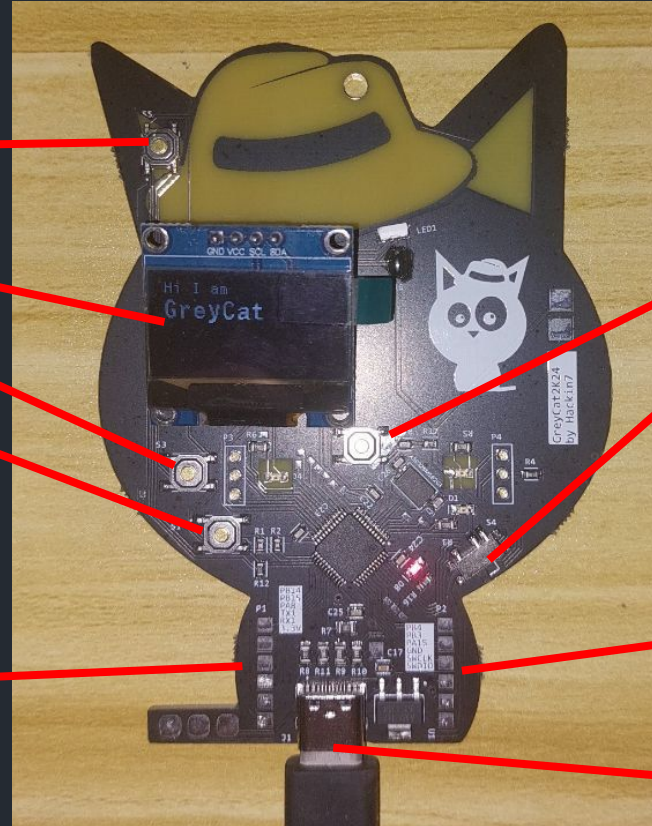GND

Blush
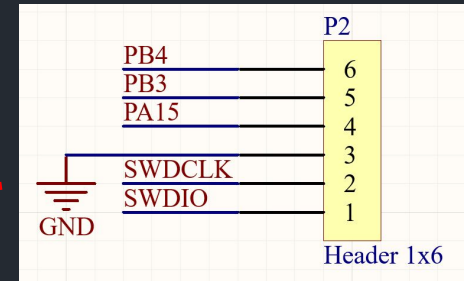
What's on the Badge

BTN3

OLED

BTN1

BTN2

2 x AAA Battery Holder

RST

Switch

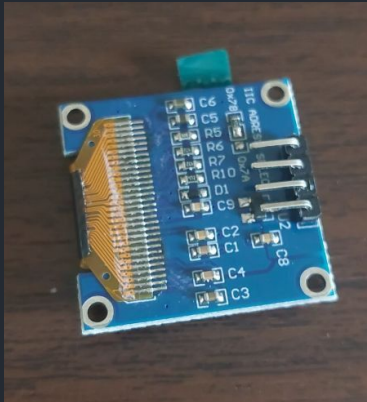USB Port

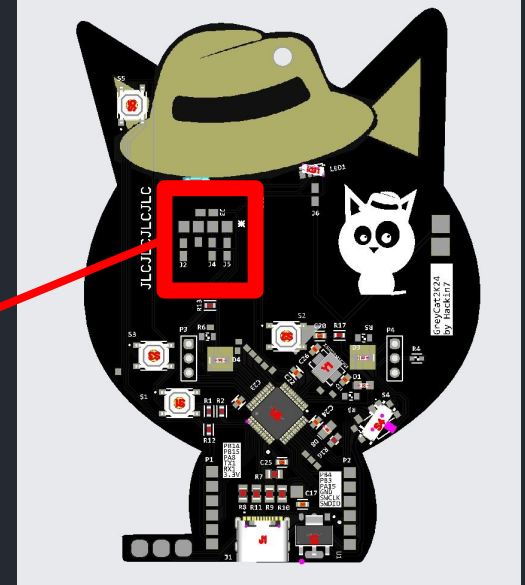# Assembling with OLED

1. Bend the OLED Pins 90 degrees using Pliers
   a. We can loan pliers at the Hardware Debugging Booth
2. Put into the header on the badge

OLED is <u>NOT NECESSARY</u> to solve the challenges
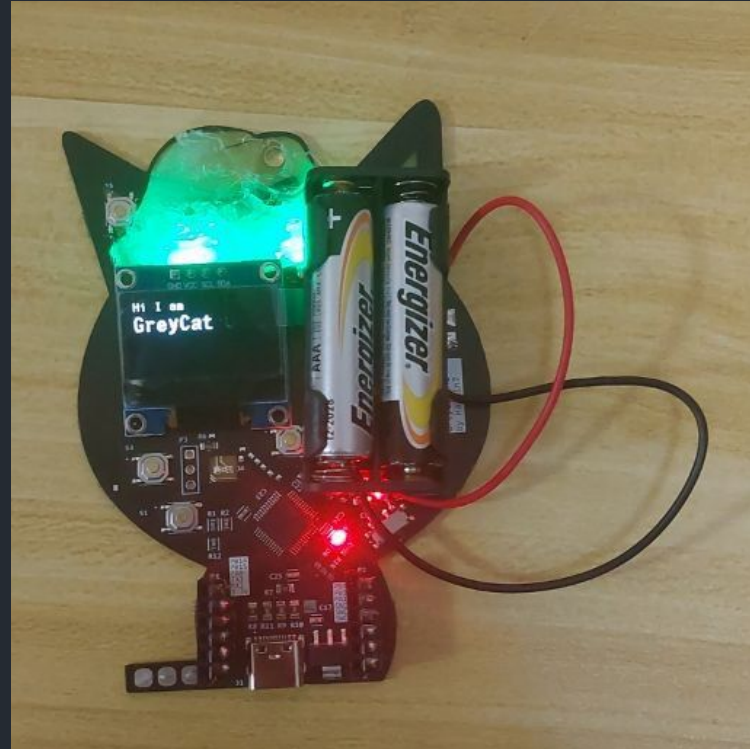
Header

Challenge

Getting Started

Plug in a USB Cable and Turn on the Switch (if not already on

Alternatively, put AAA batteries in the battery holder and turn on

Challenge

Help me update the firmware on your old badge

1. Connect BOOT1 to 3.3V
2. Press RST
3. Upload the new firmware using a computer

https://drive.google.com/file/d/1G-gXTKbdBvm_UyY7h5AMMFNx686LP4pt/view?usp=sharing
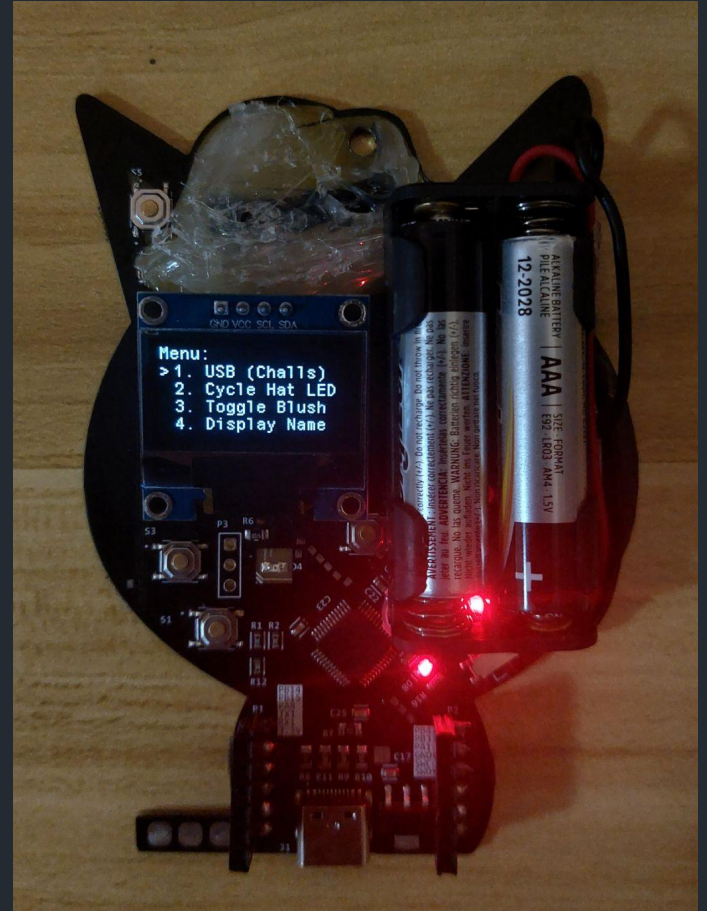
Extra Challenge #1

Open the Serial Monitor software of your choice. For ease of use, Arduino IDE can be preferred. www.Arduino.cc

From the Tools menu, select the port where the badge is connected. Set to Newline only

Press BTN3 on the badge to start the USB interface

Do 3 challenges to unlock 3 more hat colours

You only need 1 badge & wire to unlock all colours

Extra Challenge #2

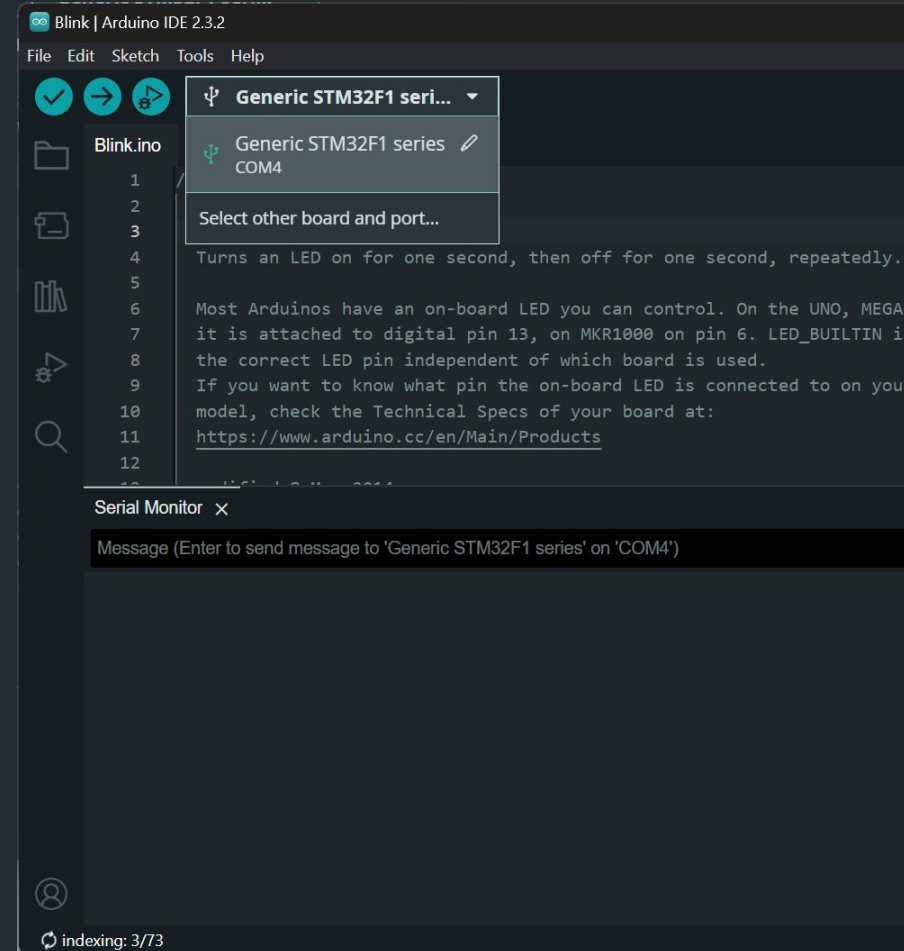Use the Timer Configurator to control the Magic Weapon (Servo)
Let us know when you want to attempt the chall


```
Output      Serial Monitor  ×                                    ⏱  ☰

Message (Enter to send message to '...    New Line  ▼    9600 baud  ▼

Tools
g. Print GPIO
u. Read USART
t. Timer Configurator
l. Custom Lighting
a. Display State
s. Reset State
w. Write Image
y. Display image
x. Exit

Select Option >
```

Ln 48, Col 7   Generic STM32F1 series on COM4 🔔 ⬜

Challenge #3 Hints

1. https://microcontrollerslab.com/stm32-blue-pill-timer-pwm-mode-stm32cube-ide/
   a. Timer Clock is 72MHz

Output   Serial Monitor ✕

Message (Enter to send message to '...   New Line ▼   9600 baud ▼

Tools
g. Print GPIO
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x. Exit

Select Option >

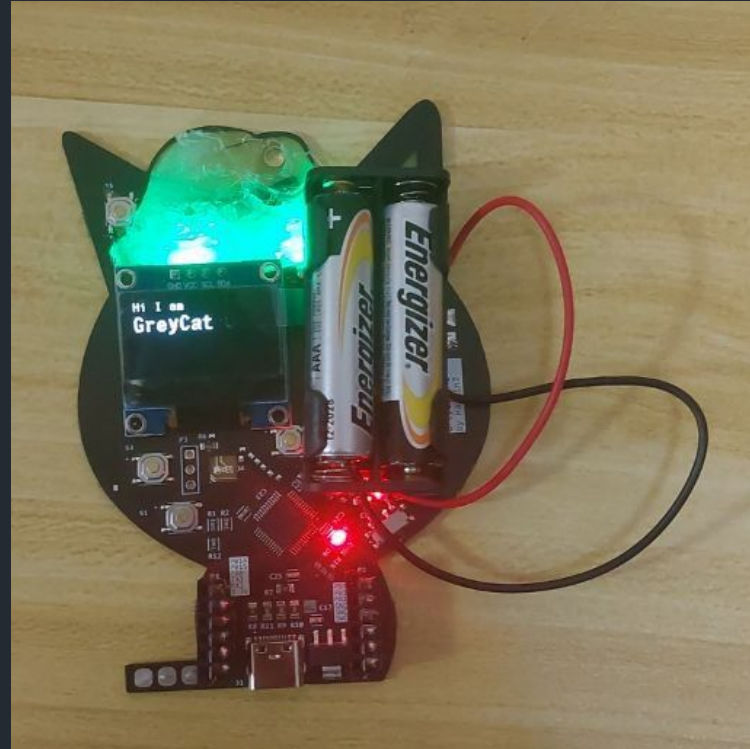Ln 48, Col 7   Generic STM32F1 series on COM4

Final

Once you do either

1. Unlocked the menu

2. Unlocked 1 hat colours

3. Hit the Bird

You get to keep the badge!!!
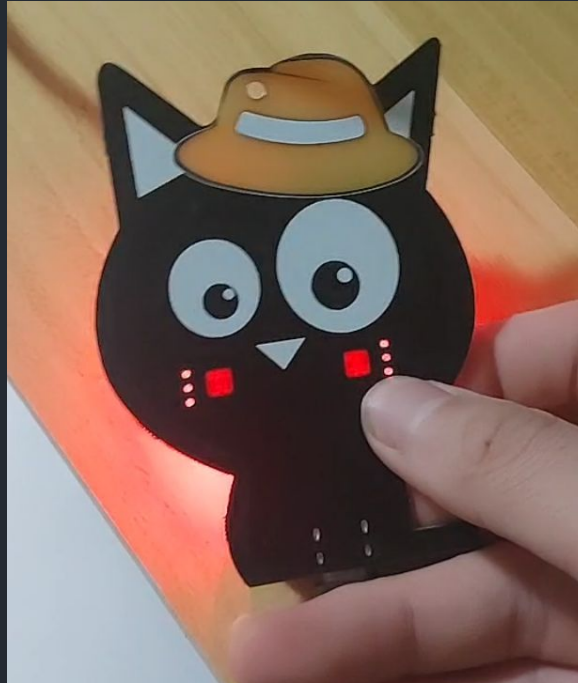
GreyCat!

Badge Features

hearsay you can unlock more hat colours through challs, and there are 5 total

Different Hat Colours - BTN 1

Blush/ Image(?) - BTN2

Name (and buggy img)