

picoCountdowner

倒數計時器

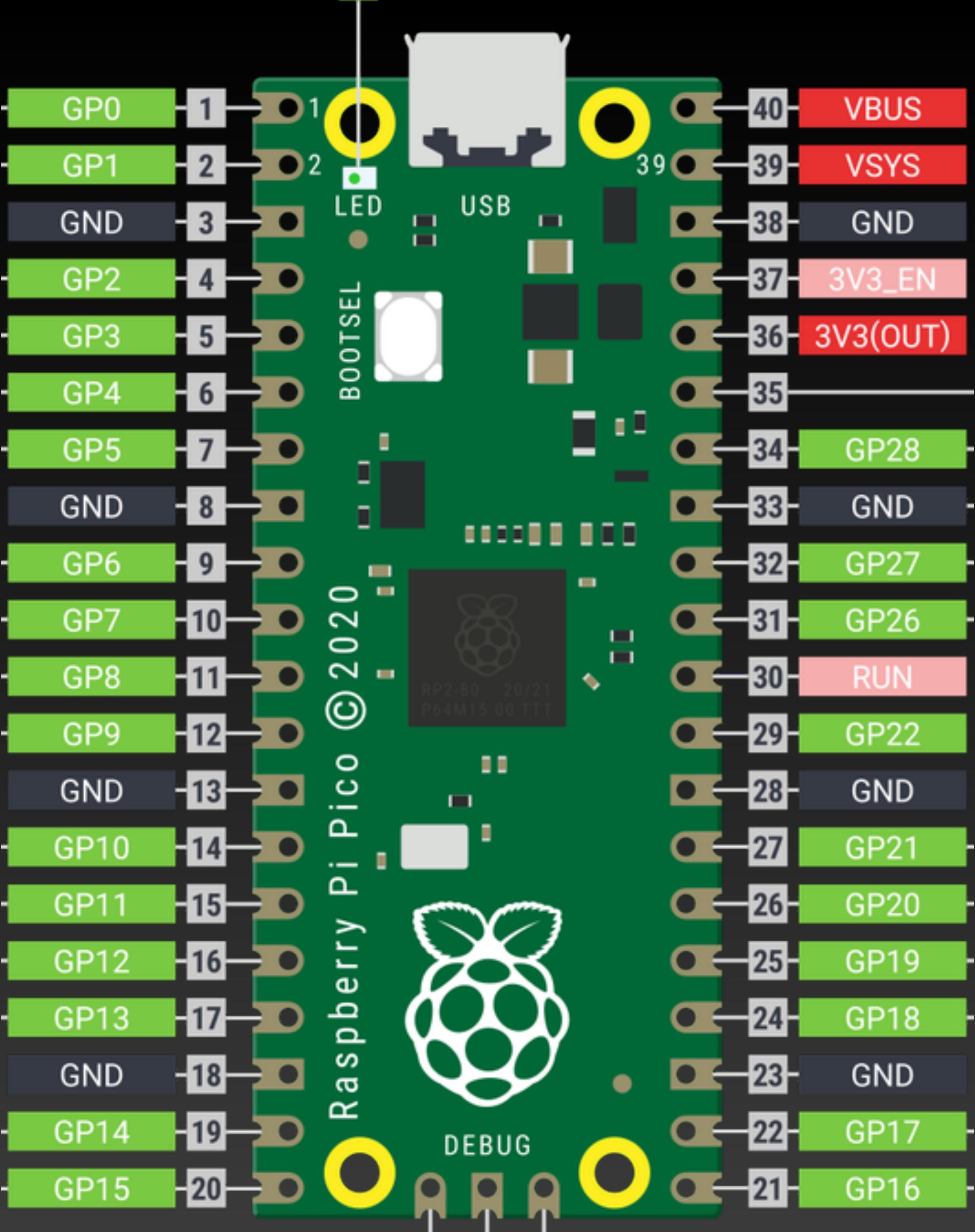
王棋俊
chyijiunn



What we use

Material

- Raspberry pico
- Thonny
- Sg90 motor
- Buzz
- LED



Raspberry Pi Pico 學習地圖

SSD1306 Project

寫函式，用模組
復古小遊戲機

Gyro Project

UI 設計，資料處理
運動手錶，無人機



Servo Motor Project

16位元，執行緒
pico打擊小樂團，倒數計時器

Buzzer Project

音調和頻率
電子鋼琴

Button Project

if 條件式
經典紅綠燈

LED Project

會接線
for , while 迴圈

Kickstarter project example

TempoFlow LightClock Pomodoro

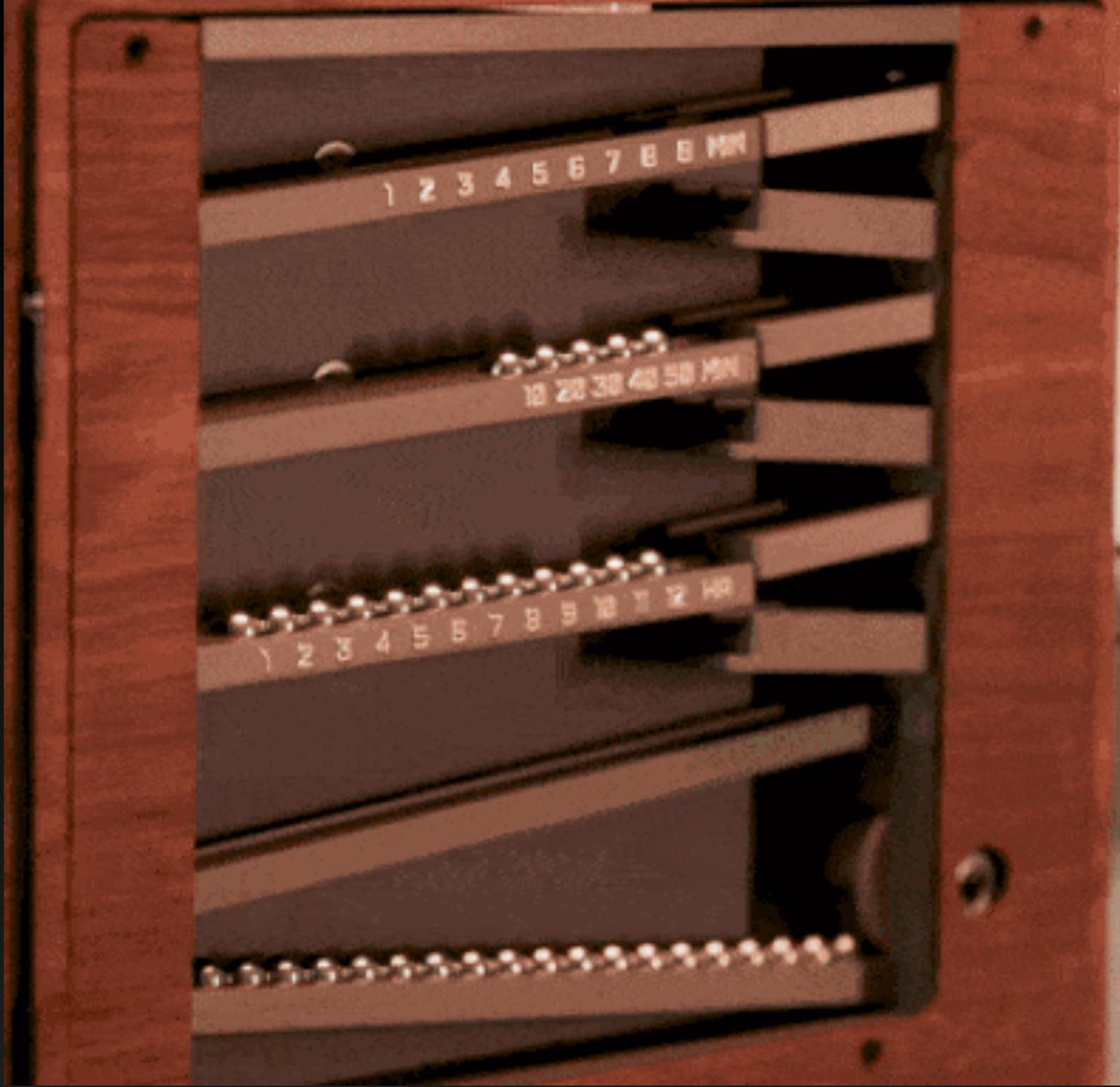
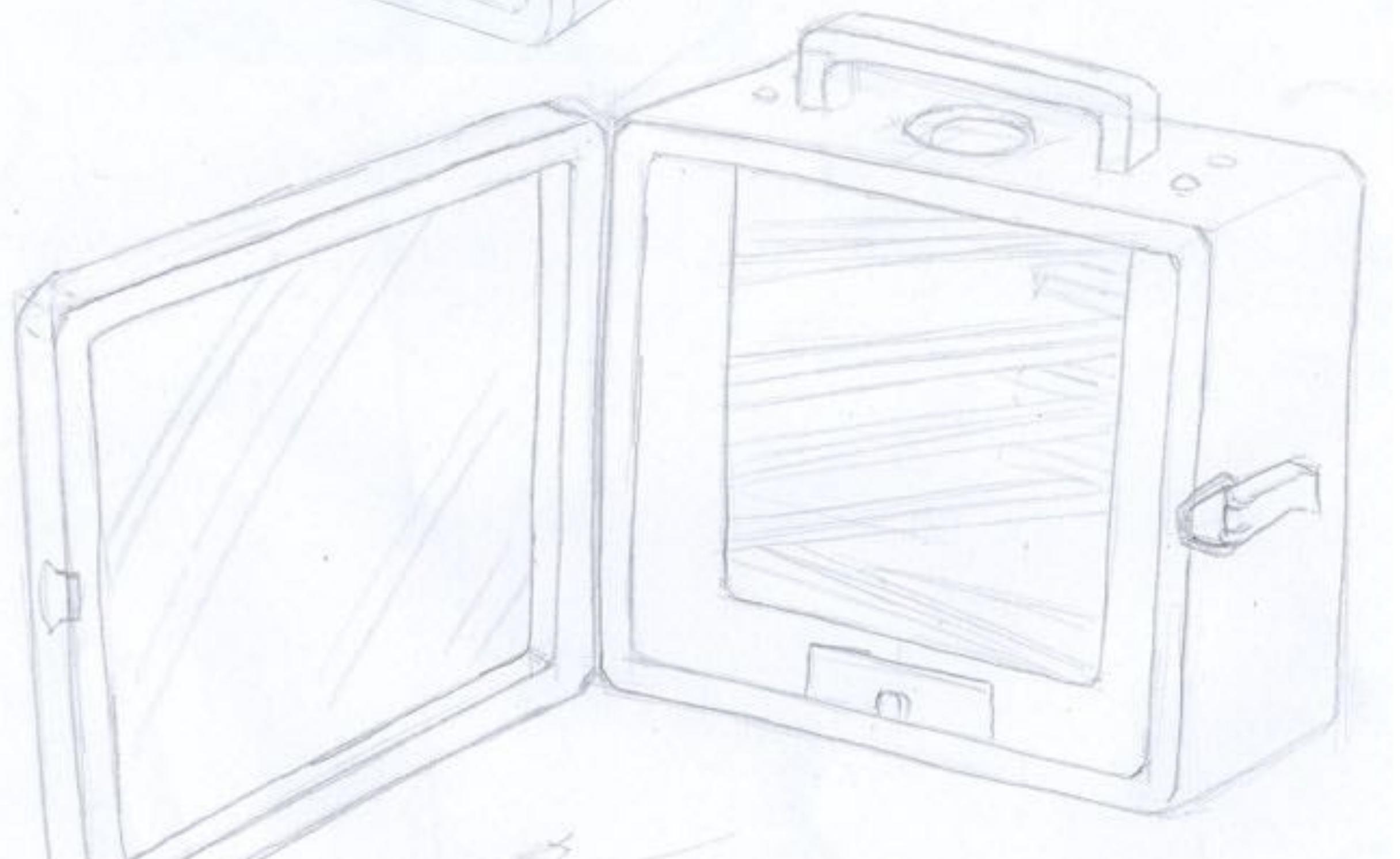
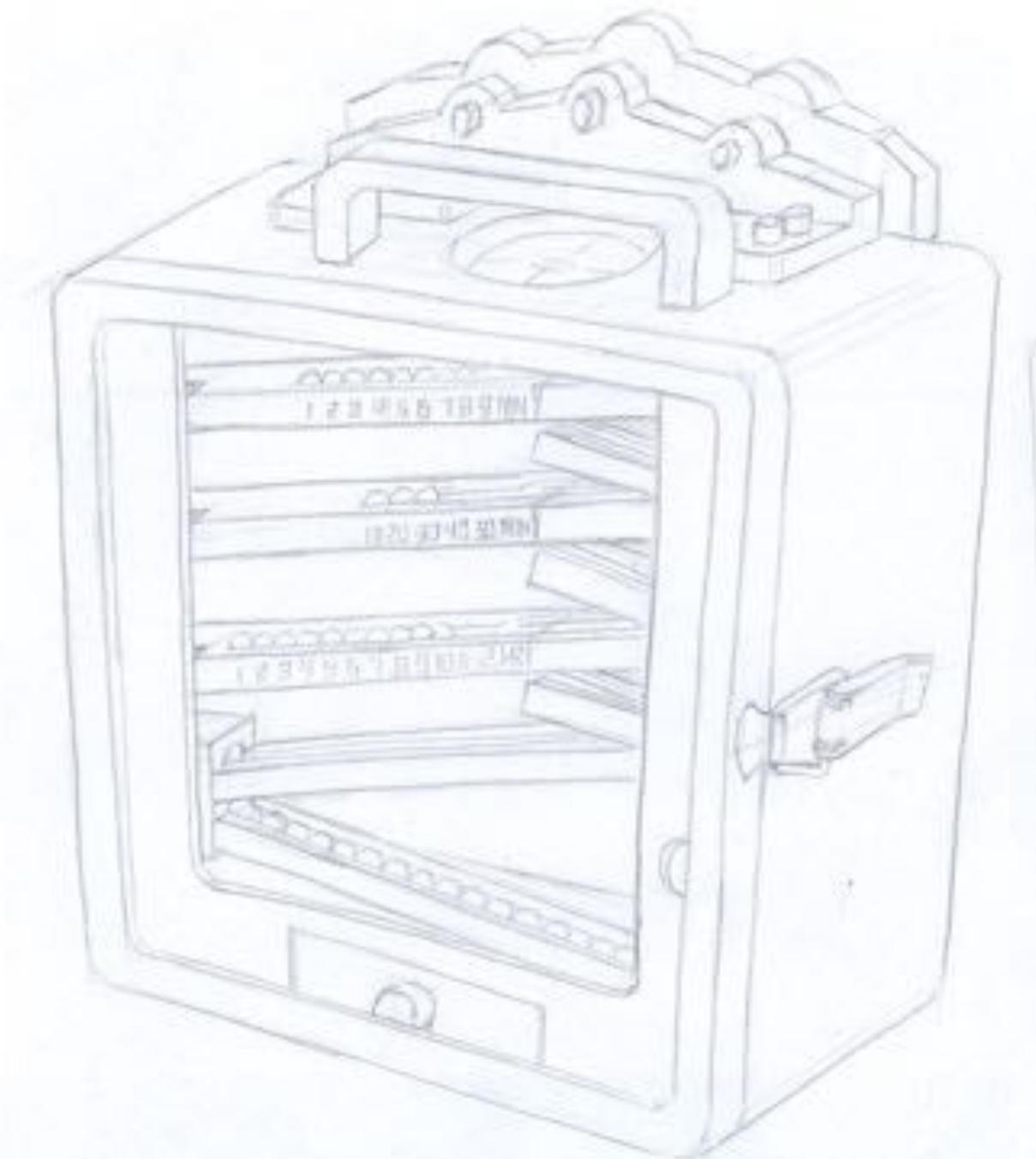
Specs



Steven LAM

<https://www.tempo-flow.com/>





Rewards

72 Hour Special

\$159

~~\$299~~
47%
Off



5 Day Special

\$169

~~\$299~~
43%
Off

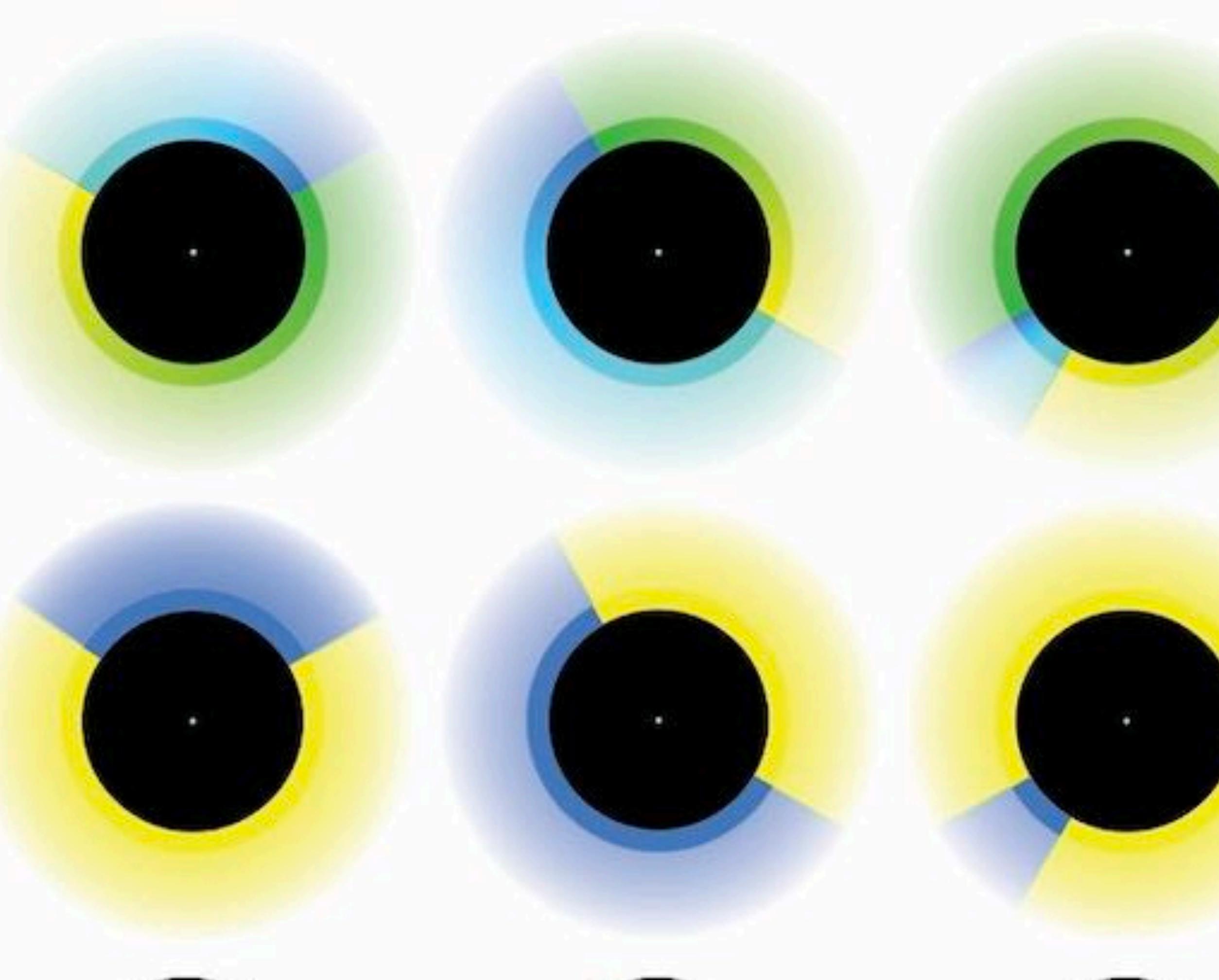


Super Early Bird

\$179

~~\$299~~
40%
Off

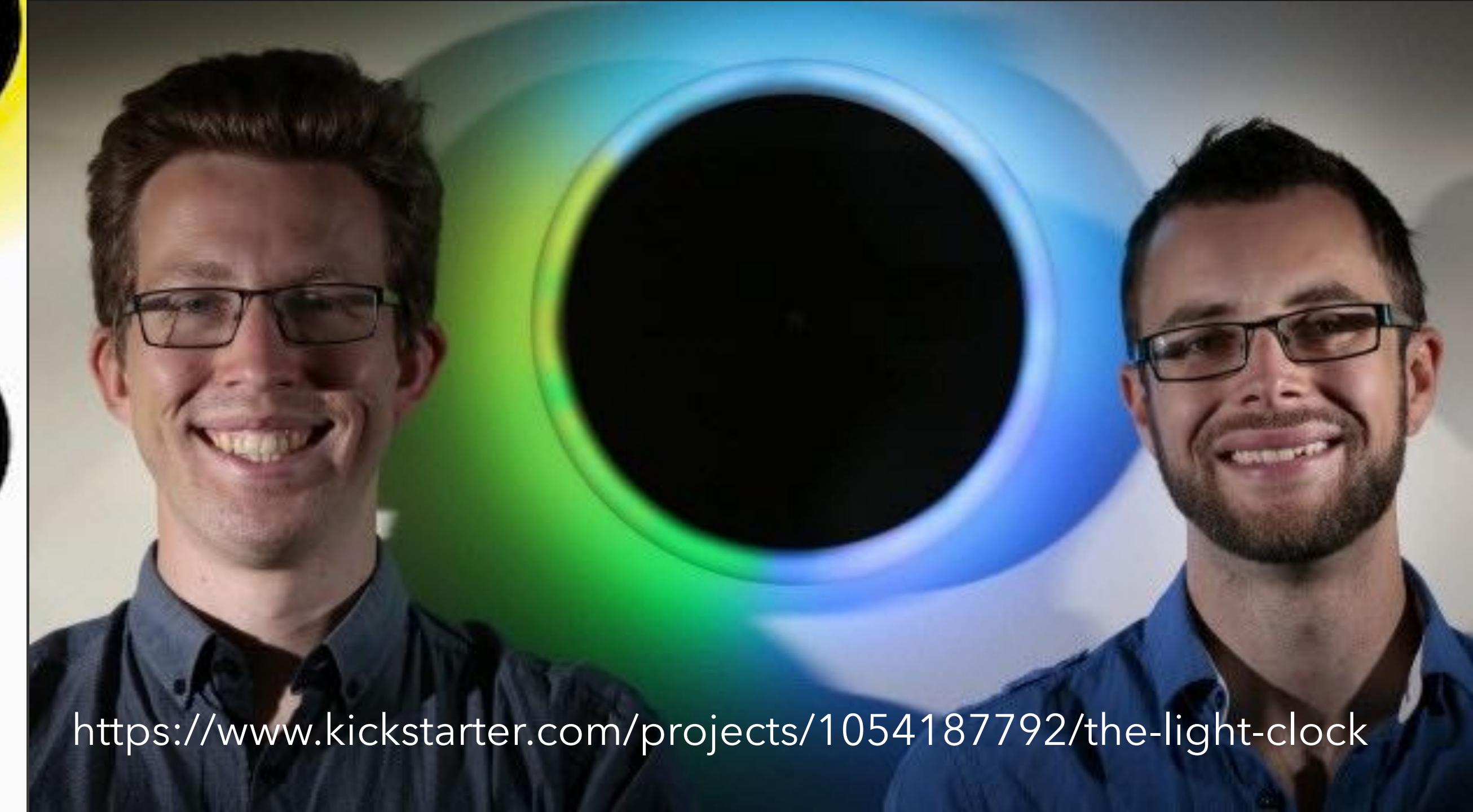




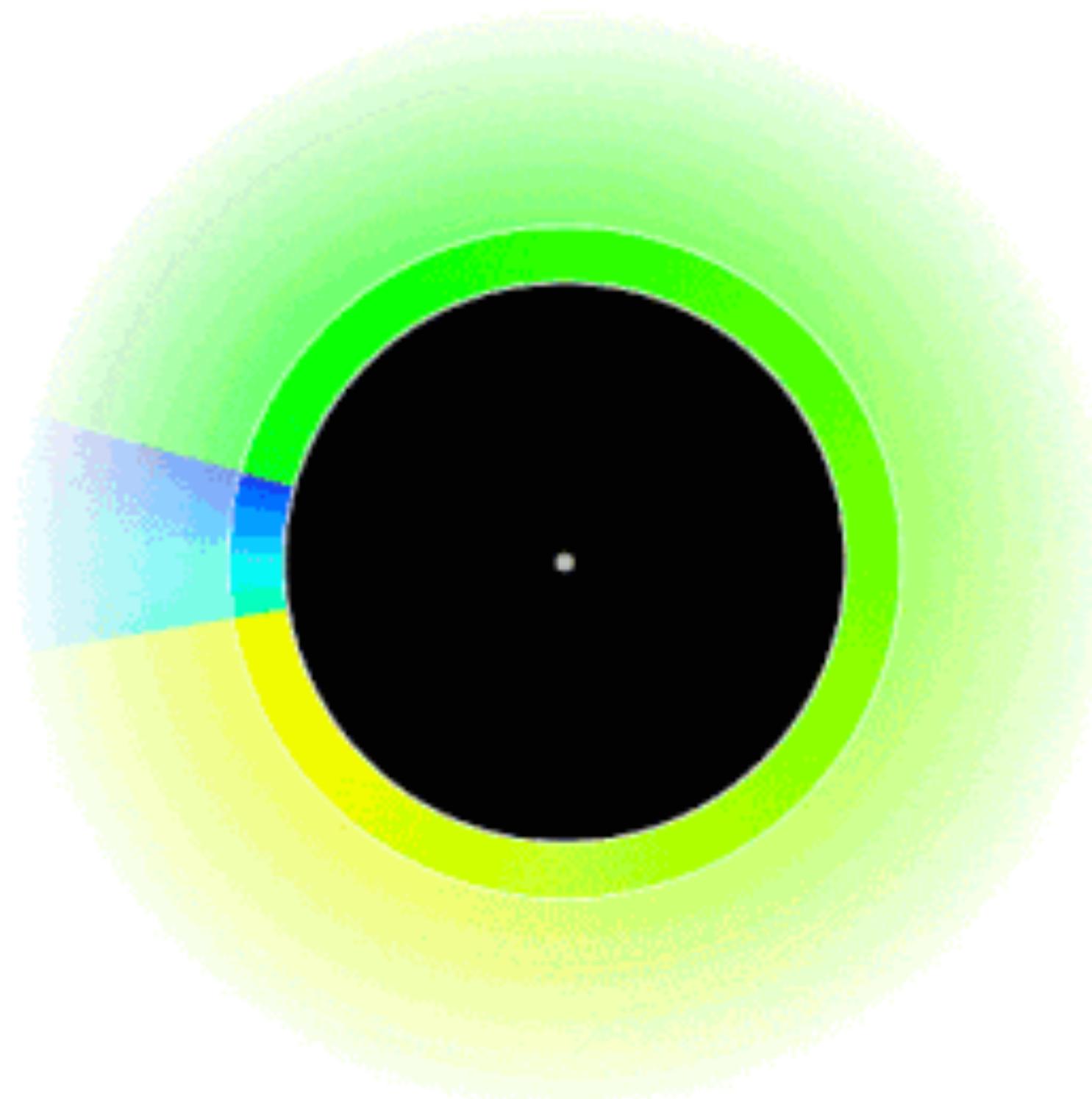
10:10

4:55

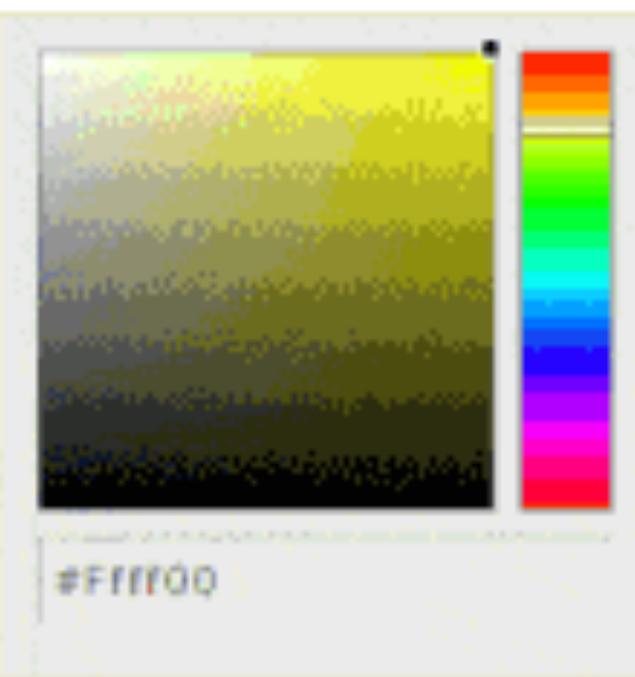
7:40



<https://www.kickstarter.com/projects/1054187792/the-light-clock>



Hour Colour

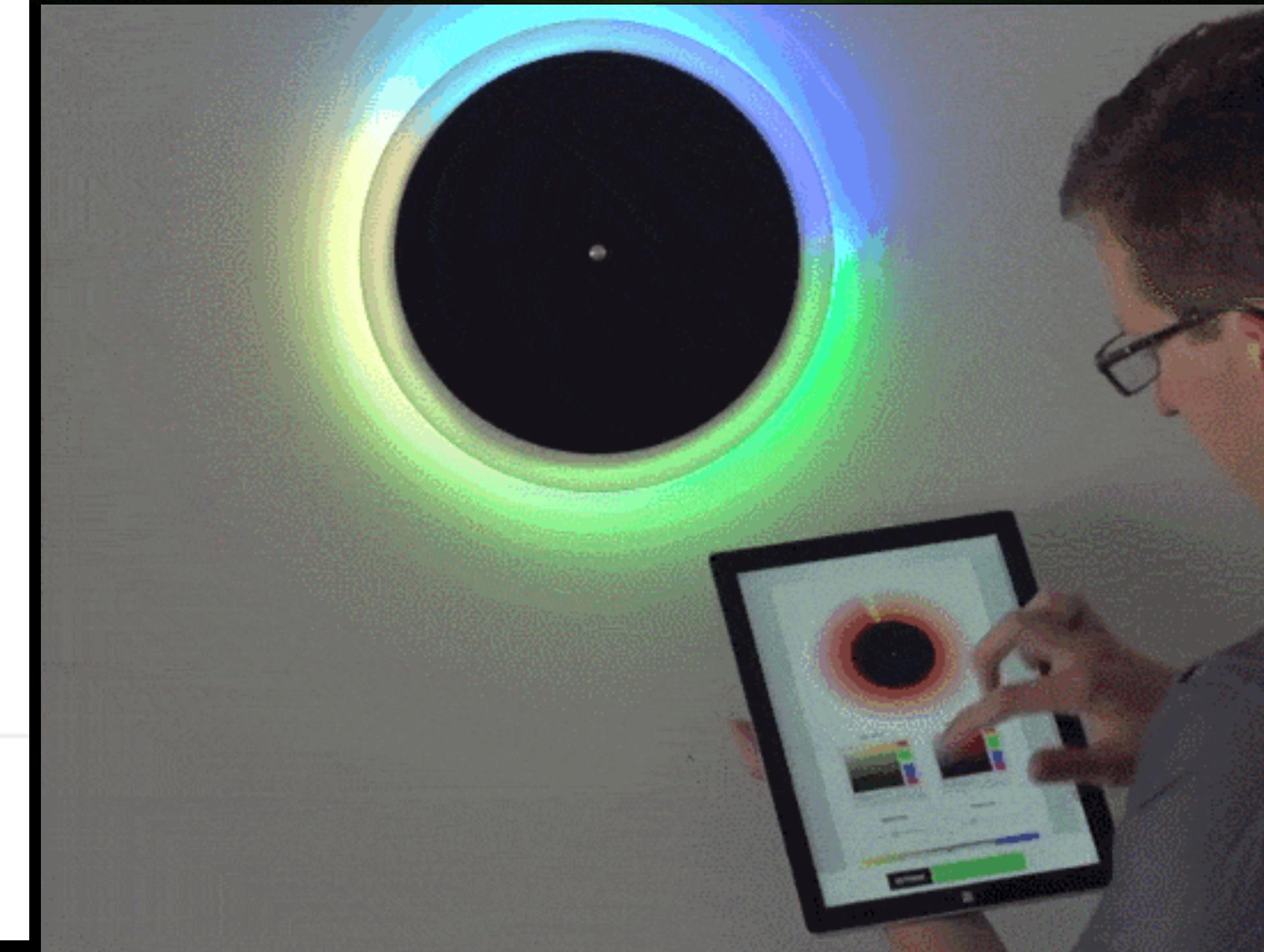
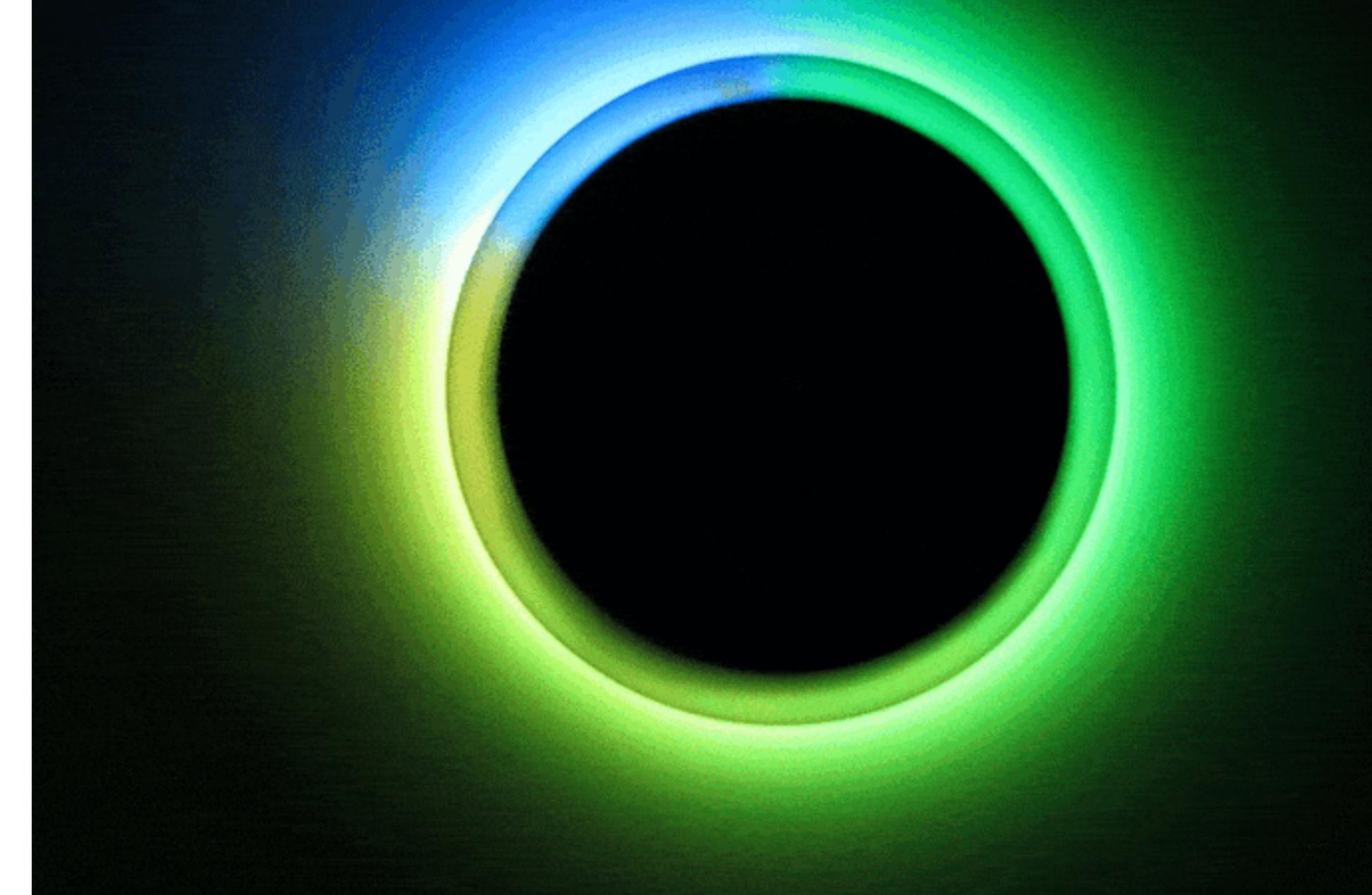


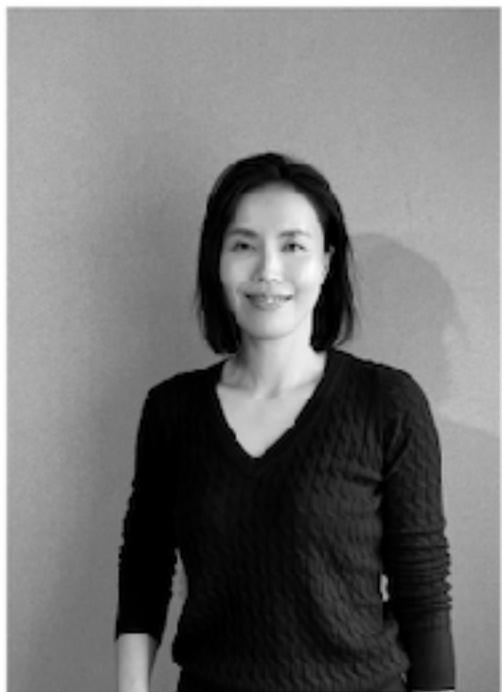
Minute Colour



SETTINGS

UPDATE THE LIGHT CLOCK





Founder / PM
Rachel



Business Developer
Shaun



Product Manager
Doo



Hardware Engineer
Steve



UI/UX Designer
Mari



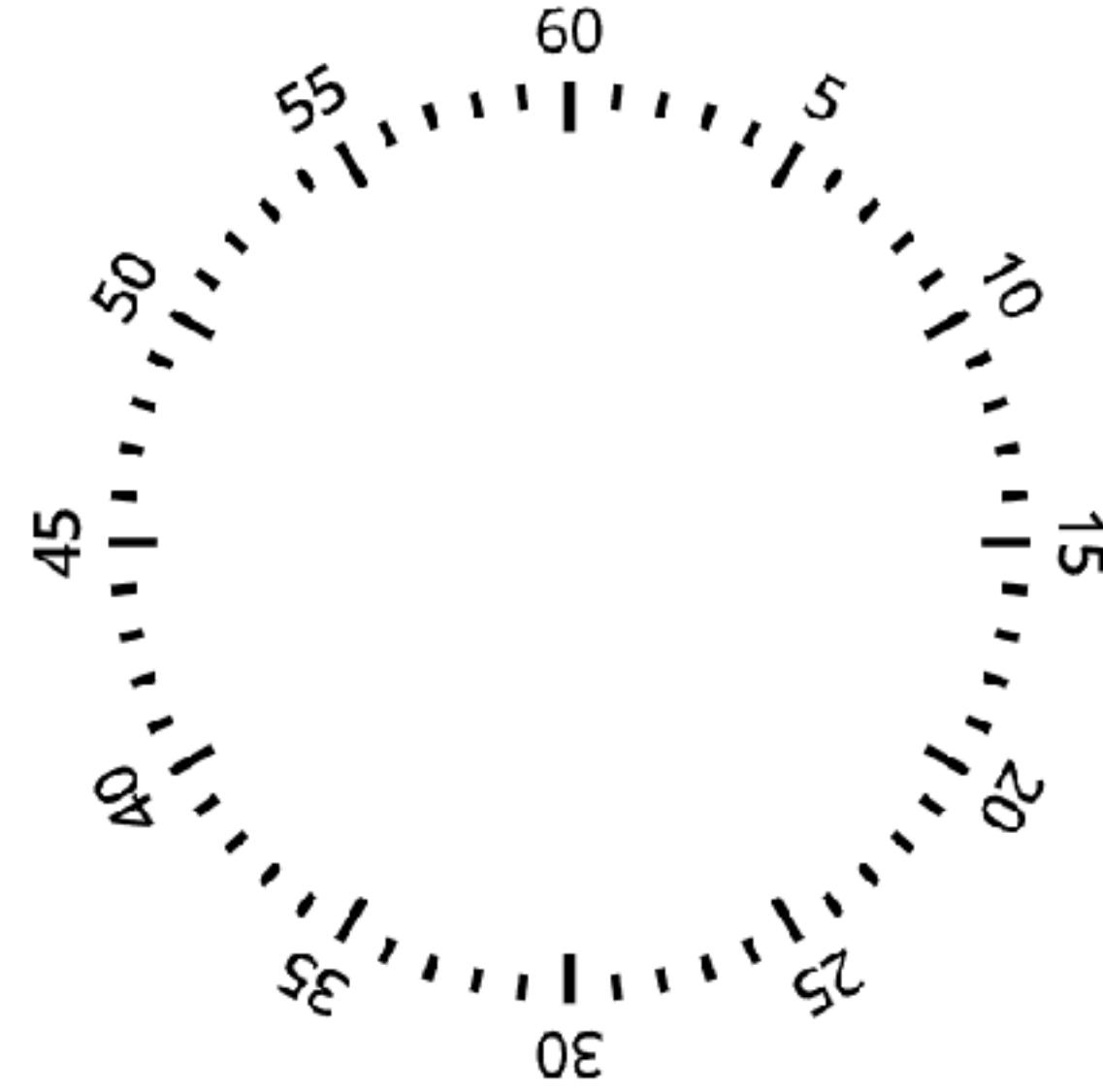
Software Engineer
SY Yun



Marketer
Lennie



Manufacturing QC
Zinna



Focus time

Break time

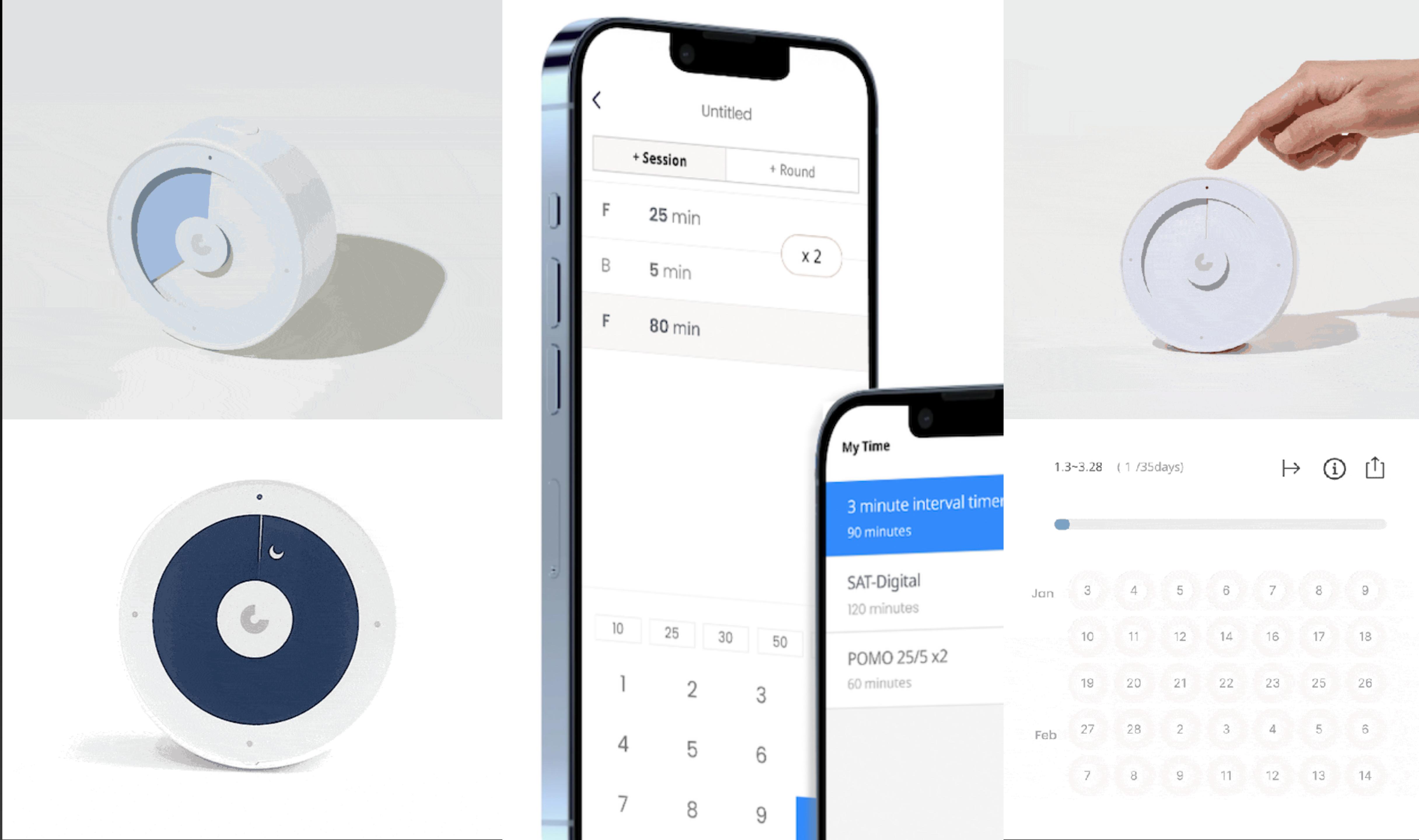
timer 4



minee 3



<https://www.kickstarter.com/projects/minee/minee-habit-tracking-pomodoro-timer-kit-for-your-goal>



課程素材

GitHub: picoCountdowner

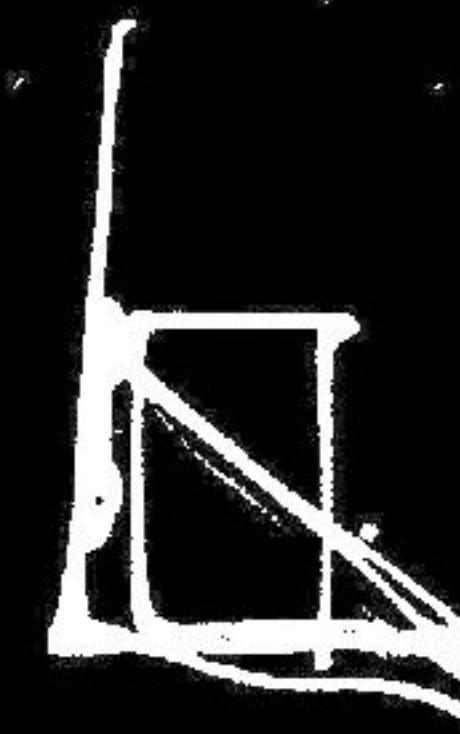
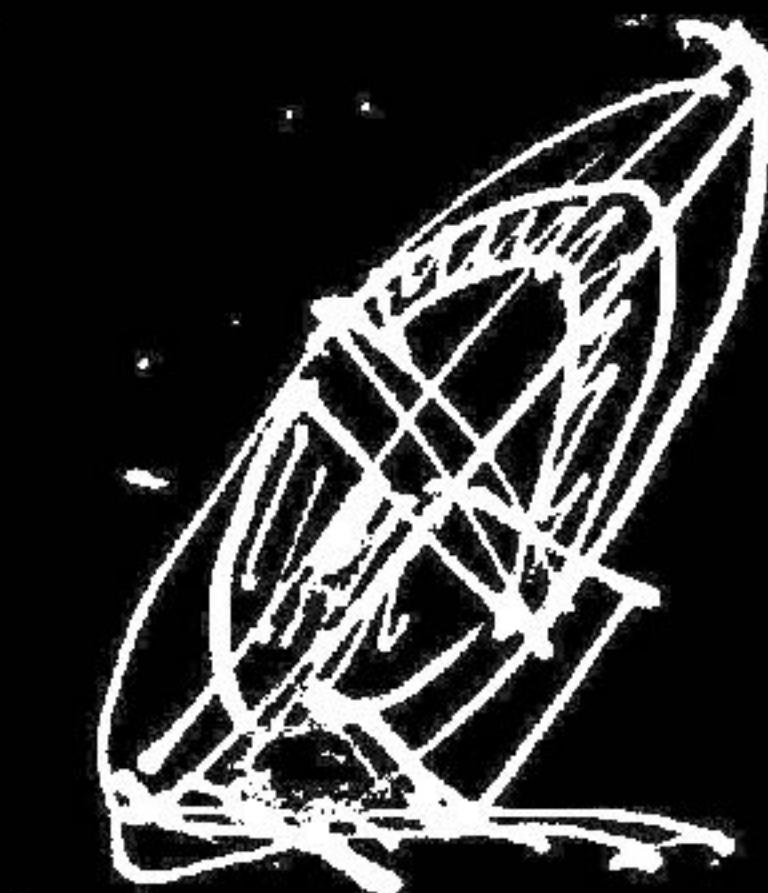
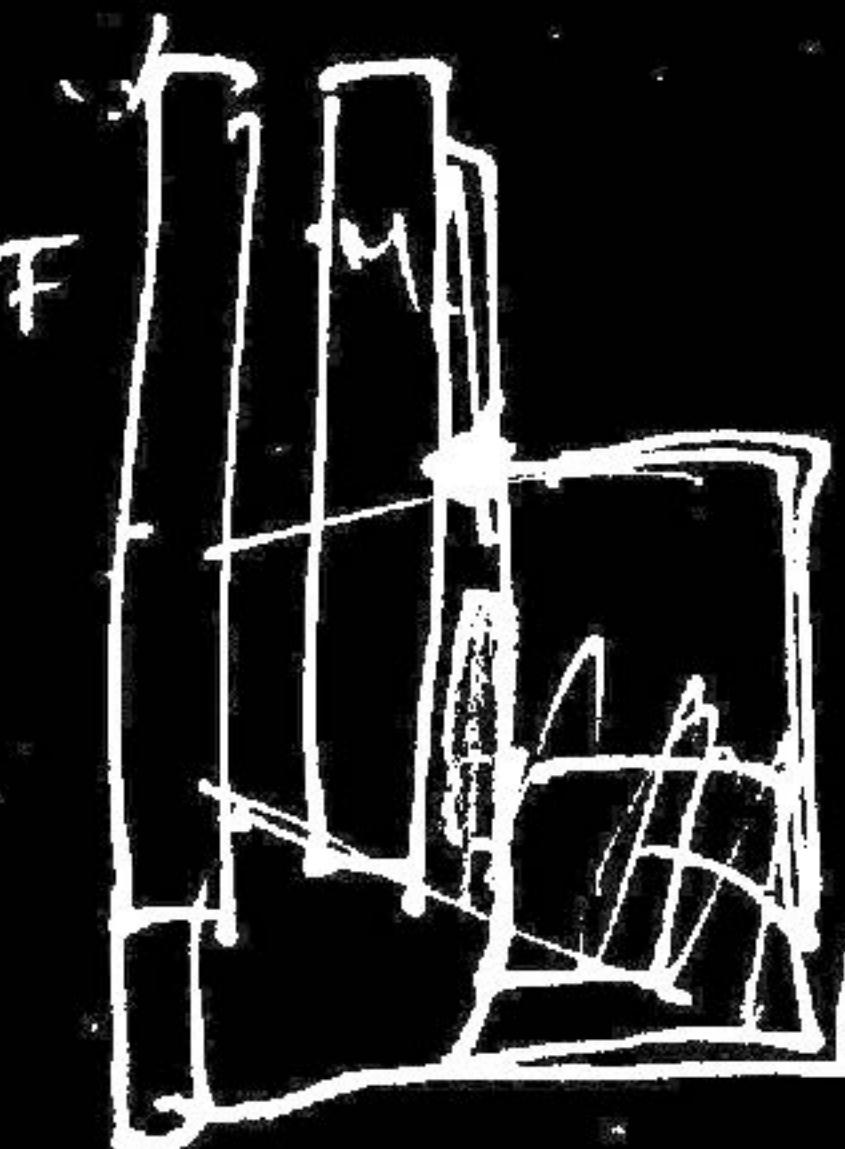
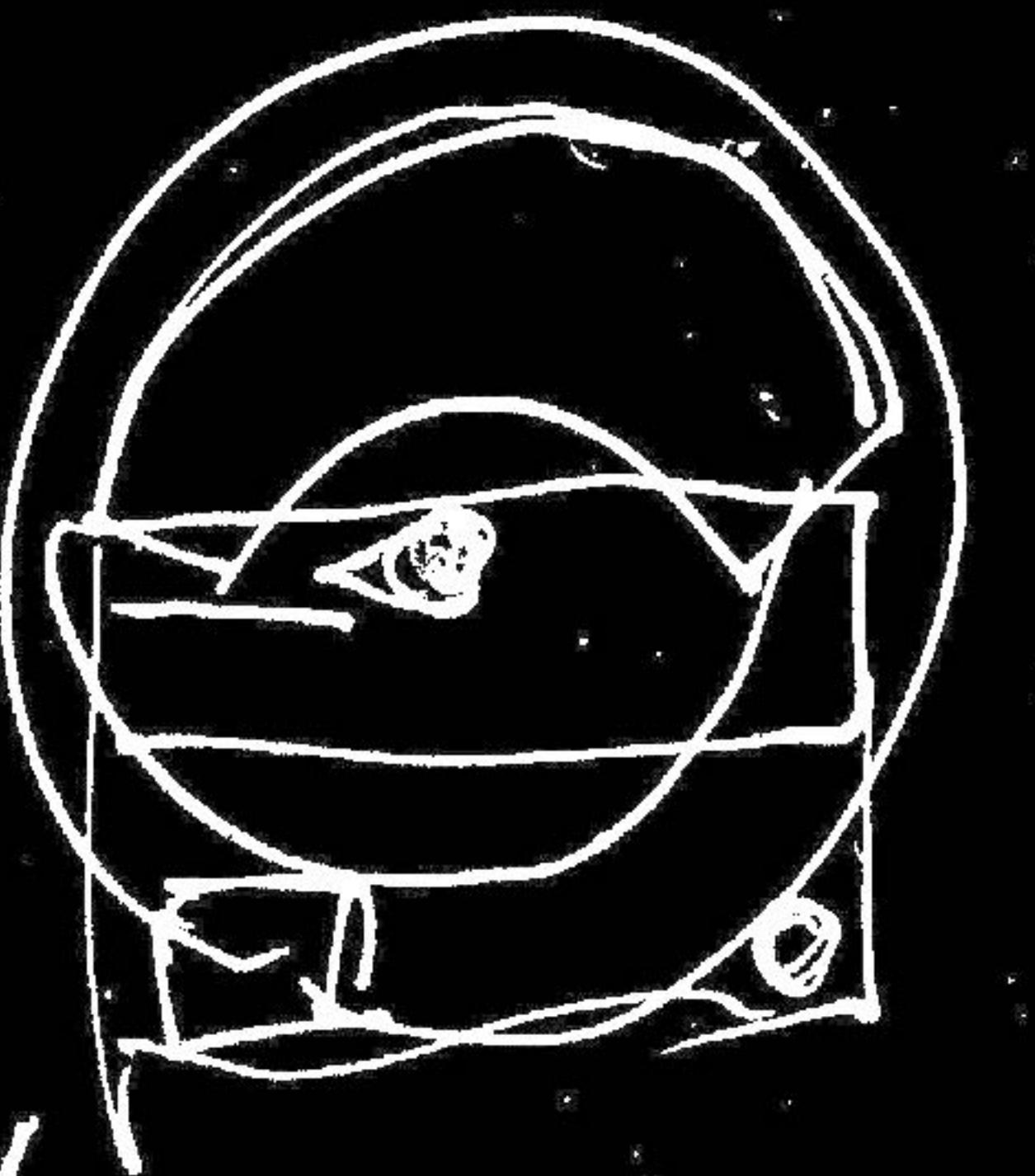
github.com/chyijiunn/picoCountdowner



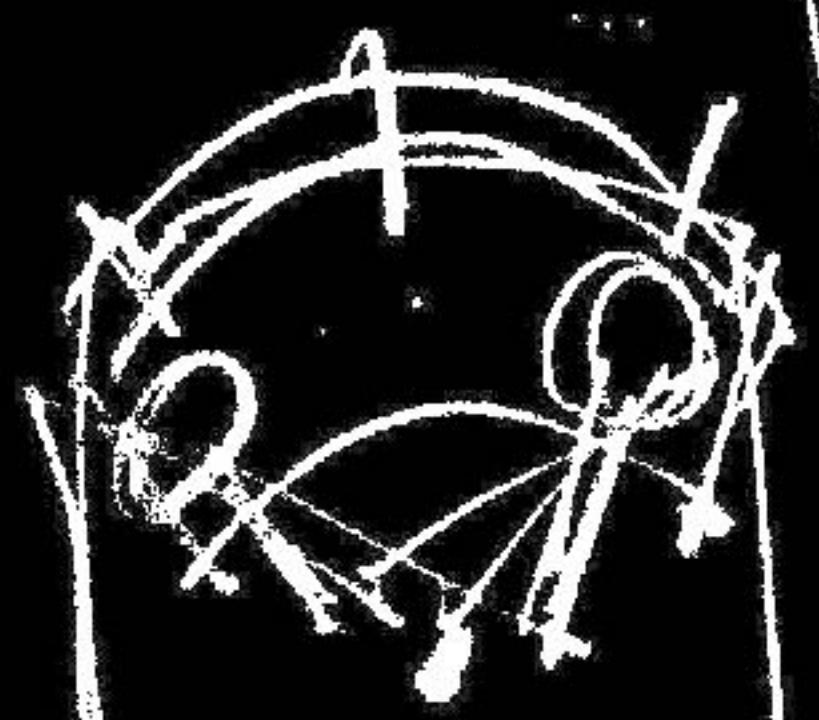
$\pm 30^\circ$

15 min. to
60°

Start



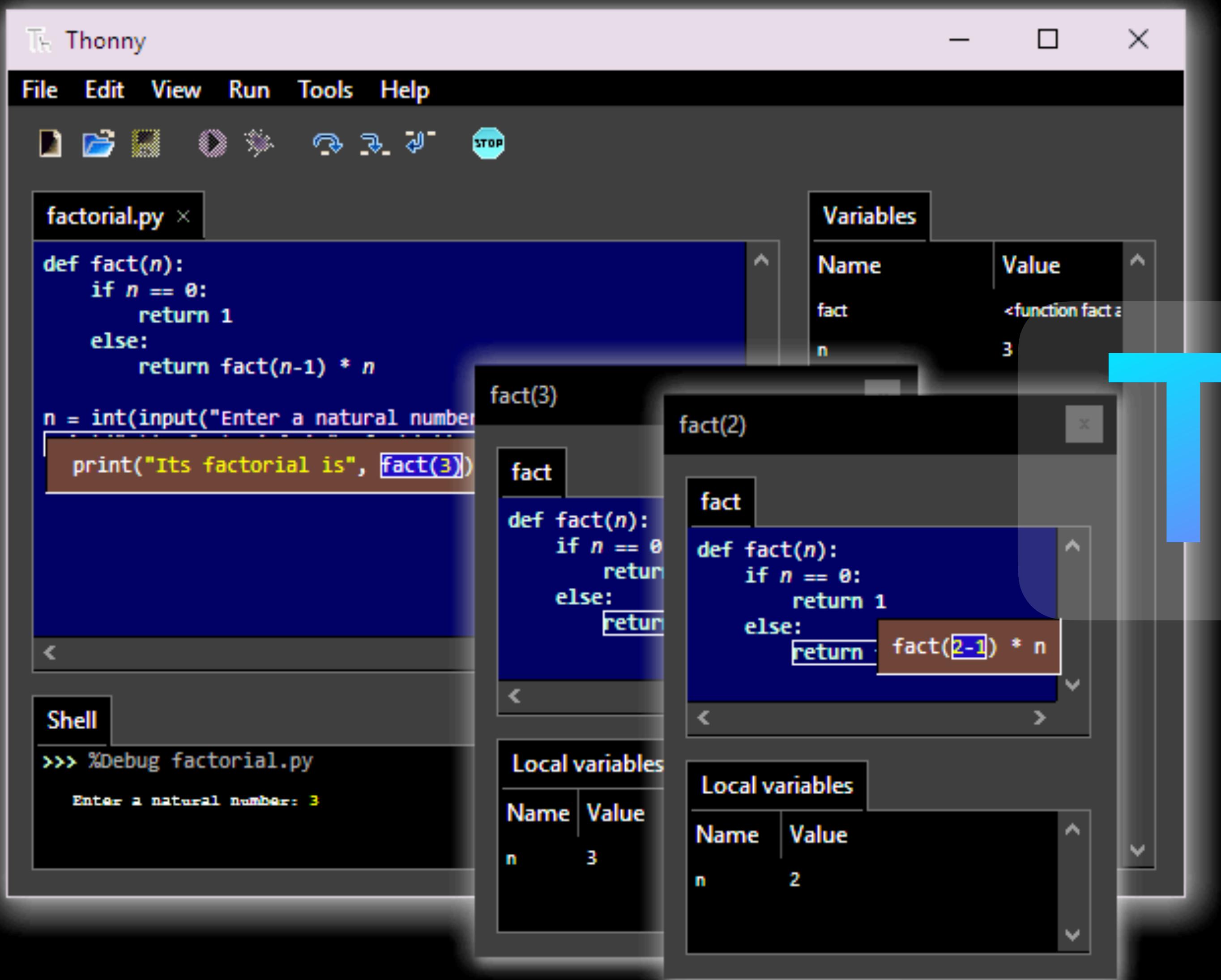
if



Thonny

Python IDE for beginners

 Download version [4.1.7](#) for
Windows • Mac • Linux



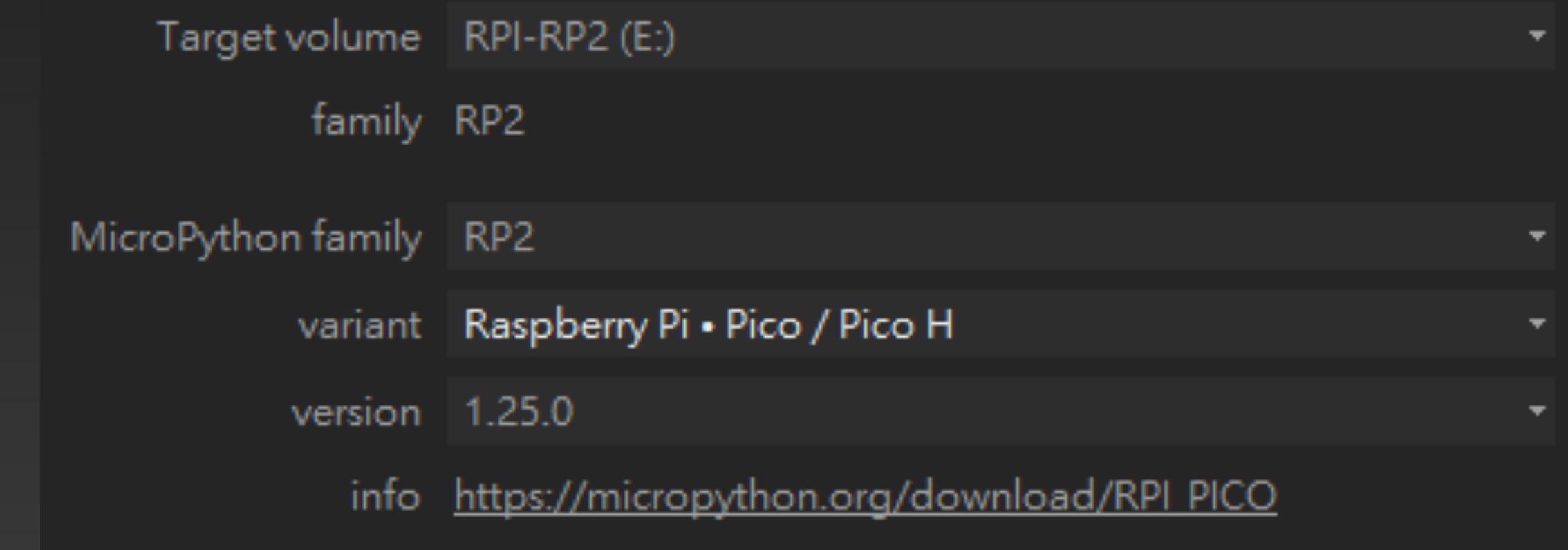
Thonny

介面使用
韌體操作
寫三行

韌體

按住BOOT SEL - 插入USB - 讀取如隨身碟

- 推薦使用
- 下載韌體
- 拖拉韌體進入
- 隨身碟顯示退出
- 工具 - 選項 - 直譯器
- 選 PICO
- 安裝或更新MICROPYTHON



檢視 - 檔案

Raspberry Pi Pico

00.py
01.py

MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040

Type "help()" for more information.

>>>

選 pico

本機
/ Users / trunking / Documents /
GitHub / picoCountdowner

▷ media
 ↳ 00.py
 ↳ 01_led1.py
 ↳ 02_led0.py
 ↳ 03_ledBlink.py
 ↳ 04_ws2812.py
 ↳ 05_chasingStripe.py
 ↳ 06_breathStripe.py
 ↳ 07_buzzerScale.py
 ↳ 08_buzzerScaleFor.py
 ↳ 09_buzzerFre.py
 ↳ 10_beep.py
 ↳ 11_sg90.py
 ↳ 12_sg90While.py
 ↳ 13_sg90For.py
 ↳ 14_Timer.py
 ↳ 15_period.py
 ↳ 16_beepMotor.py
 ↳ 17_final_LED.py
 ↳ 18_finalA.py
 ↳ 19_finalB.py
 ↳ 20_thread.py
 ↳ main.py
 ↳ README.md
 ↳ signLCDMain.py

```
1 from machine import Pin, PWM
2 from utime import sleep
3 buzzer = PWM(Pin(14))
4 buzzer.freq(4000)
5
6 for j in range(4):
7     for i in range(4):
8         buzzer.duty_u16(1000)
9         sleep(0.15)
10        buzzer.duty_u16(0) #短暫的靜音
11        sleep(0.01)
12    sleep(0.8)
```

MicroPython (Raspberry Pi Pico) • Board in FS mode @ /dev/cu.usbmodem14601

右鍵 - 上傳

在 Thonny 中開啟

使用預設的外部程式開啟

設定 .py 檔...

顯示隱藏檔

上傳到 /

建立新檔...

新增目錄...

剪下

複製

貼上

移至垃圾桶

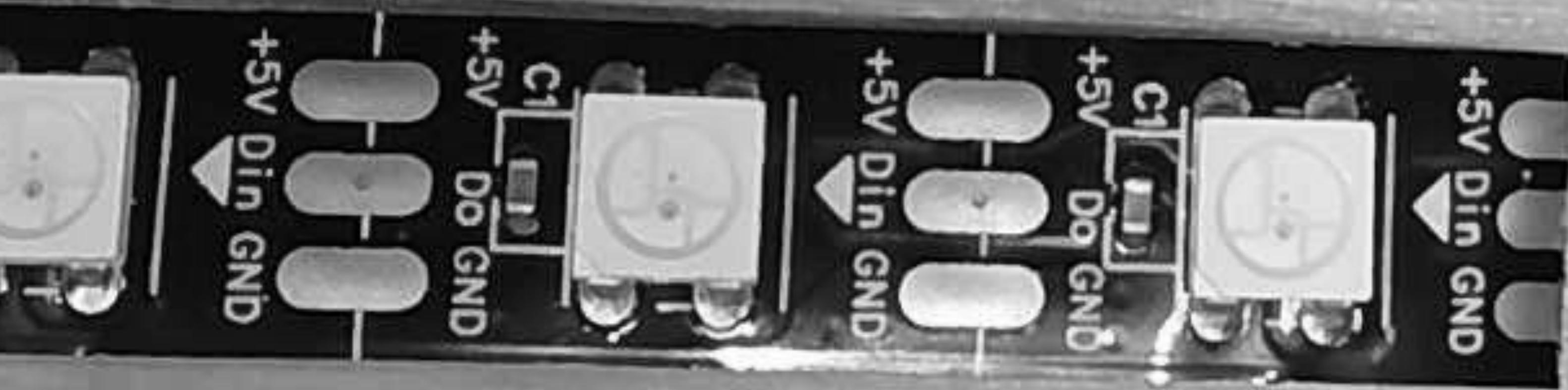
屬性

```
2 from utime import sleep
3 buzzer = PWM(Pin(14))
4 buzzer.freq(4000)
5
6 for j in range(4):
7     for i in range(4):
8         buzzer.duty_u16(1000)
9         sleep(0.15)
10        buzzer.duty_u16(0) #短暫的靜音
11        sleep(0.01)
12        sleep(0.8)
```

互動環境 ×

MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040
Type "help()" for more information.

注意燈條DIN方向



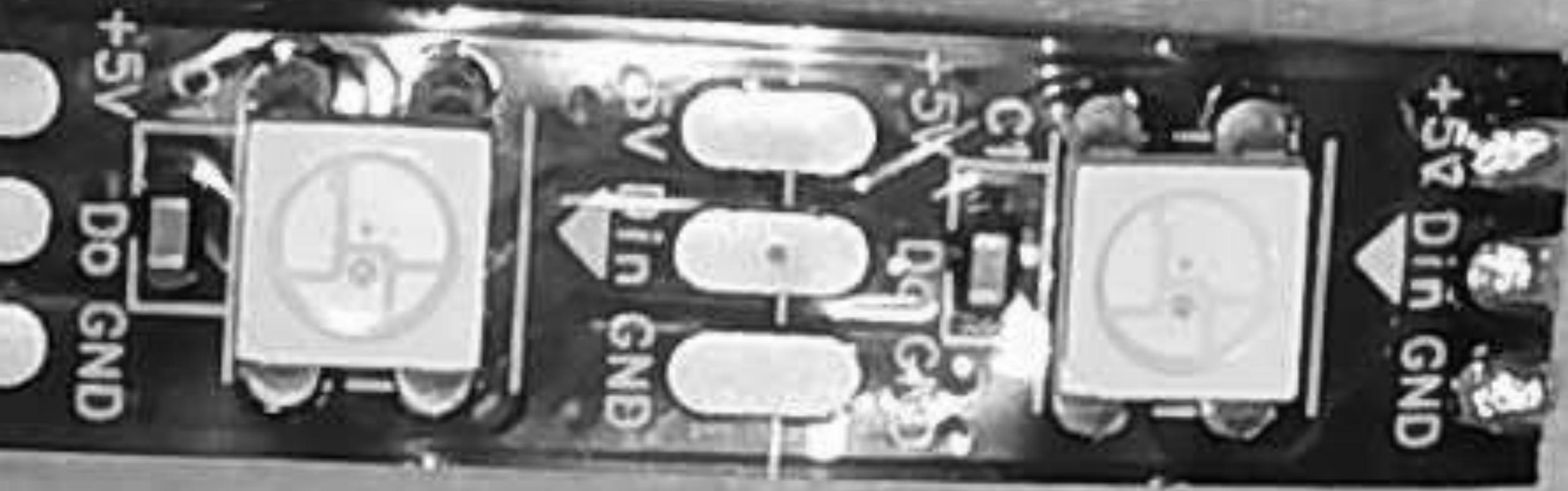
20cm 3pins





剪掉杜邦頭

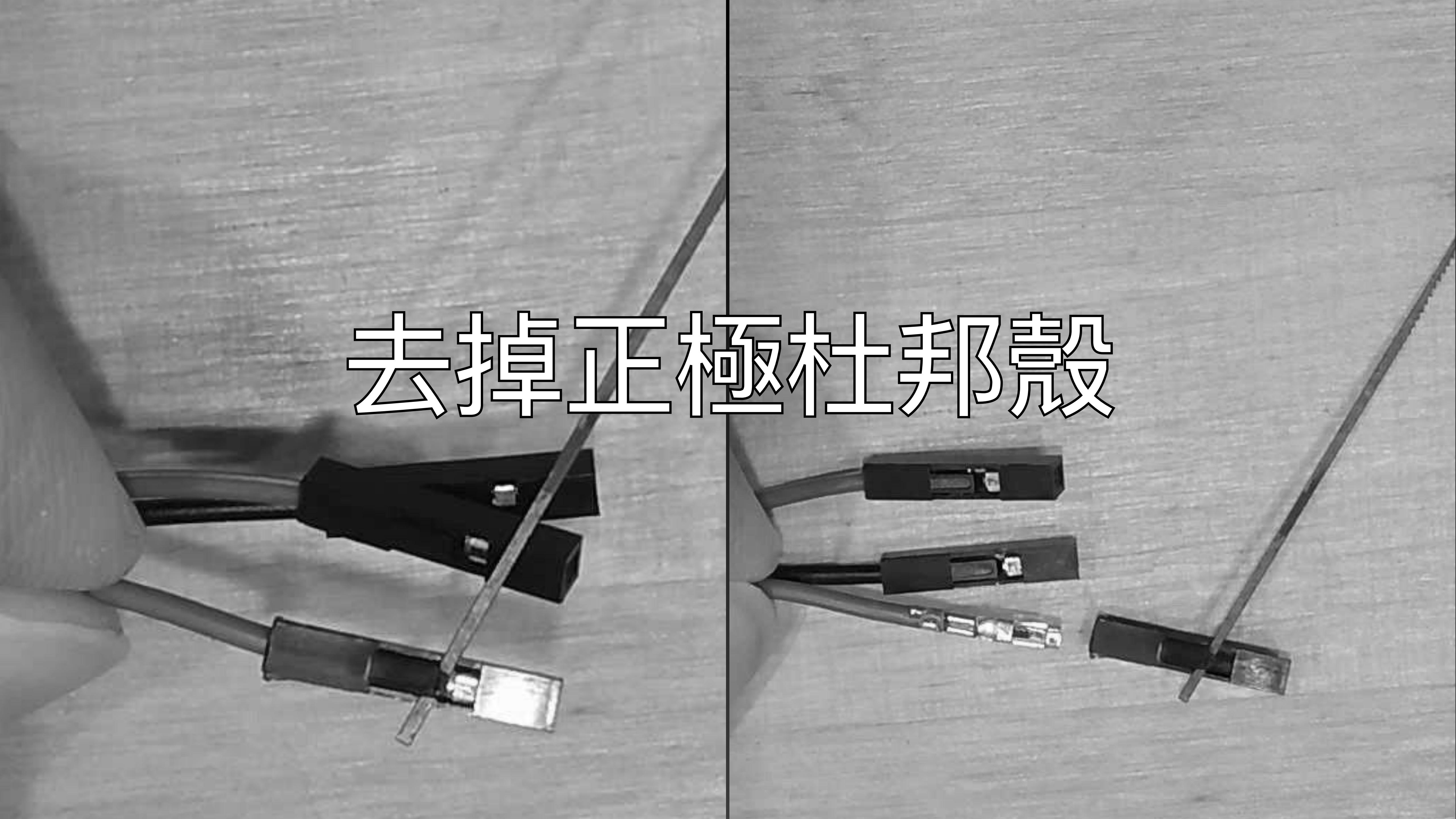
上助火早彦山再金手接



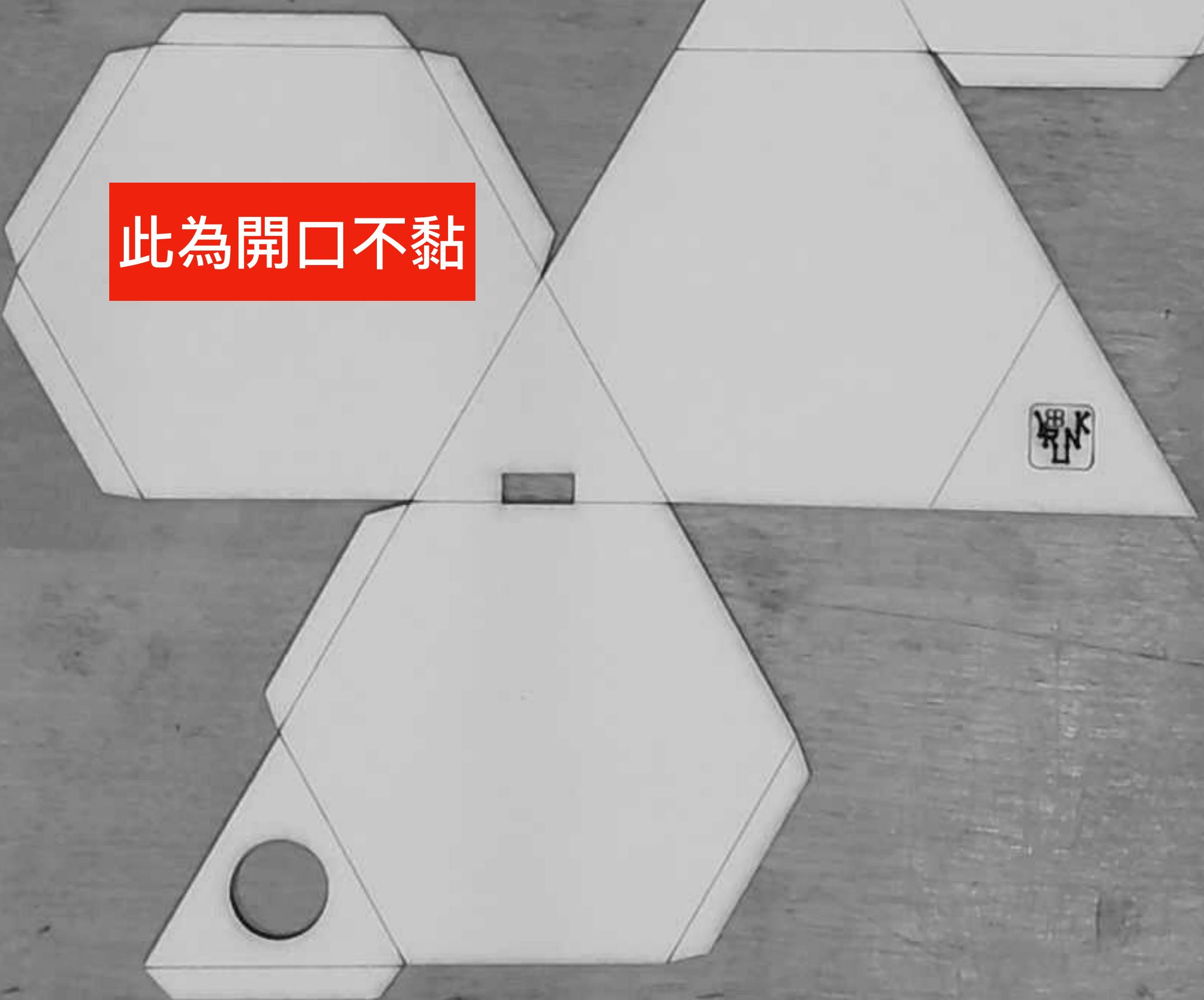
接錫再剪齊早助火上



去掉正極杜邦殼



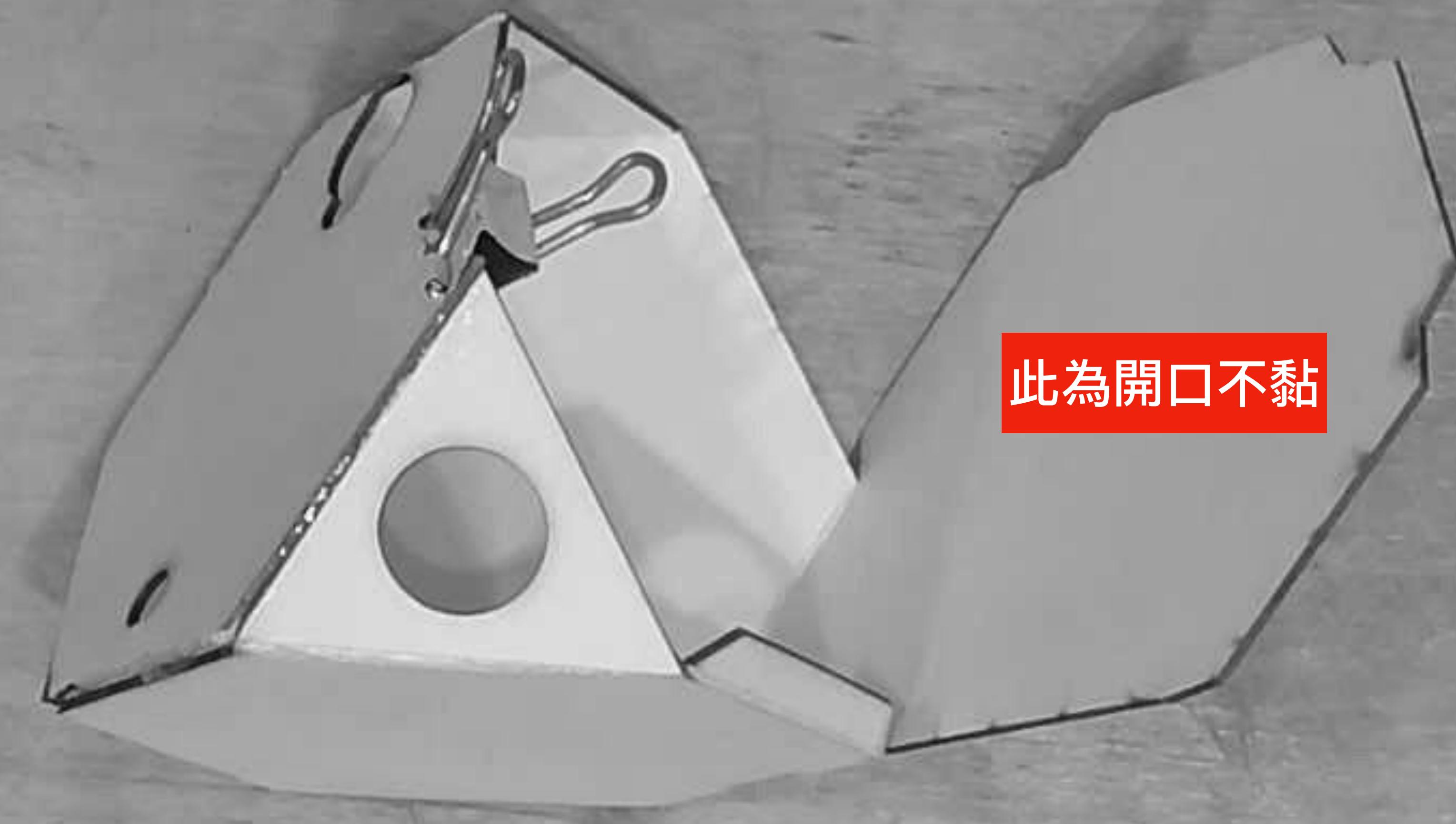
有記號為外側





折線都朝外
為山折線

長尾夾輔助固定



此為開口不黏



剪掉sg90側翅

並去掉信號線杜邦殼

開口盒舌

置入sg90





圓紙片貼合

對齊小圓孔

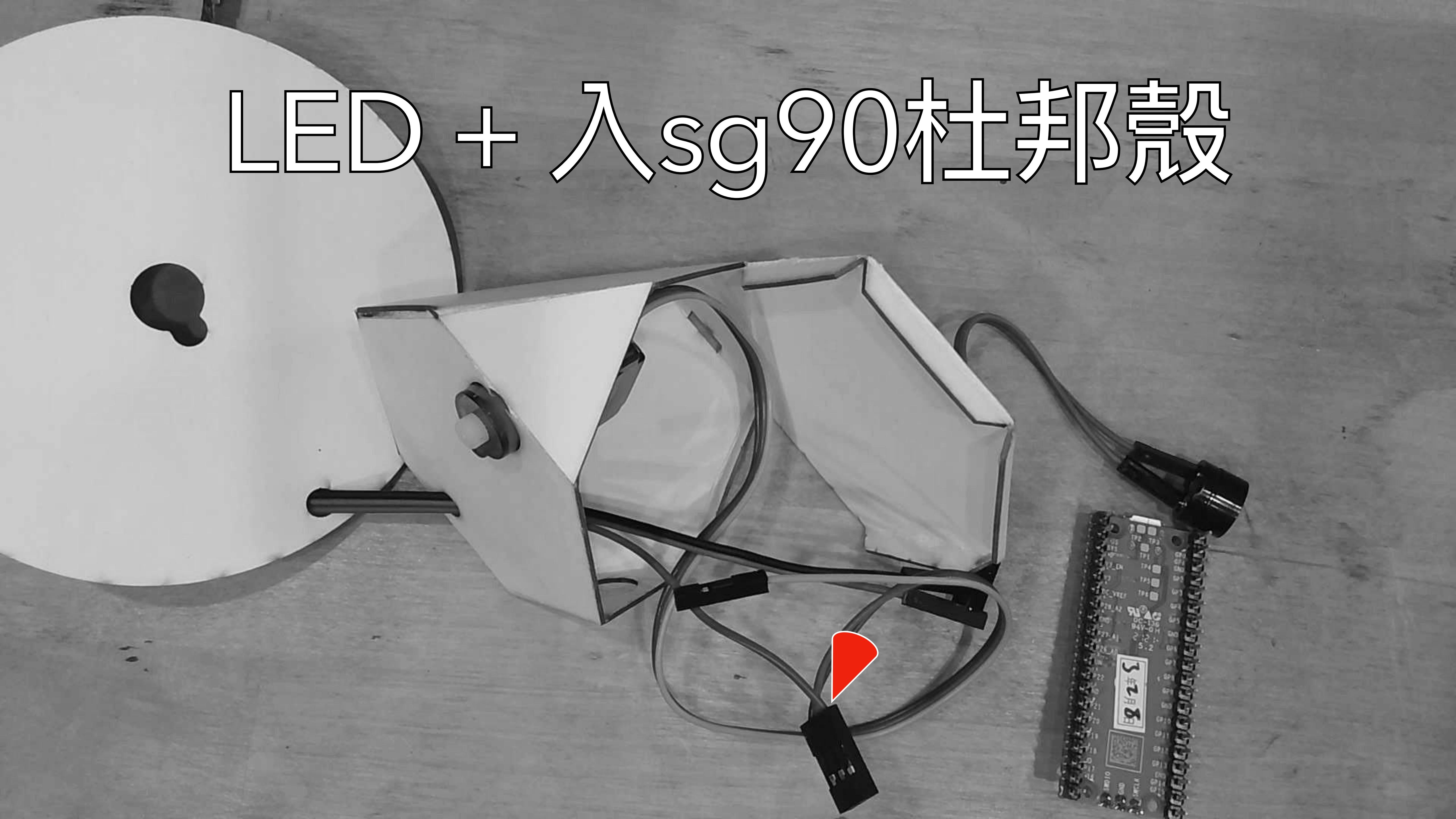


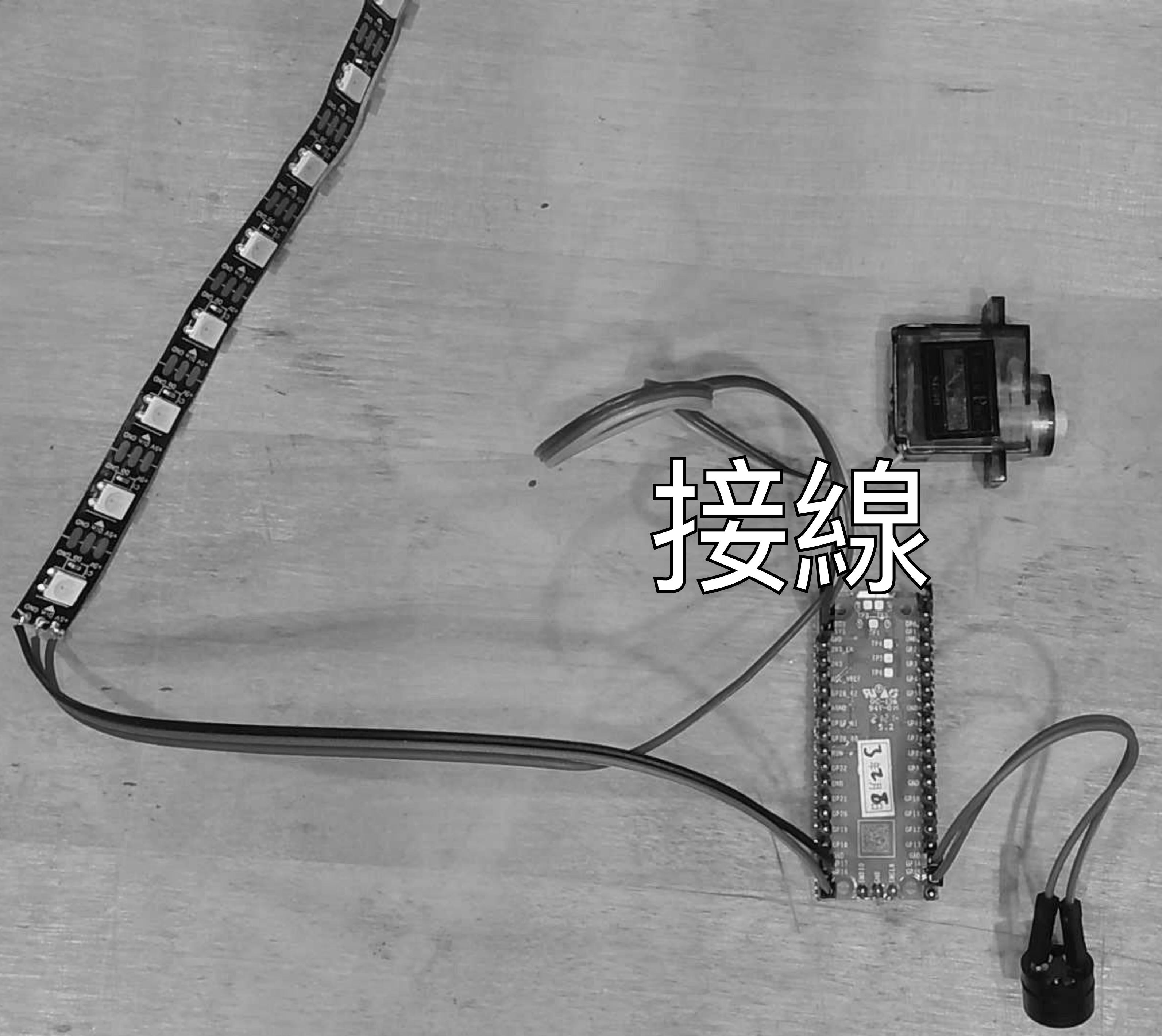
小圓孔に穿過LED線

LED + 入sg90杜邦殼

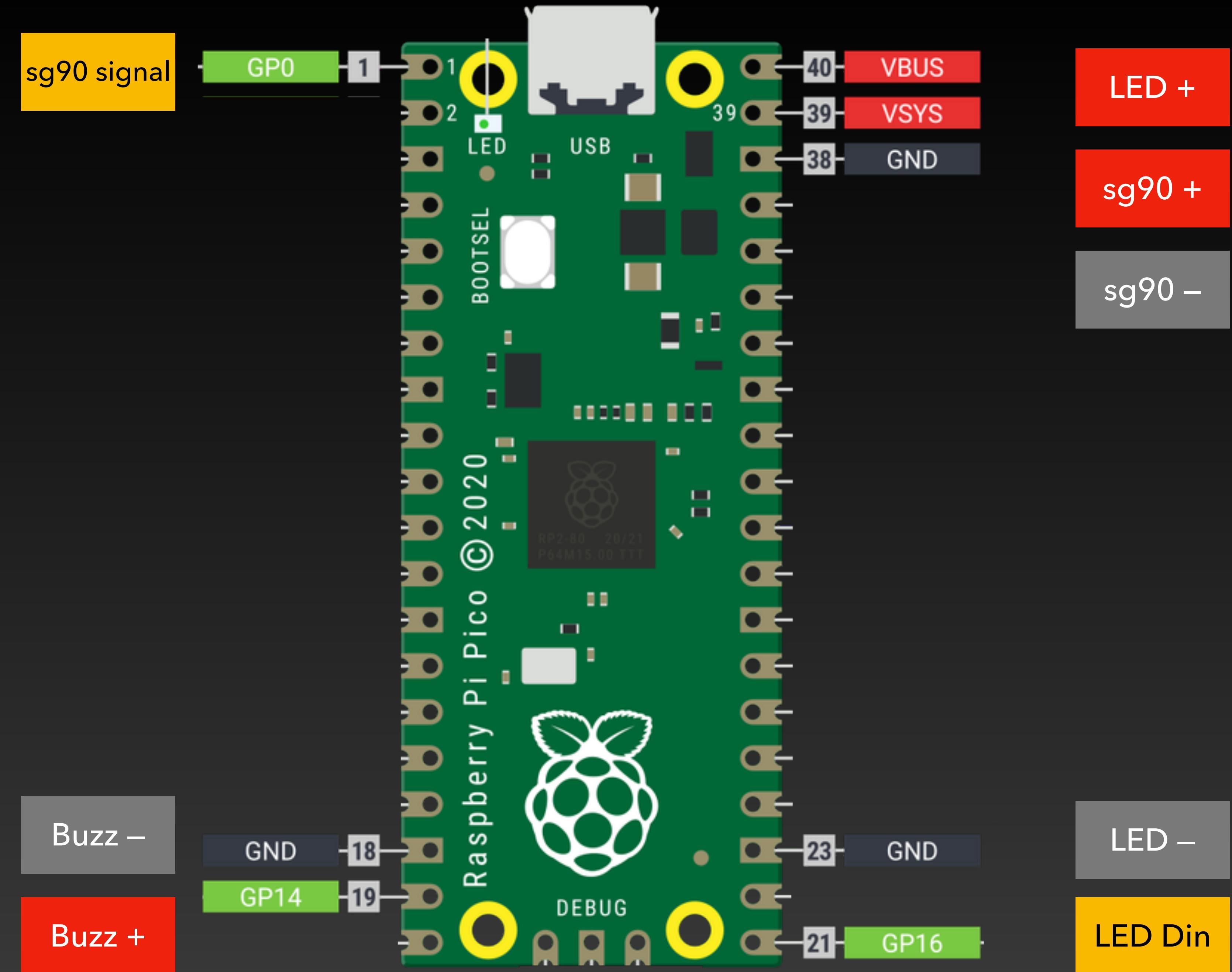


LED + 入sg90杜邦殼





接線



LED +

sg90 +

sg90 -

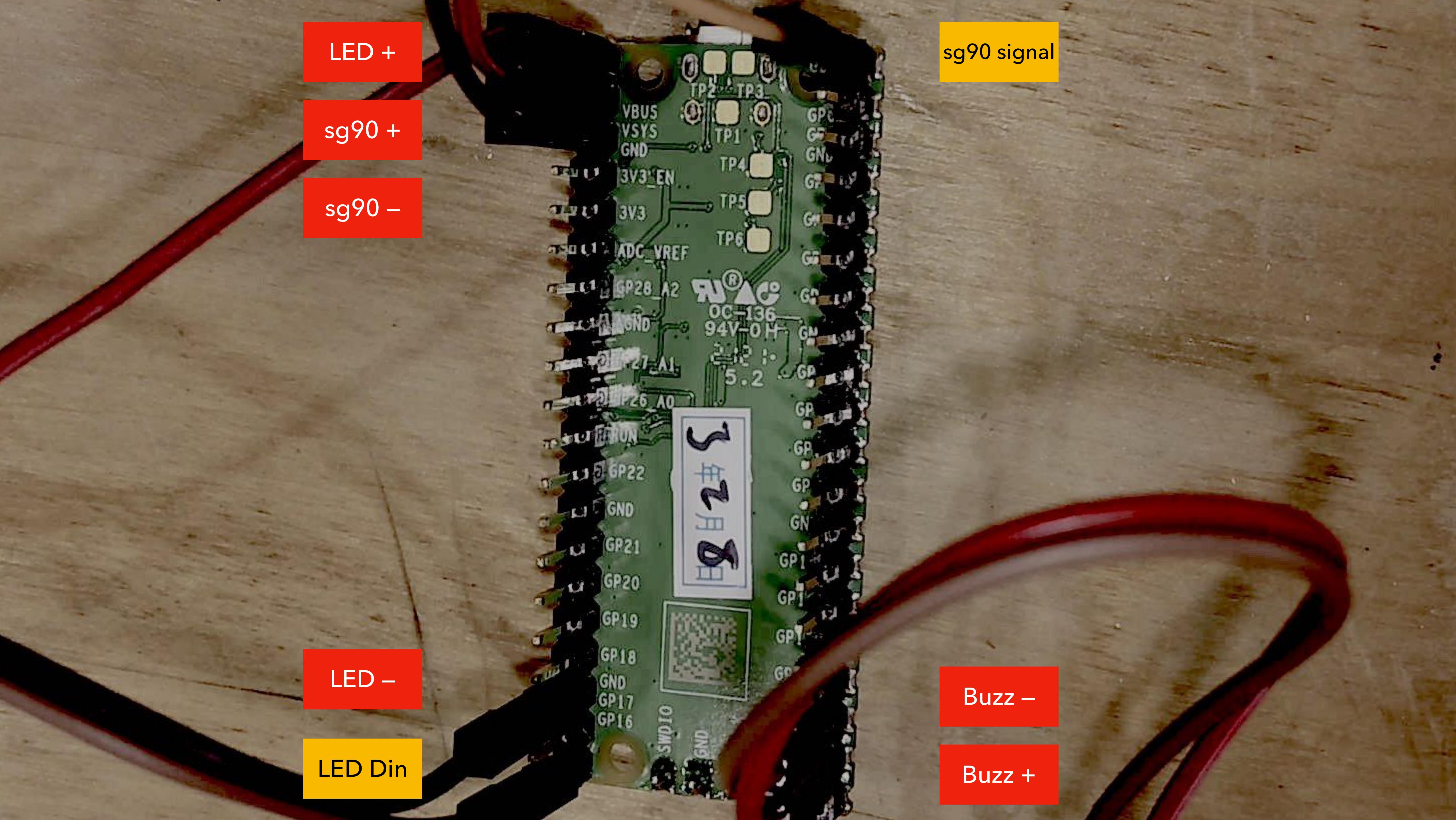
LED -

LED Din

sg90 signal

Buzz -

Buzz +



LED +

sg90 +

sg90 -

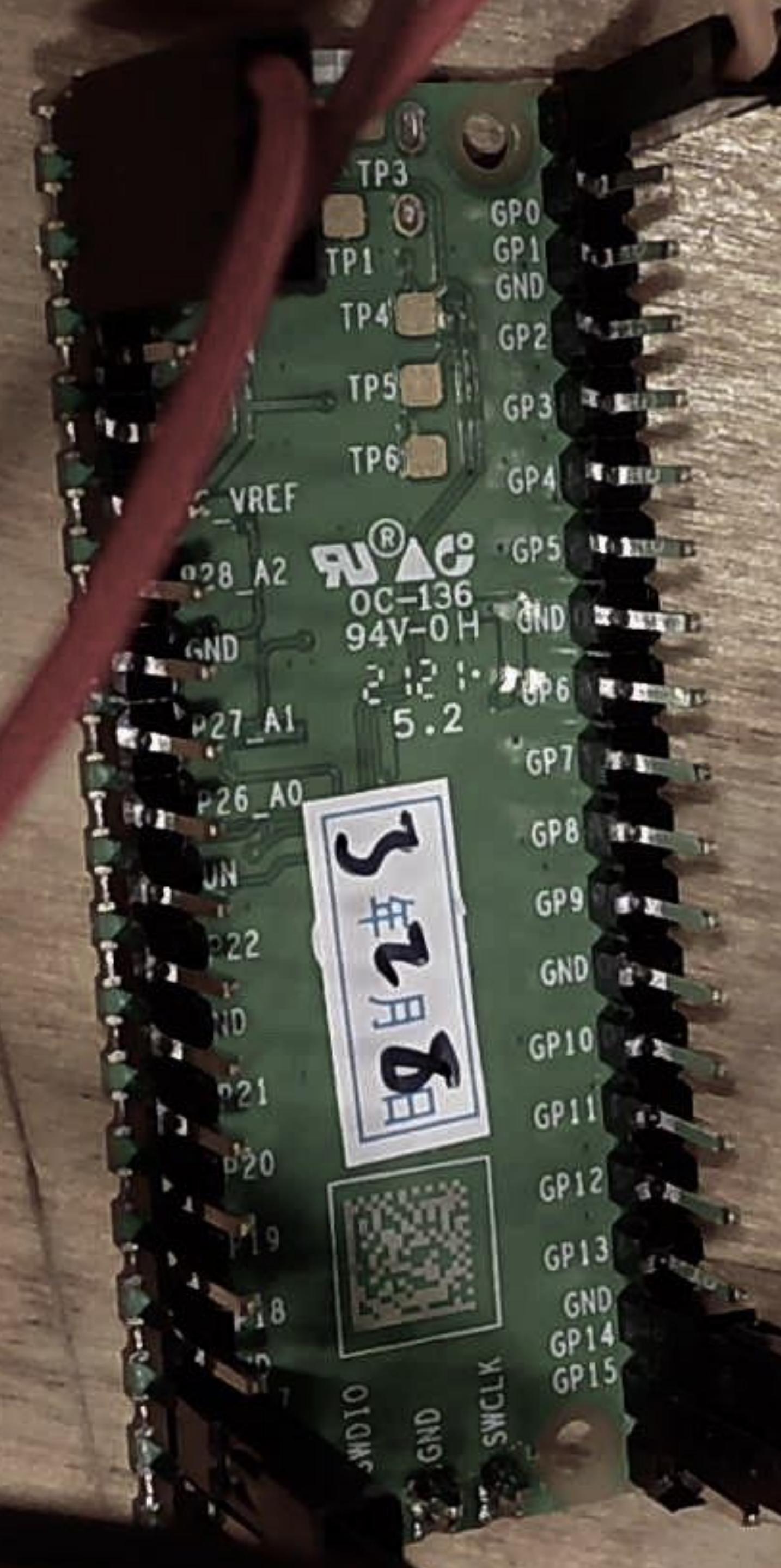
LED -

LED Din

sg90 signal

Buzz -

Buzz +



整線

USB孔朝後下

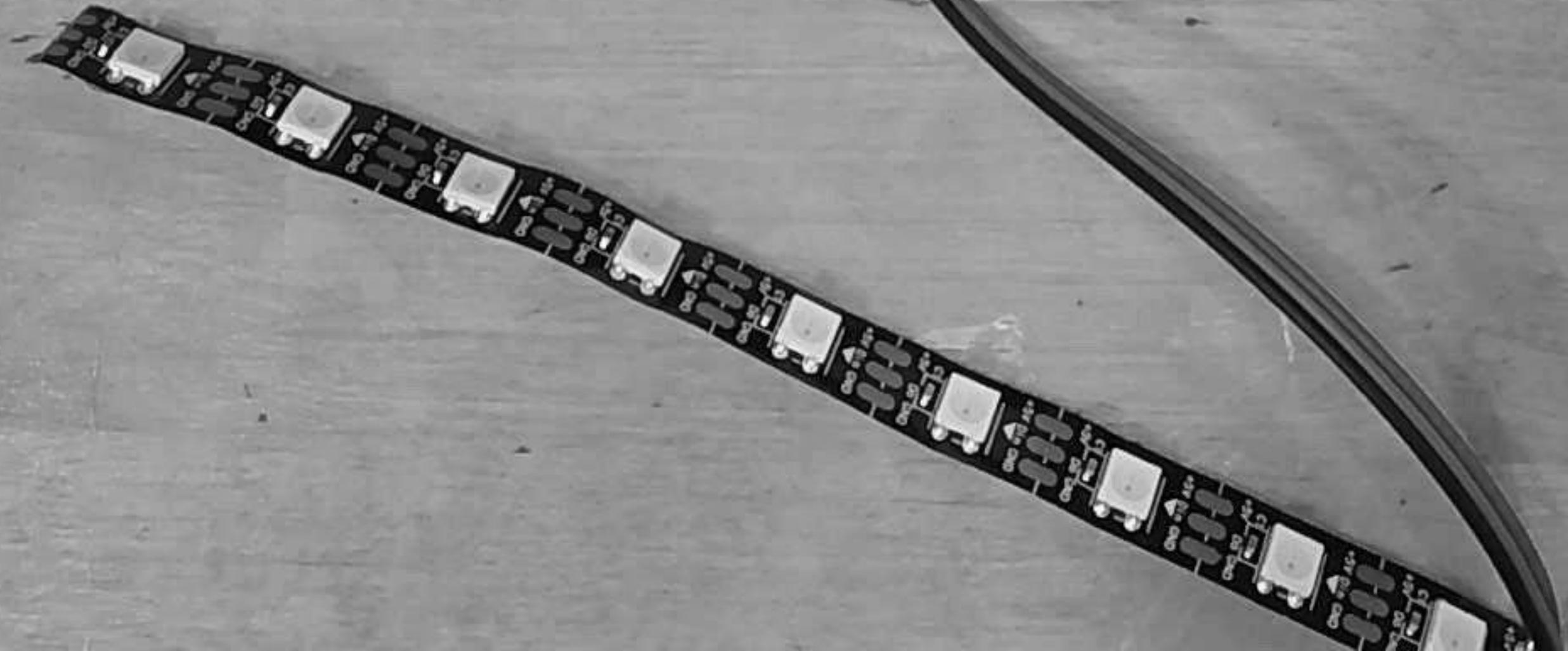
Buzz 入門



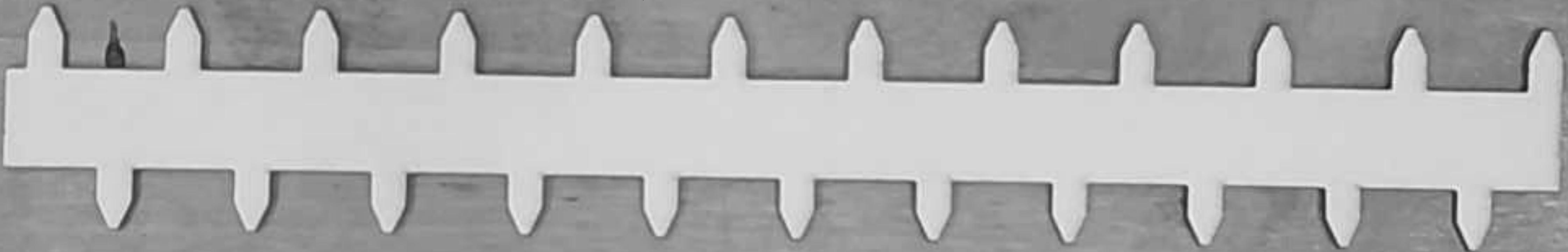
USB孔對齊



準備固定燈條



齒條朝向向折彎



折繪

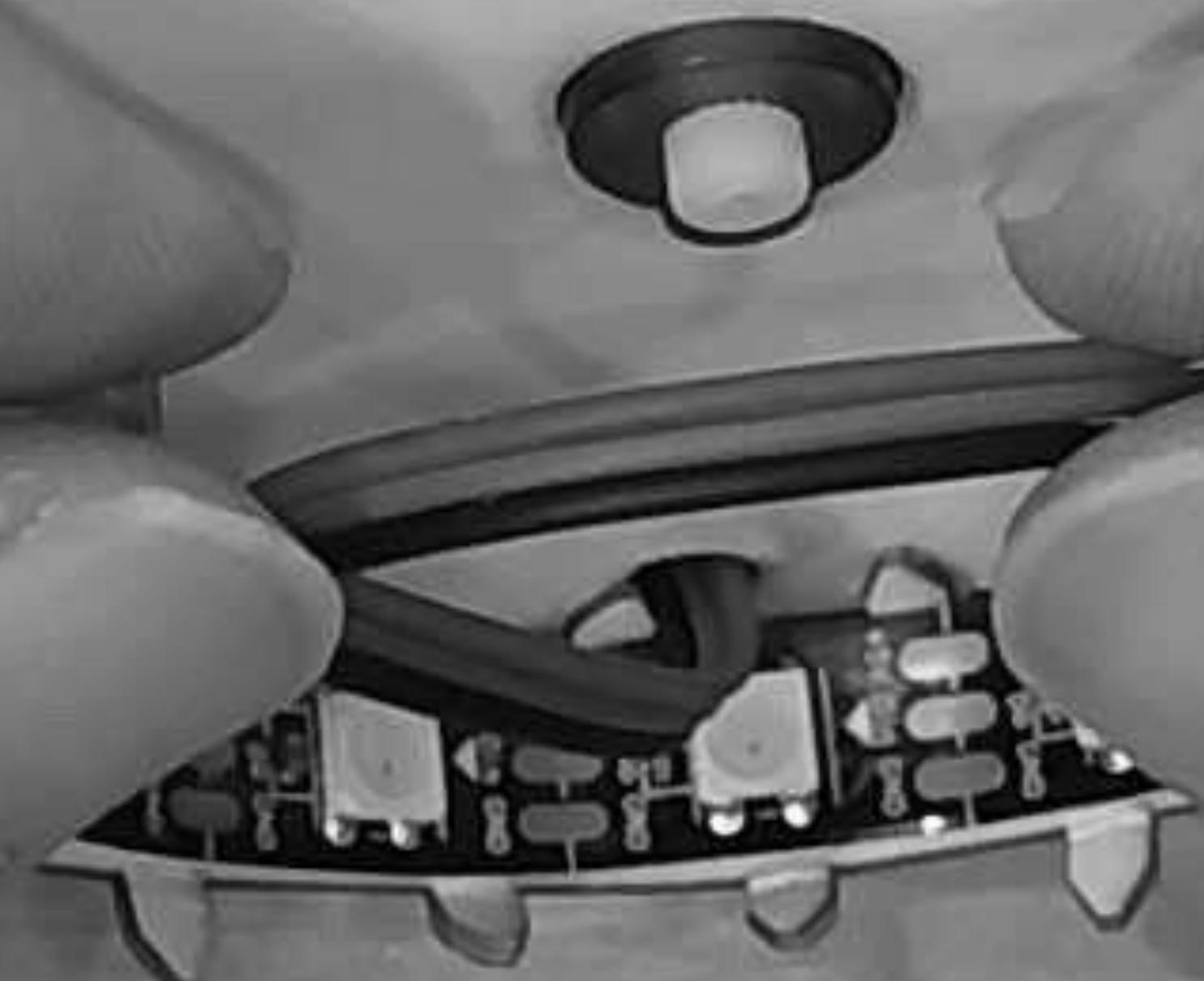




點膠貼合

置中對齊下緣

燈條置中貼齊齒條



燈條置中貼齊齒條



整線



絕緣膠帶



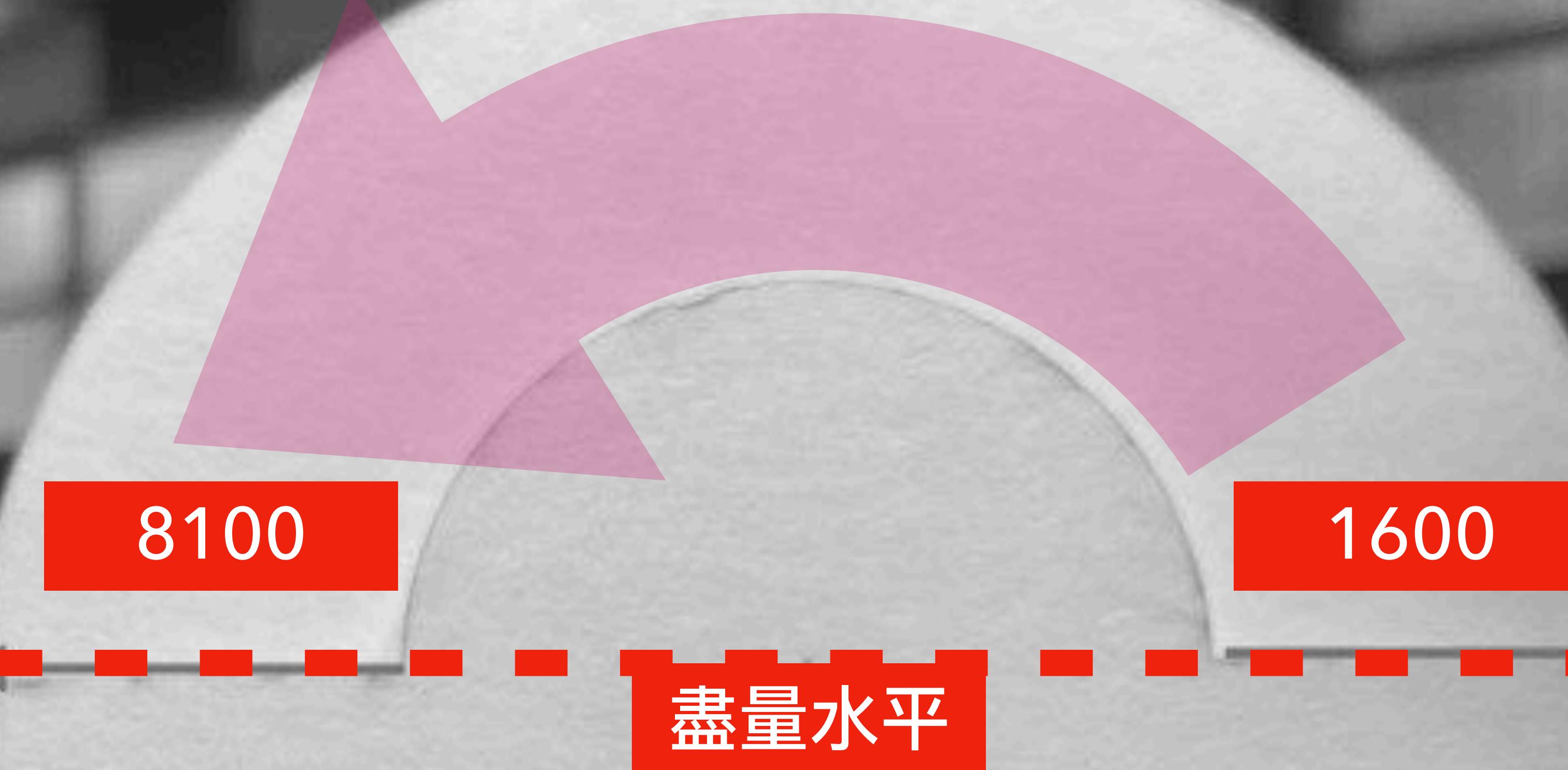
sg90配件水平貼於中央



黑點置中定位



輕輕扣上



調整馬達數值

確認角度後用力扣上



貼上護蓋
完成



▷ media
 00.py
 01_led1.py
 02_led0.py
 03_ledBlink.py
 04_ws2812.py
 05_chasingStripe.py
 06_breathStripe.py
 07_buzzerScale.py
 08_buzzerScaleFor.py
 09_buzzerFre.py
 10_beep.py
 11_sg90.py
 12_sg90While.py
 13_sg90End.py
 14_micropython-p

另存新檔

Raspberry Pi Pico

00.py
01.p

RASPBERRY PI PICO

互動環境 ×

MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040
Type "help()" for more information.

```
2 from utime import sleep
3 buzzer = PWM(Pin(14))
4 buzzer.freq(4000)
5
6 for i in range(4):
7     # 音量
8     # 本機
9     # Raspberry Pi Pico
10    # 15)
11    # uty_u16(1000)
12    # 01)
13    # uty_u16(0)#短暫的靜音
14    # 01)
```

另存 main.py

通電即執行