

# SmartKnob: User interfaces' new sense of touch

以直流無刷馬達實現可程式控制觸感與線位  
之人機交互界面

# **Outline**

**動機與目的**

**系統架構**

**製作流程**

**檢討與展望**

# Outline

動機與目的

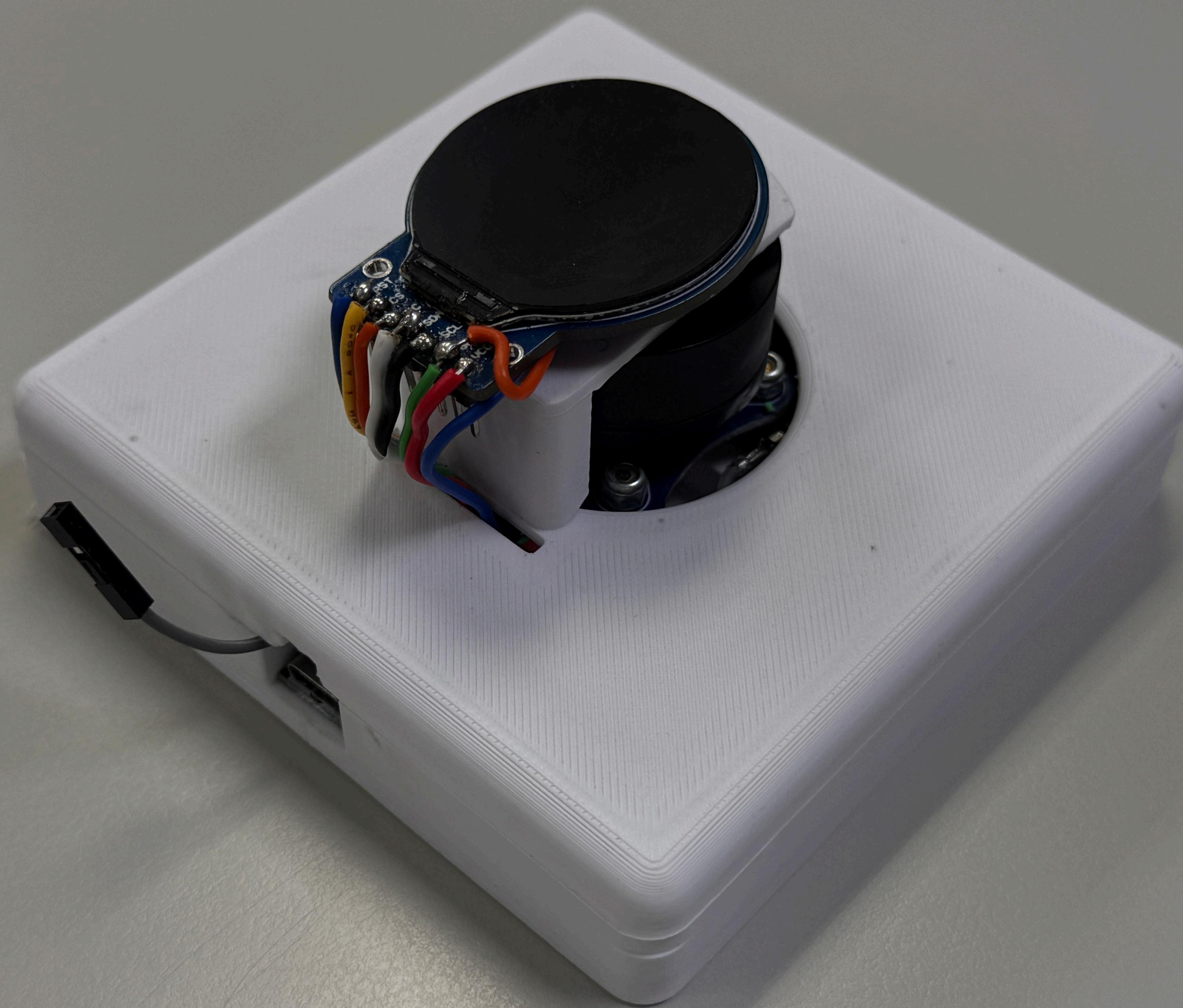
系統架構

製作流程

檢討與展望

**如何用一個開關控制多個裝置？**







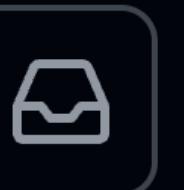
## Lexus RX 450h Remote Touch

Issued 04/2009

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scottbez1 / smartknob



<> Code

Issues 62

Pull requests 7

Actions

Projects

Wiki

Security



smartknob

Public

Sponsor

Watch 547

Fork 1.2k

Star 21.1k



master ▾



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<> Code ▾

About



scottbez1 Update README.md



4eb9883 · last year



.github

Fine tuning for esp32s3 ...

2 years ago



.vscode

Web Serial library and d...

2 years ago



cad

Add link to 15mm adapter

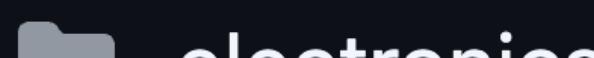
3 years ago



doc/img

Update readme

3 years ago



electronics

BOM - Replace dissent

2 years ago

Haptic input knob with software-defined endstops and virtual detents

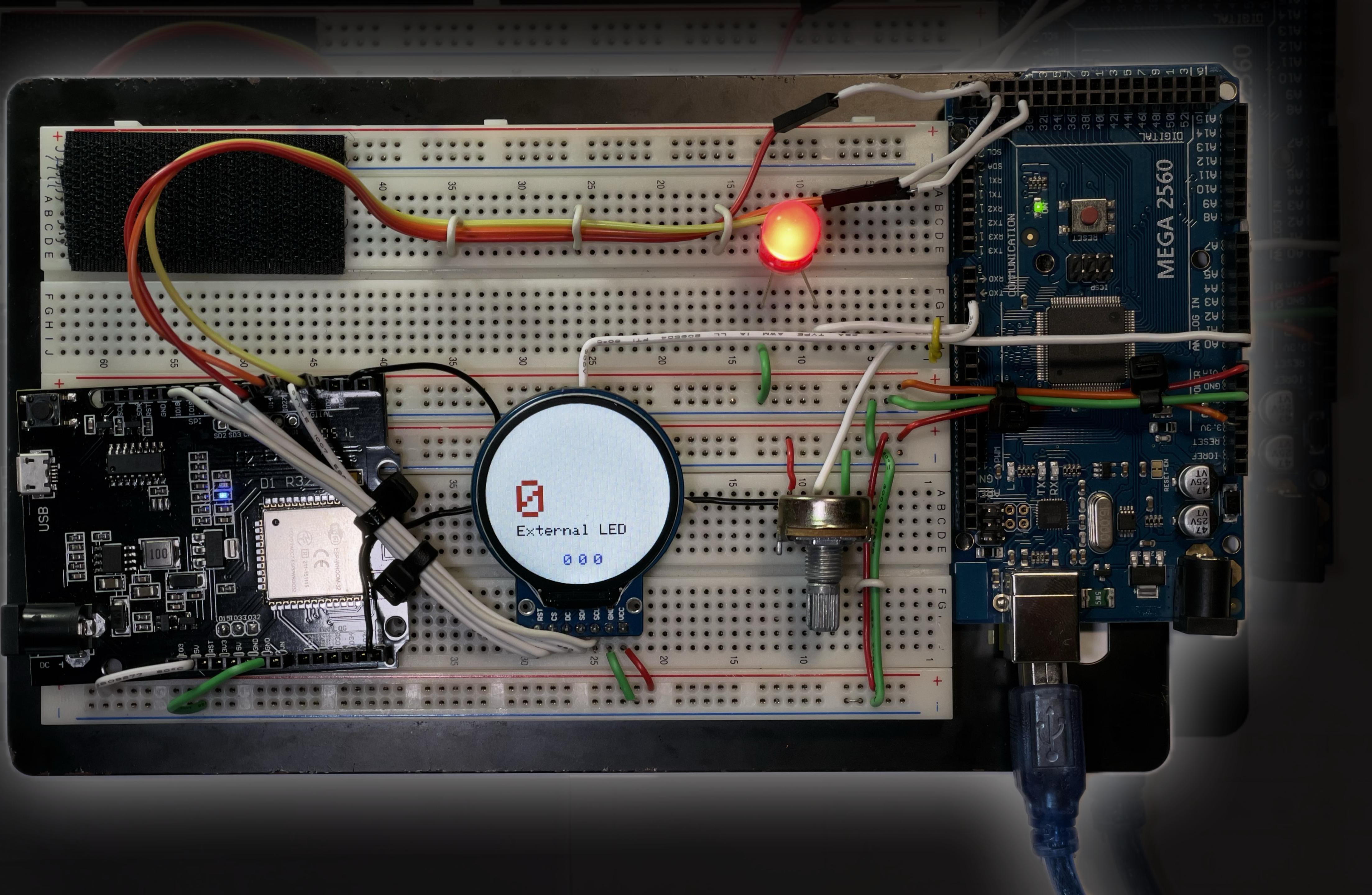
🔗 [www.youtube.com/watch?v=i...](http://www.youtube.com/watch?v=i...)

📖 Readme

⚖️ View license

⚡ Activity

⭐ 21.1k stars



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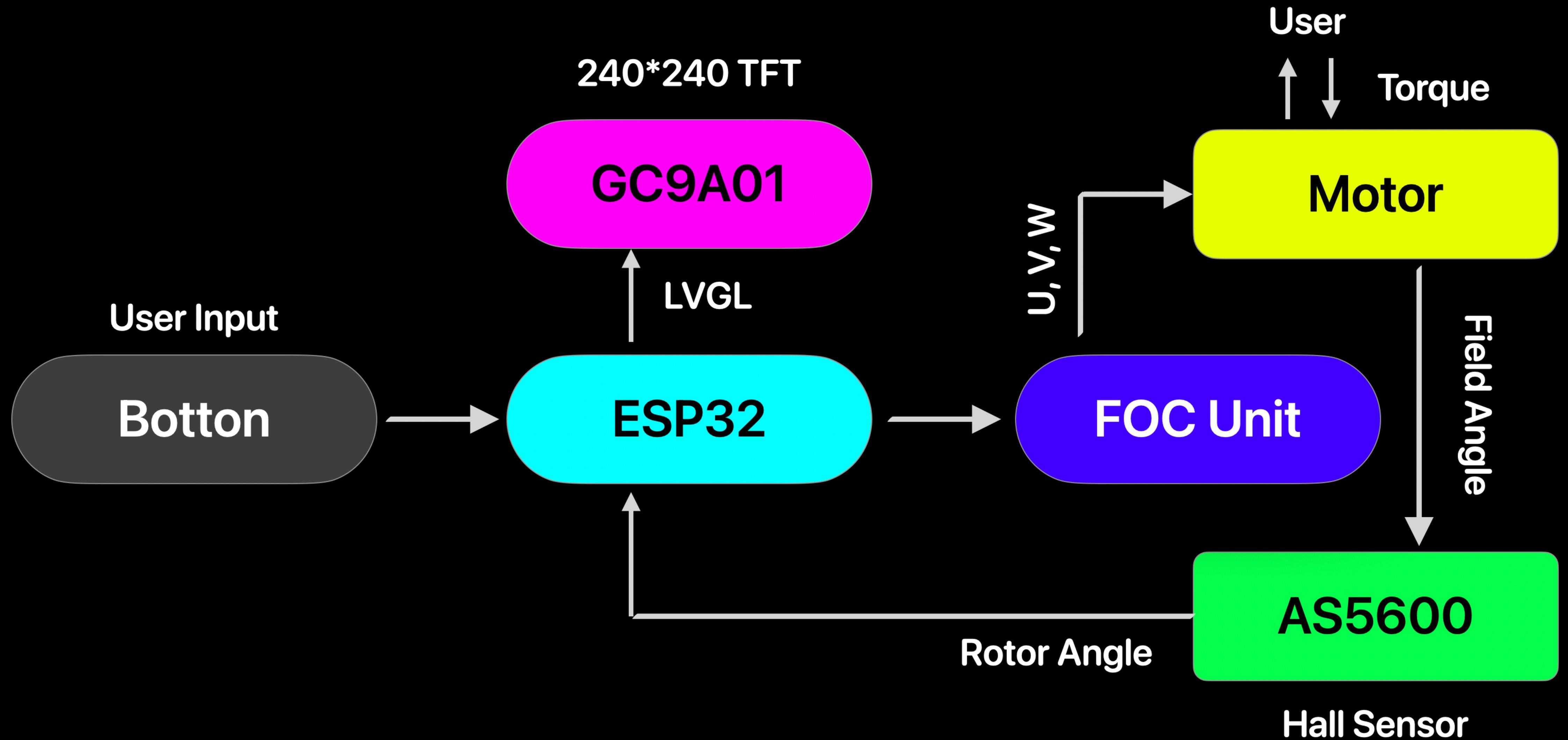
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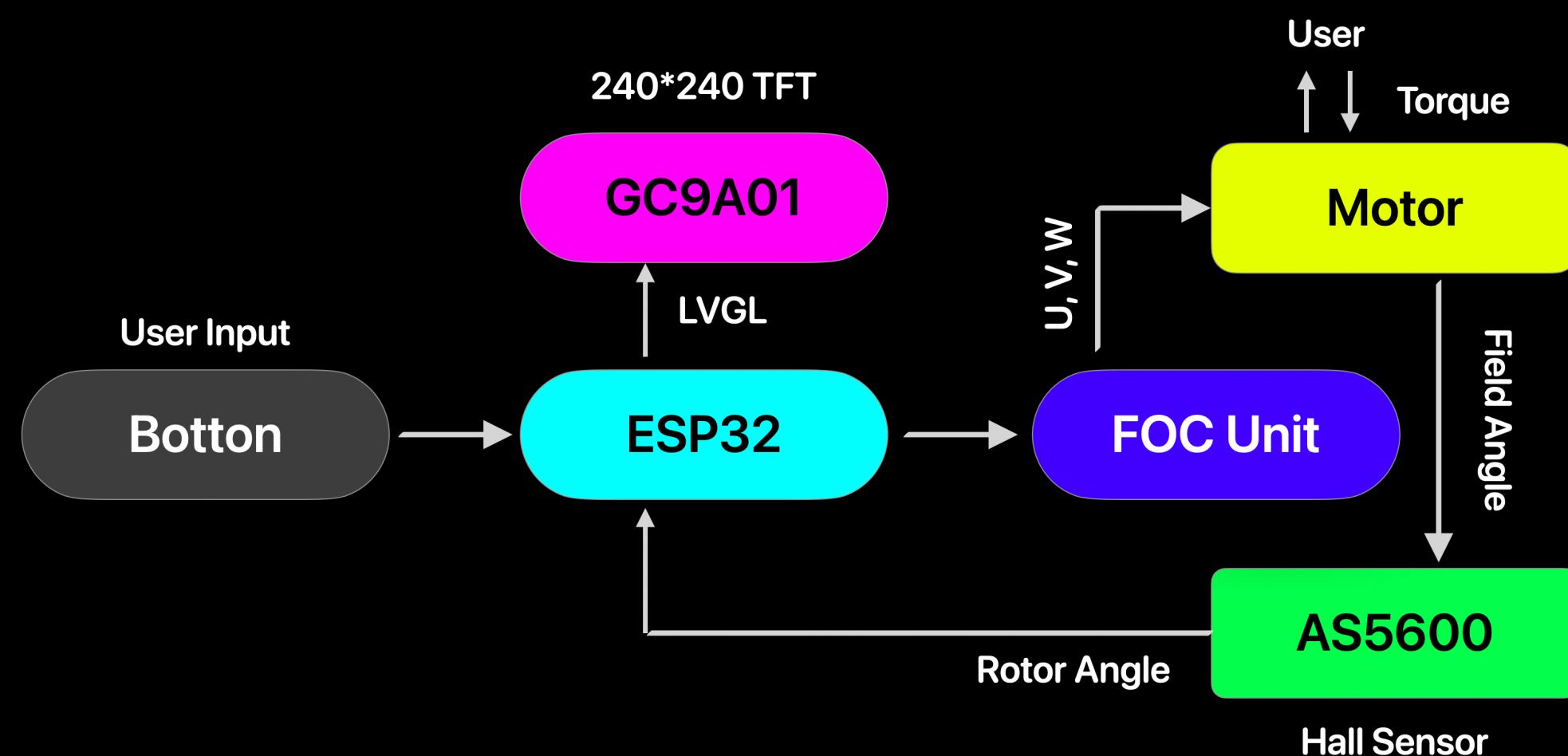


應用

Application

技術

Technique





傳統開關



零火開關



# Light



This may take a few minutes.



Setting Up...

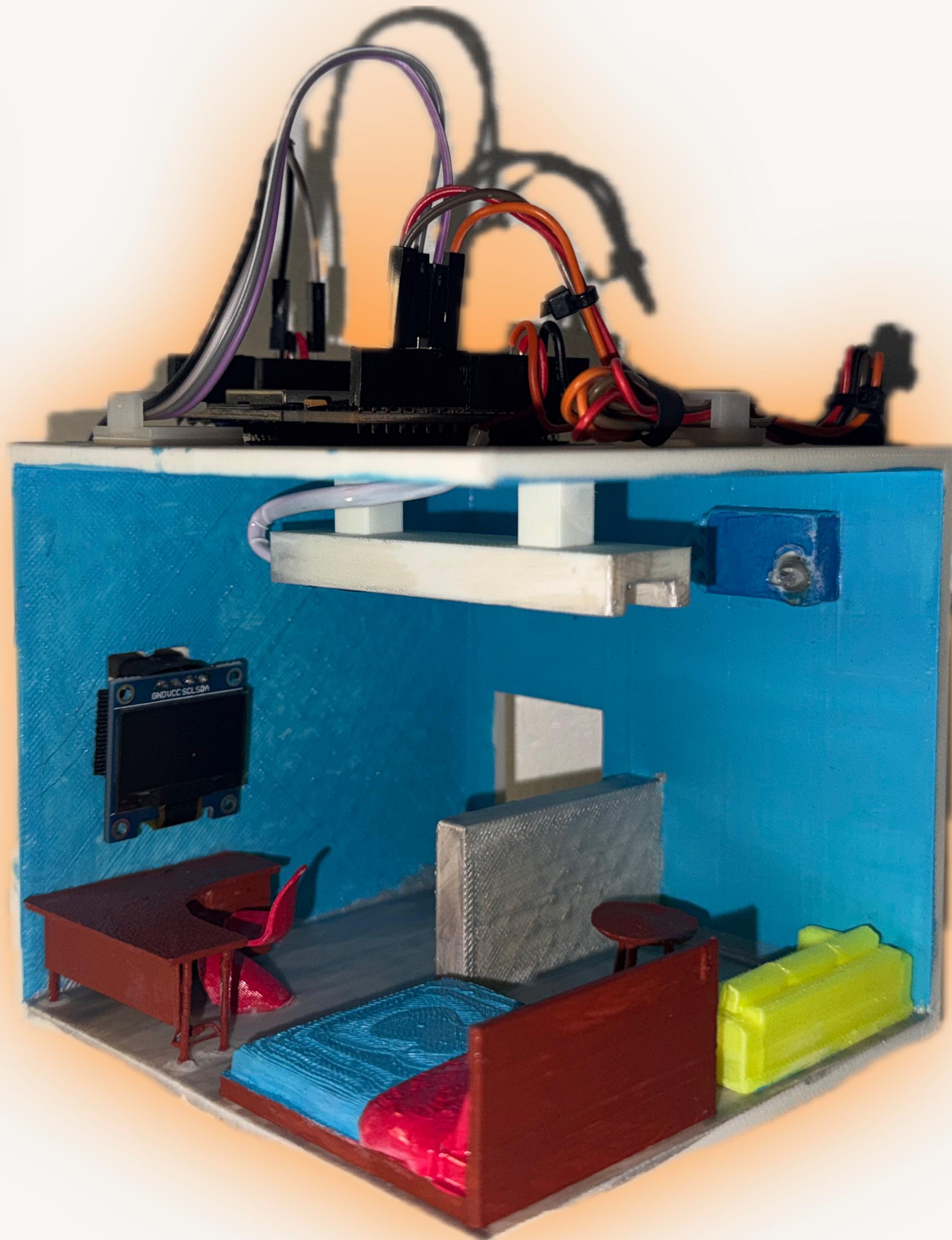






窗簾

插座



燈光

空調



# 文簾

# 插座



# 燈光

# 空調



窗簾

插座



燈光

空調  
RGB LED



窗簾

螢幕白色區域

插座



空調

燈光



窗簾

插座

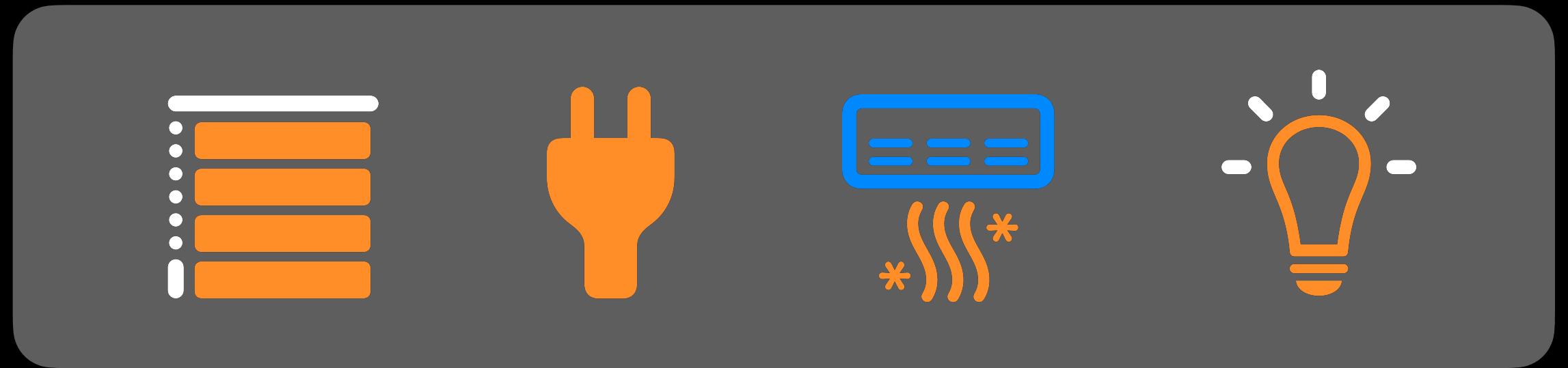


燈光

LED 燈條 (PWM)

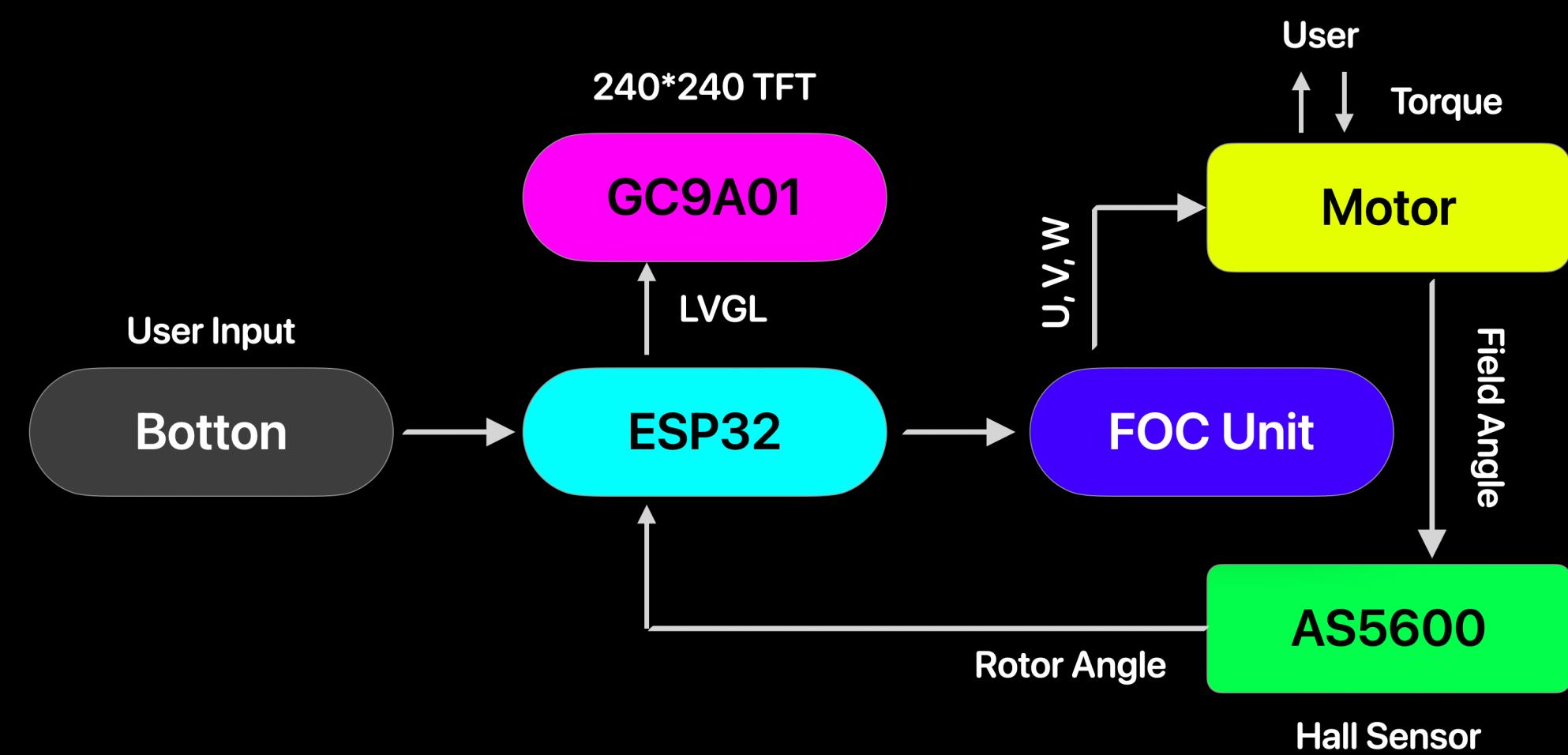
空調

# 應用



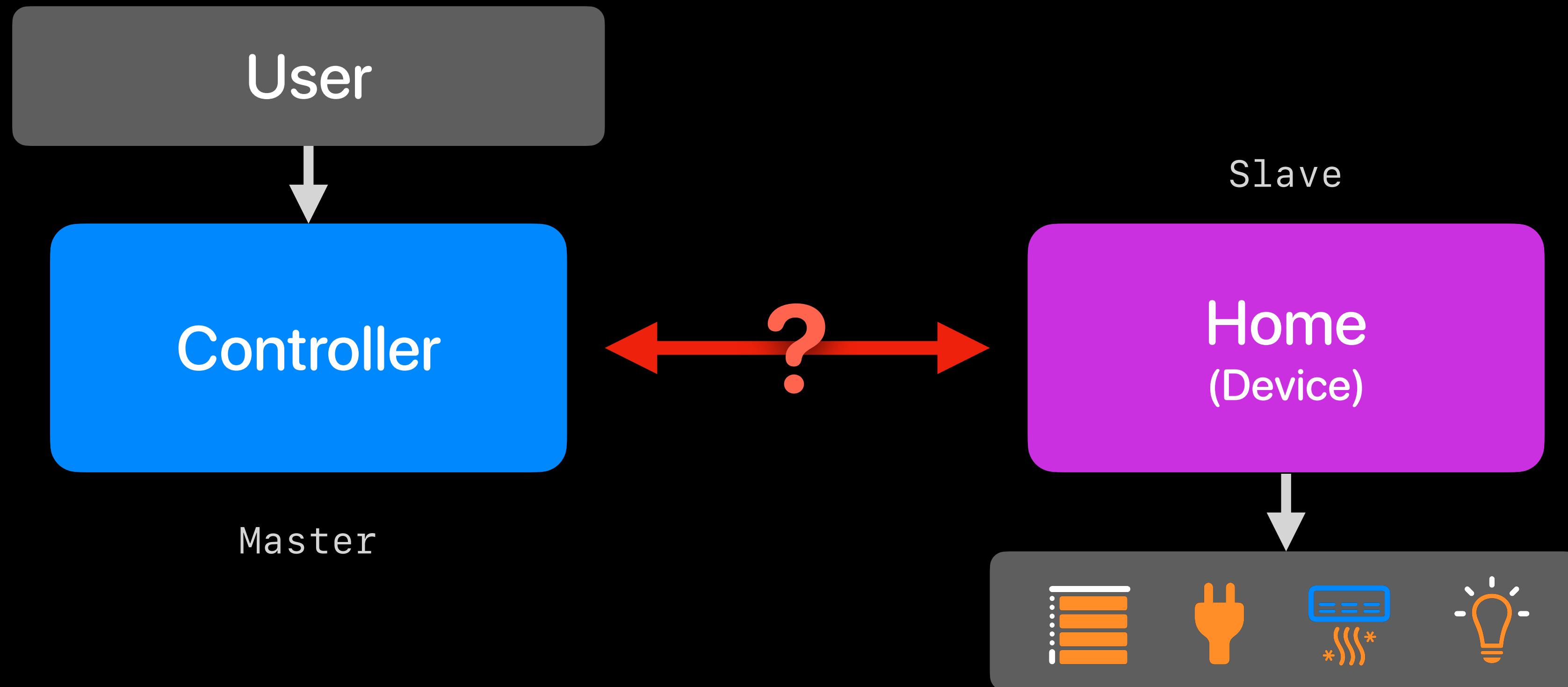
# Application

# 技術



# Technique





```
{ "id": , "dev": , "val": }
```



```
{ "id": , "dev": , "val": }
```

第幾次通訊



```
{ "id": , "dev": , "val": }
```

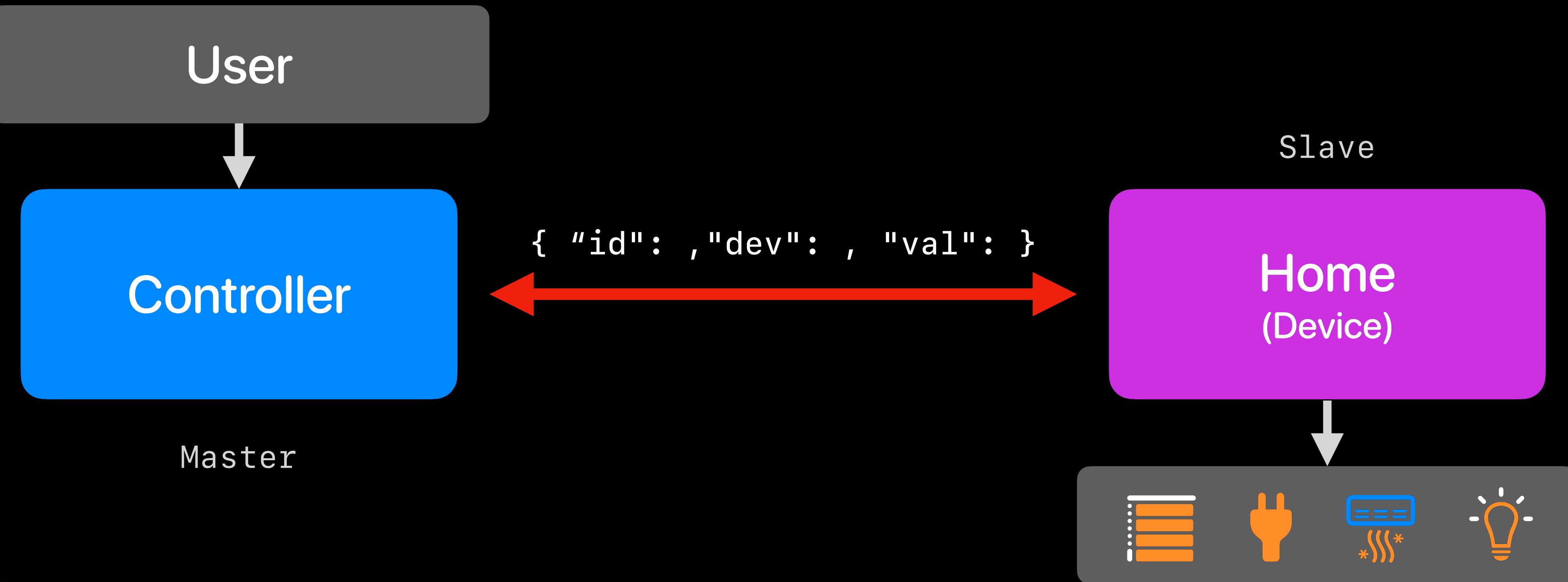
要控制的裝置



```
{ "id": , "dev": , "val": }
```

目標裝置狀態





{ "id": 10, "dev": "curtain", "val": 0 }  
{ "id": 11, "dev": "light", "val": 50 }  
{ "id": 12, "dev": "ac", "val": 26 }



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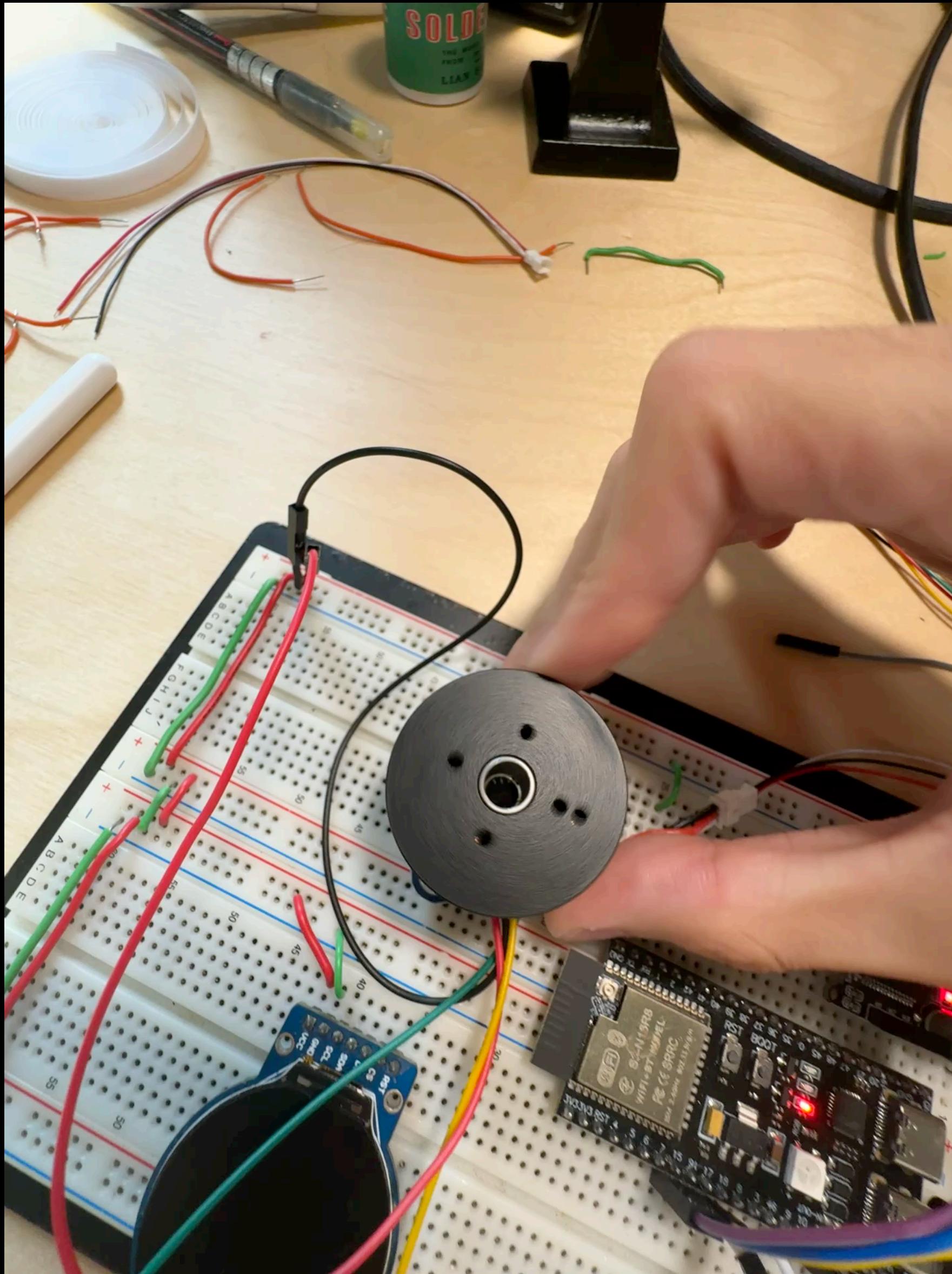
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SeedLabs-it / smartknob-firmware



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Security



smartknob-firmware

Public

Watch

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Fork

13

Star

119



main ▾



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About



carlhampuswall Spotify App. (...)



afd6632 · 2 months ago



.github/workflows

Updated to newer Ubun...

6 months ago

.vscode

Spotify App. (#165)

2 months ago

boards

[WIP] onboarding (#65)

last year

docs

Create ota.md (#104)

last year

firmware

Spotify App. (#165)

2 months ago

Repository for the Smart Knob Firmware (Currently supporting Dev Kit v0.1)

Readme

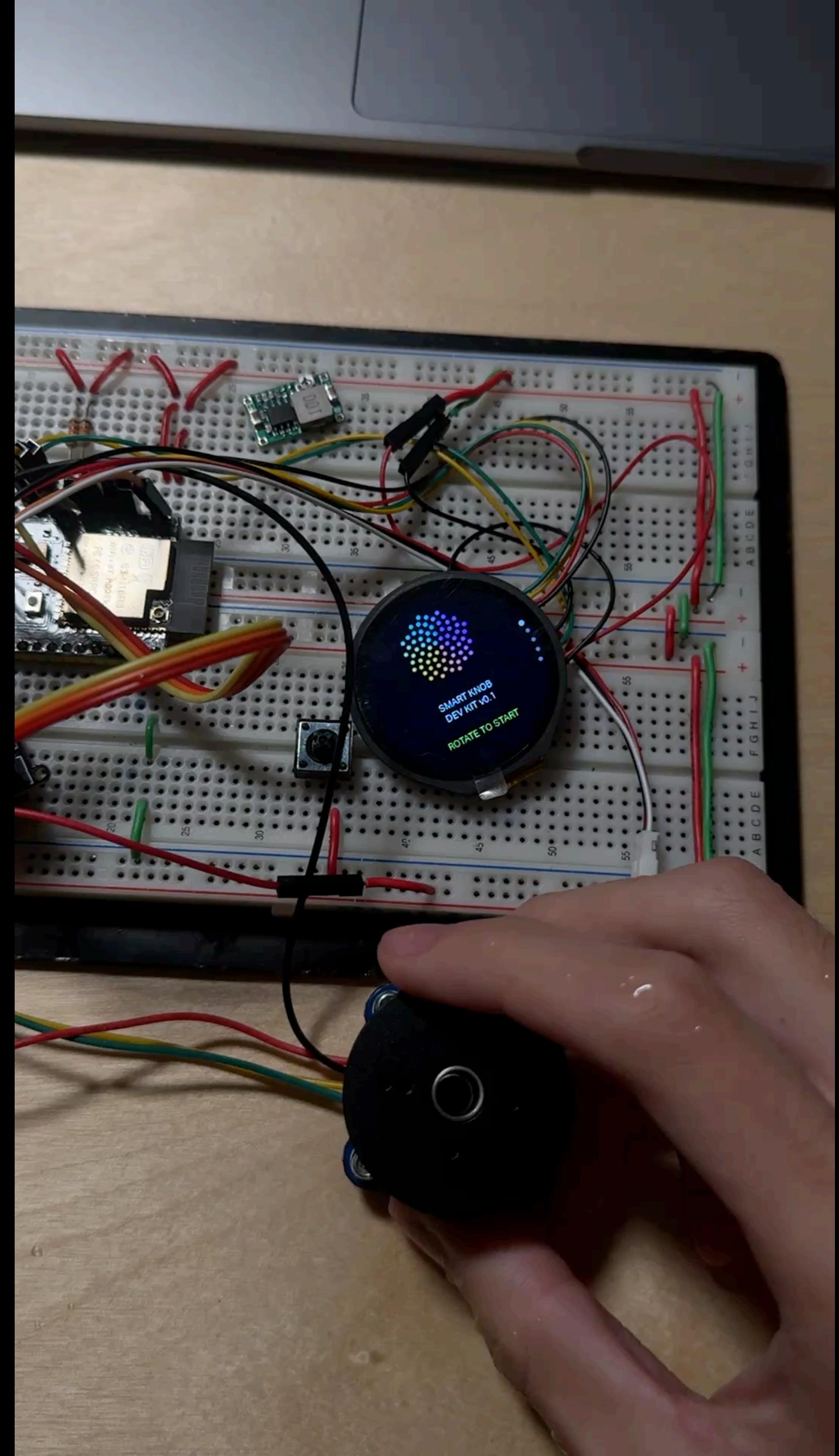
View license

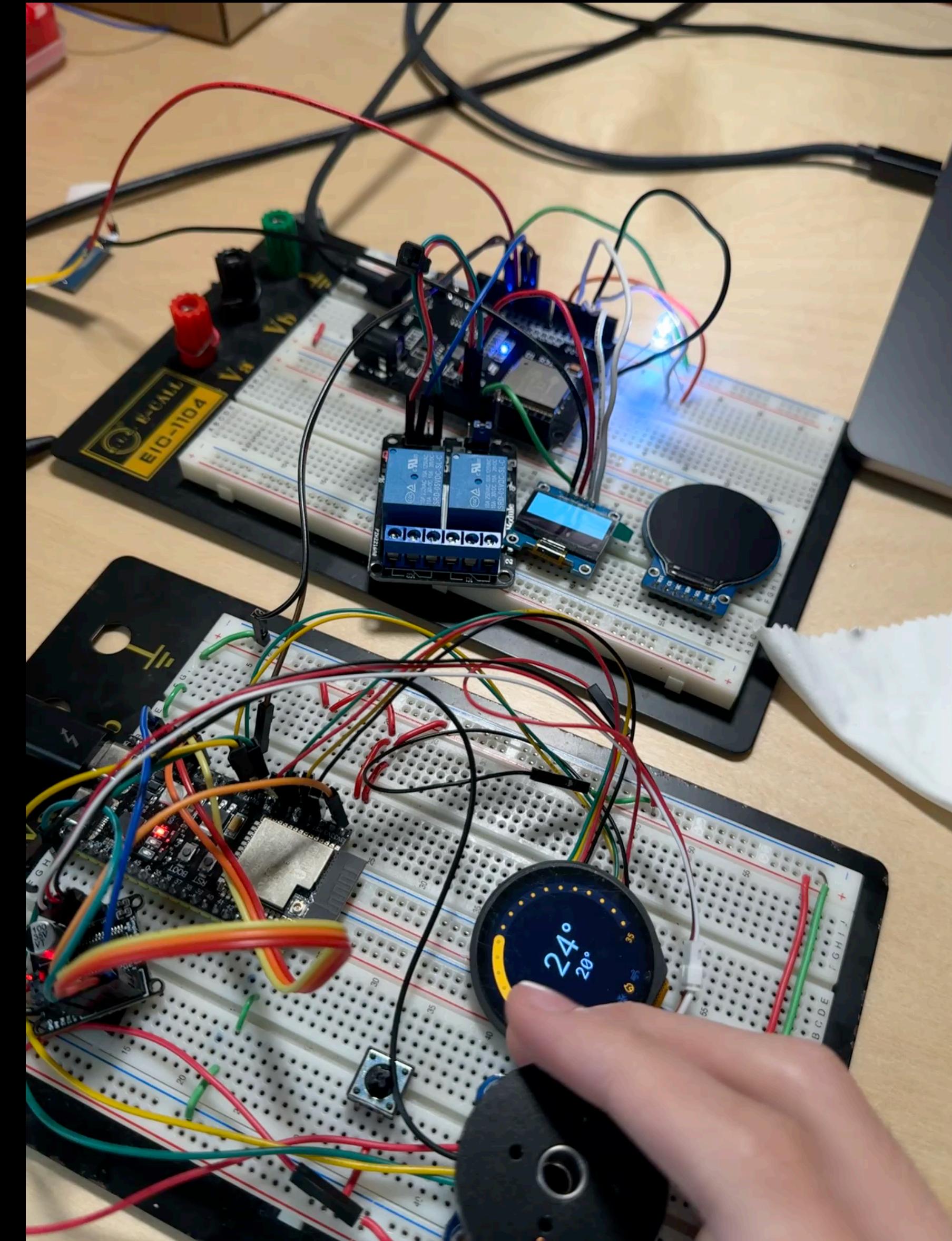
Contributing

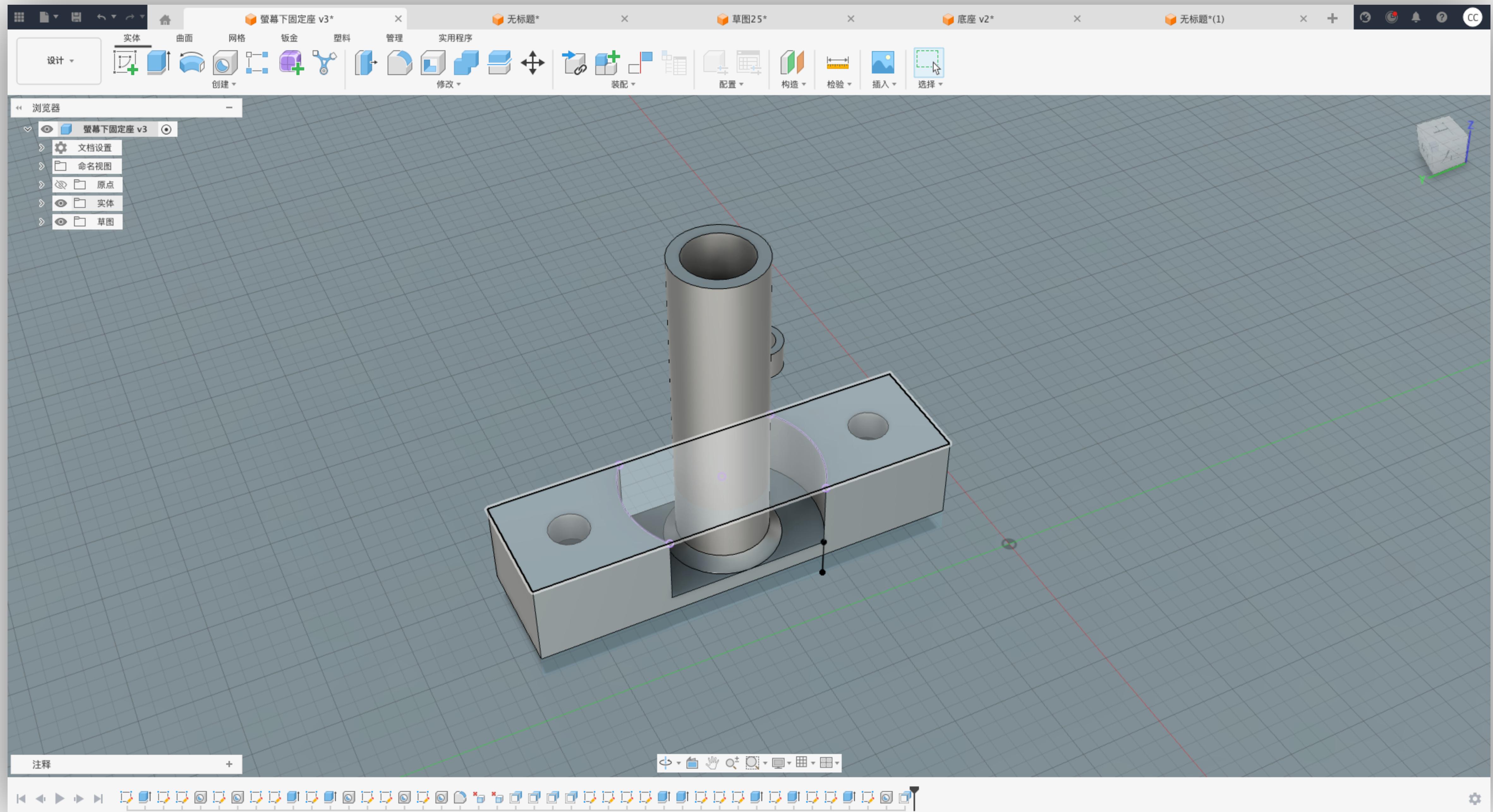
Activity

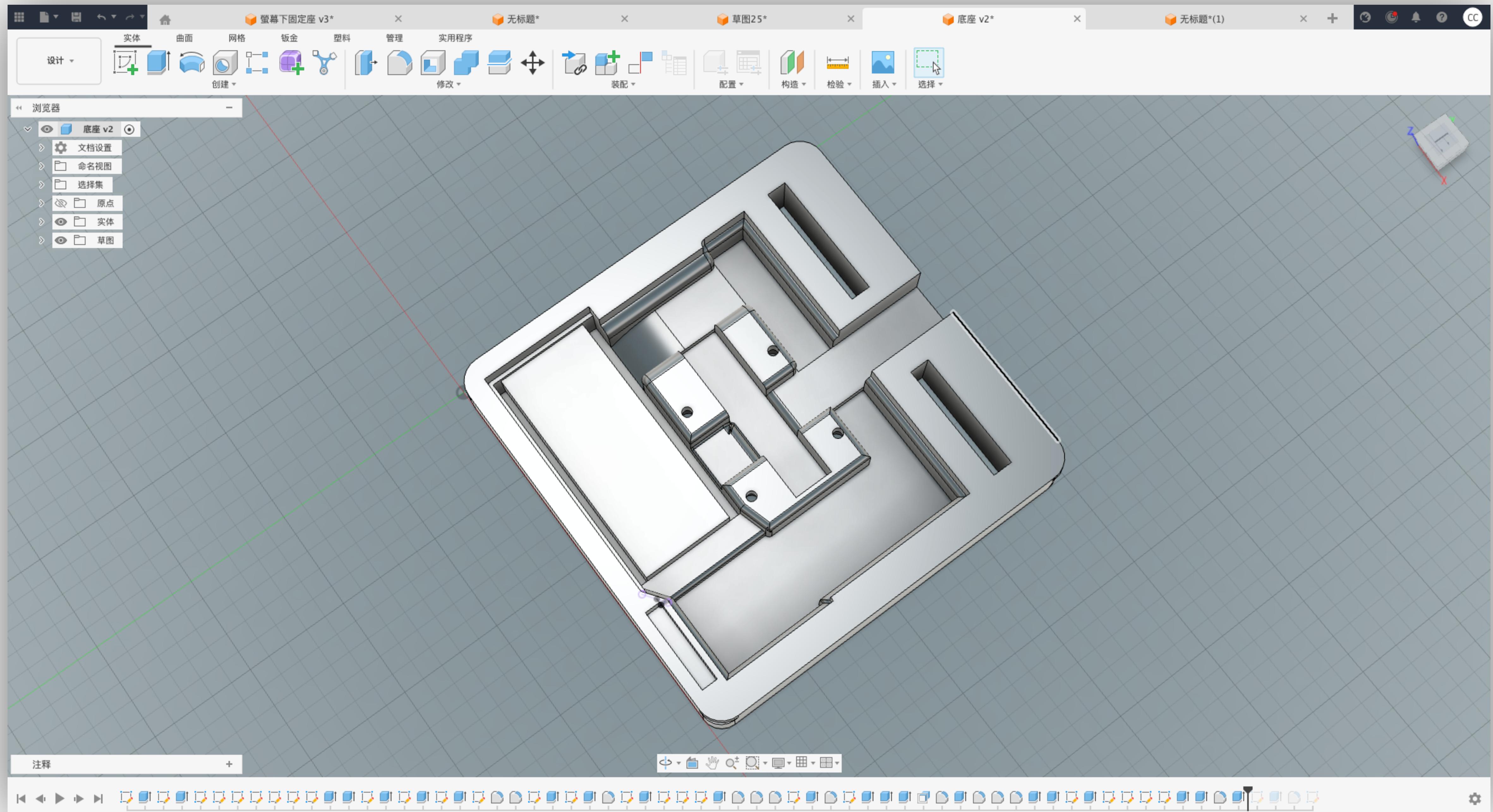
Custom properties

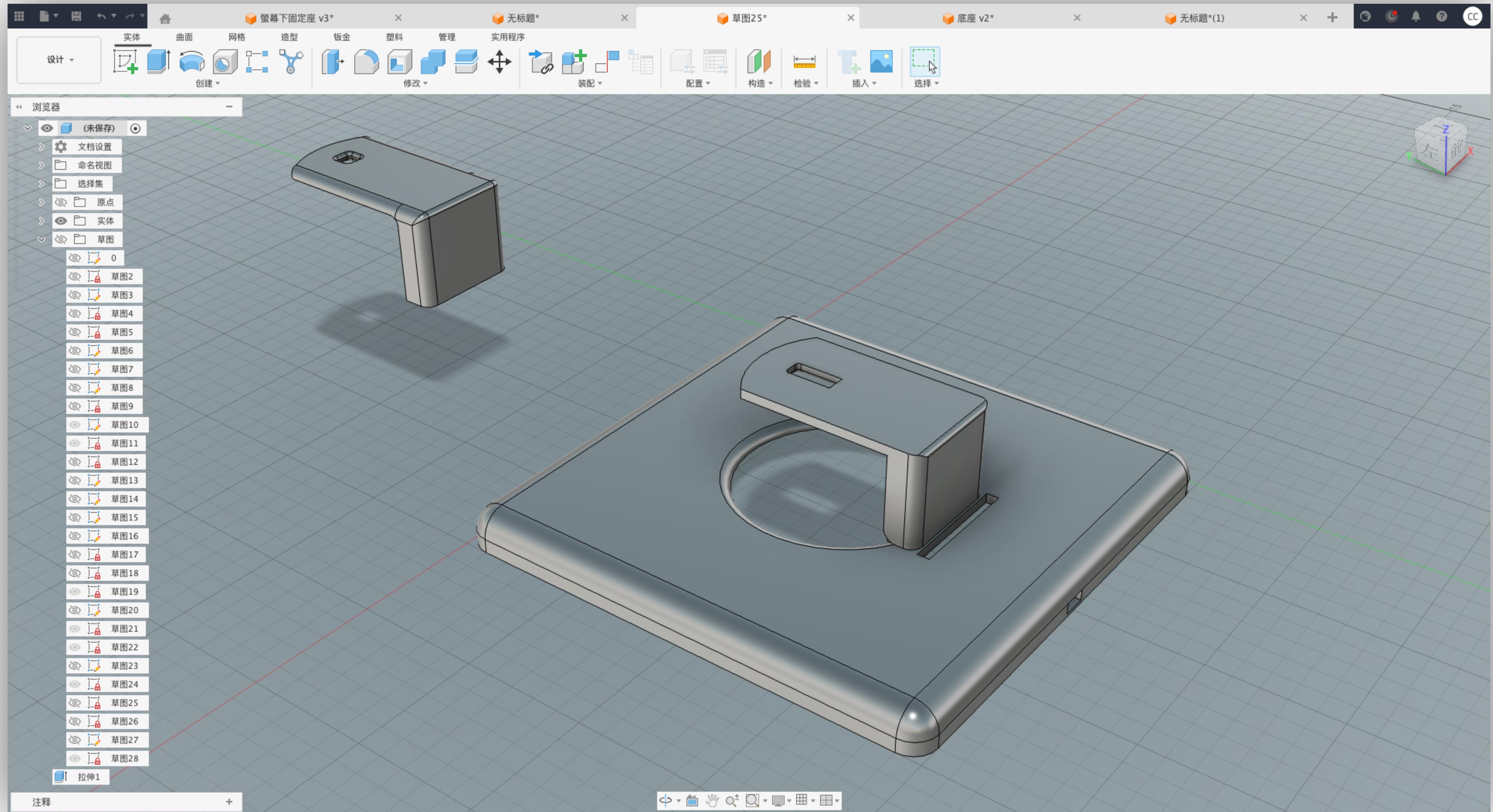
119 stars

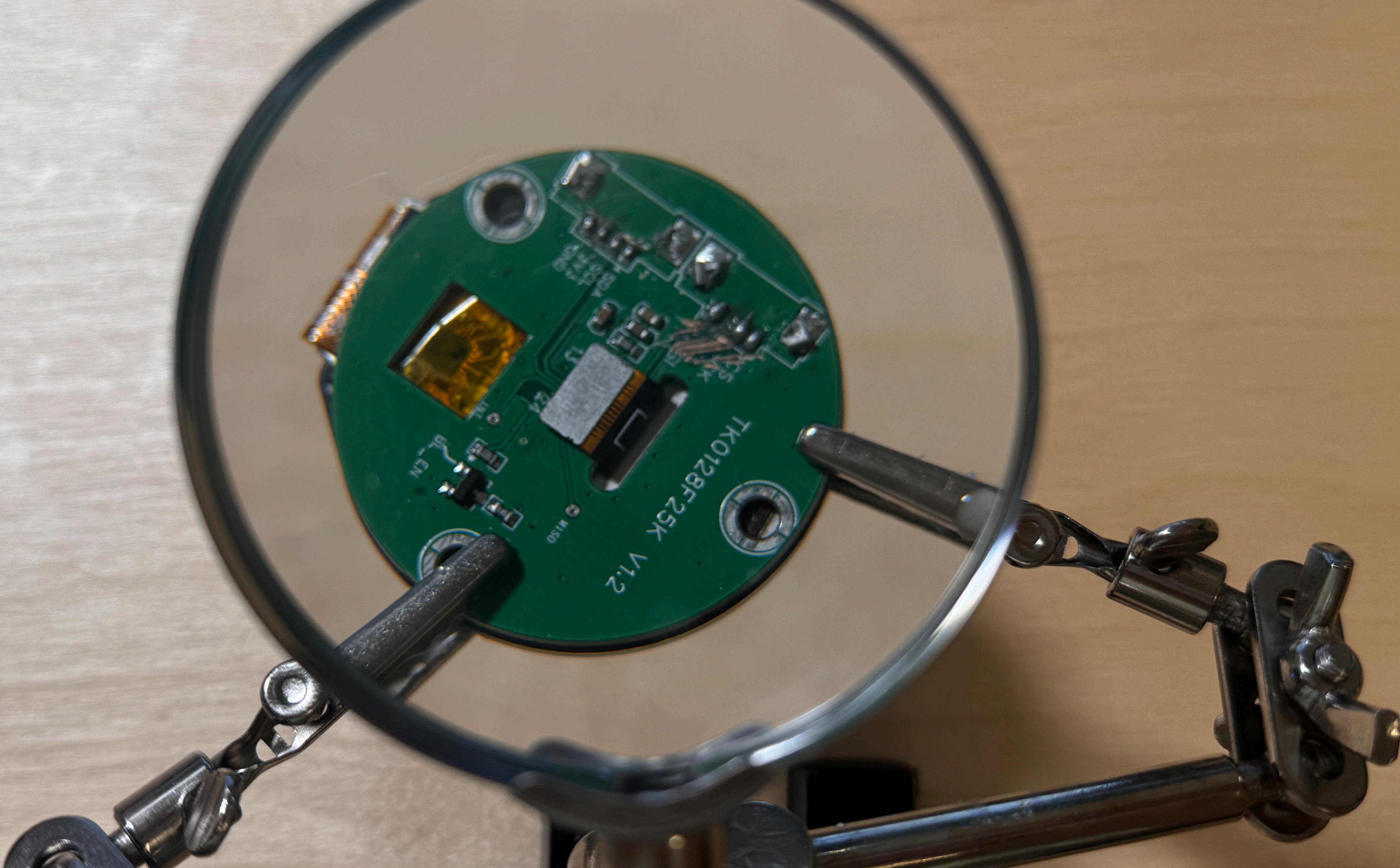


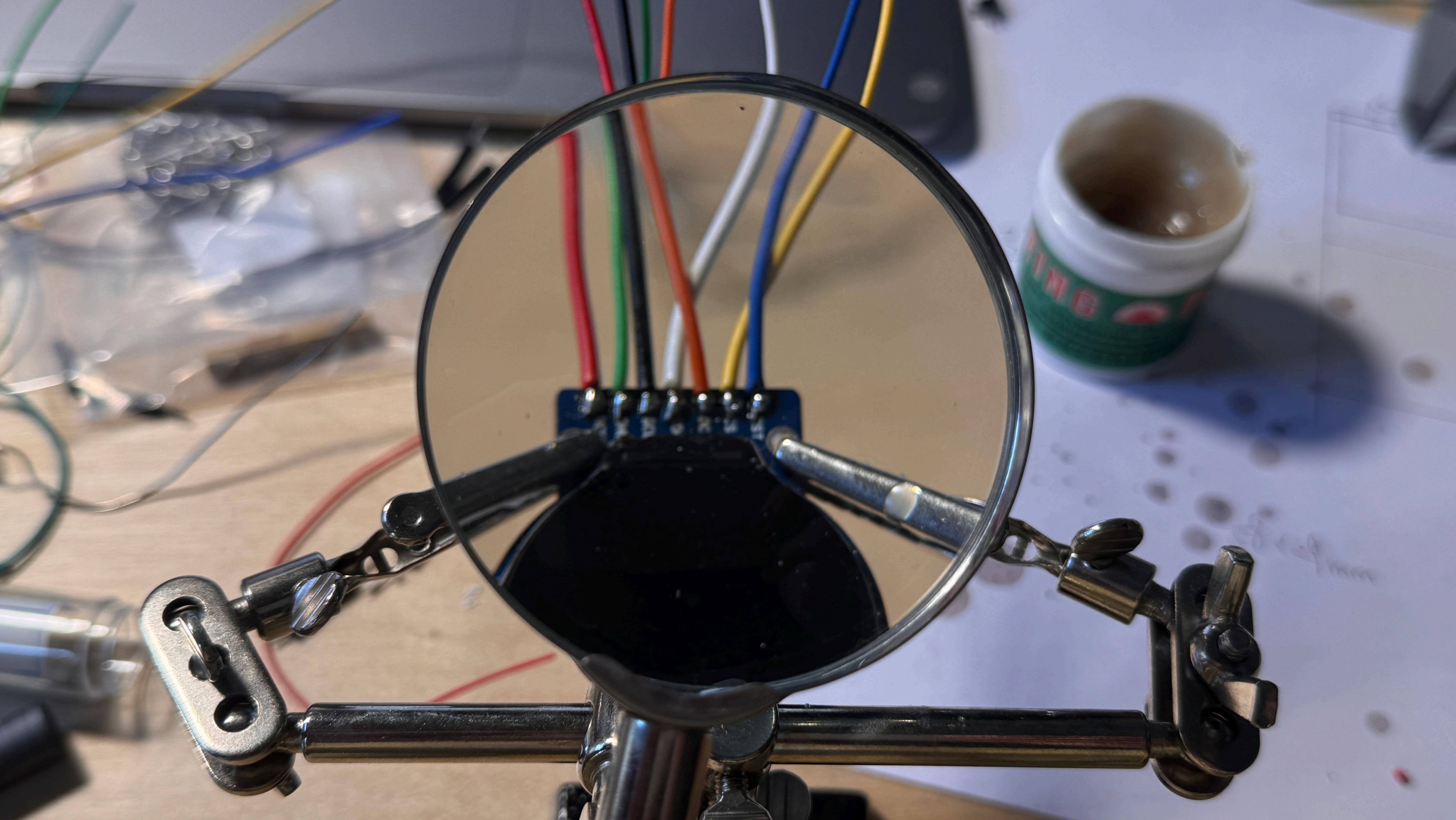


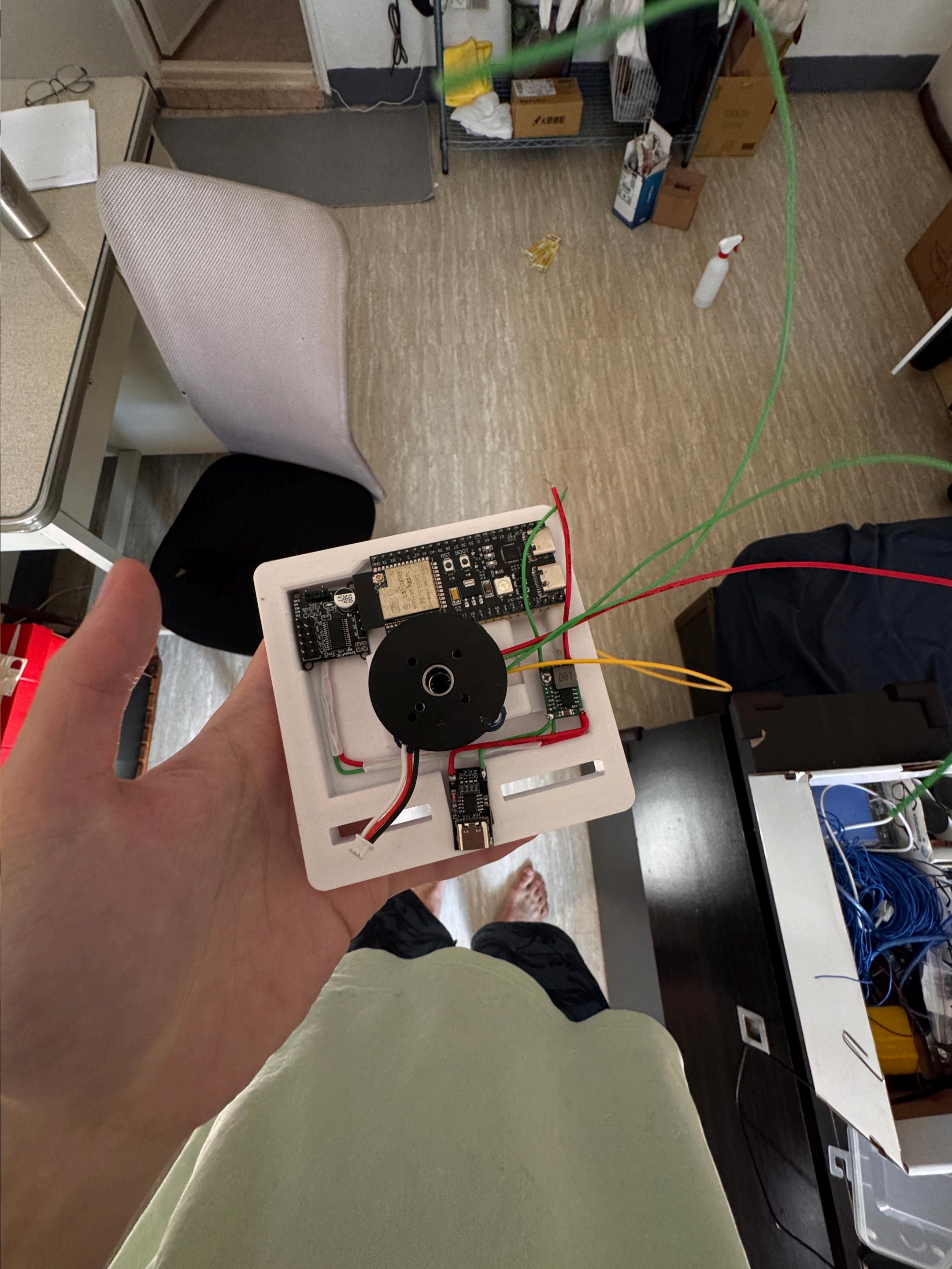


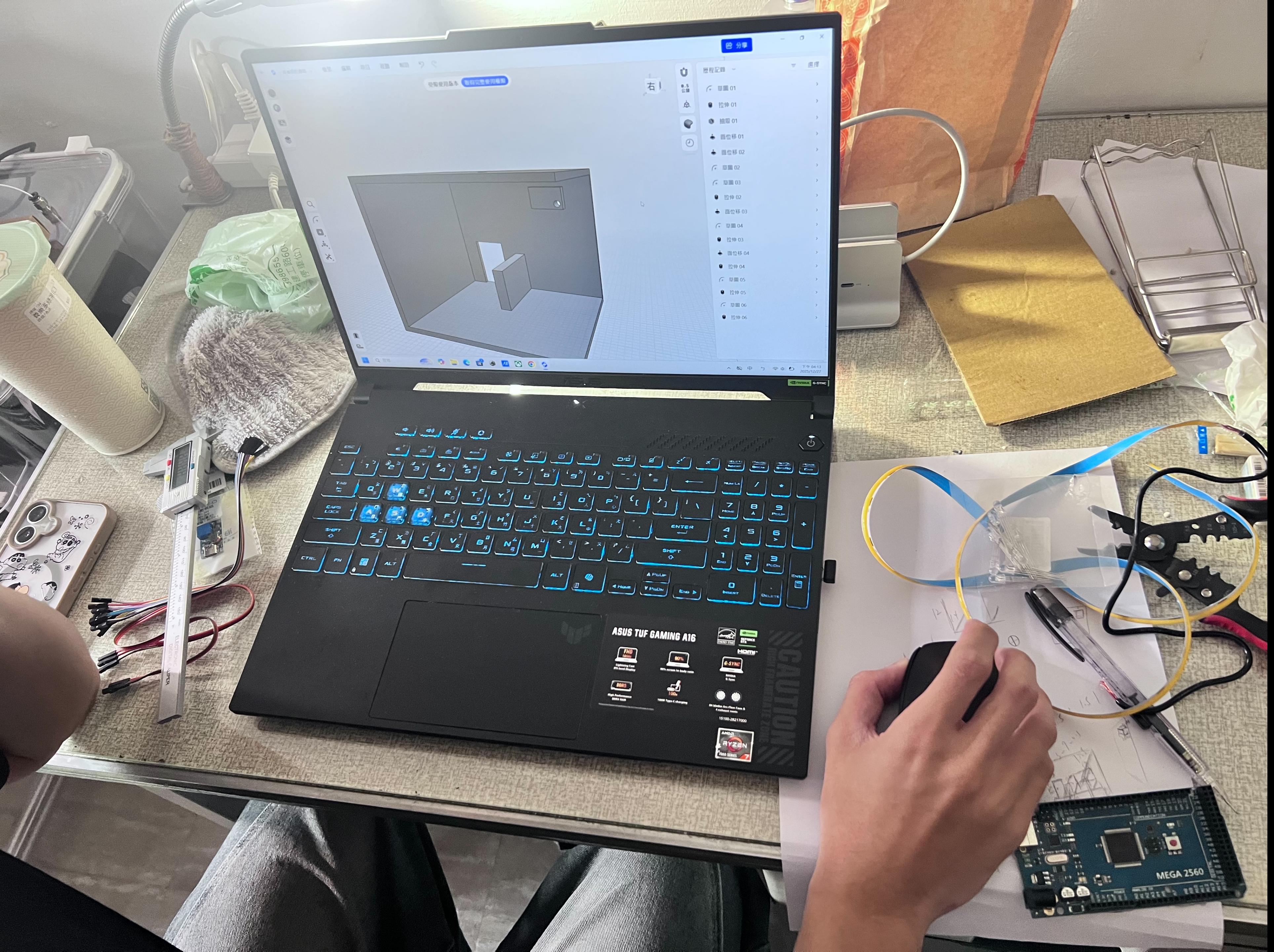














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**Virtual Detents**

**Field-Oriented Control**

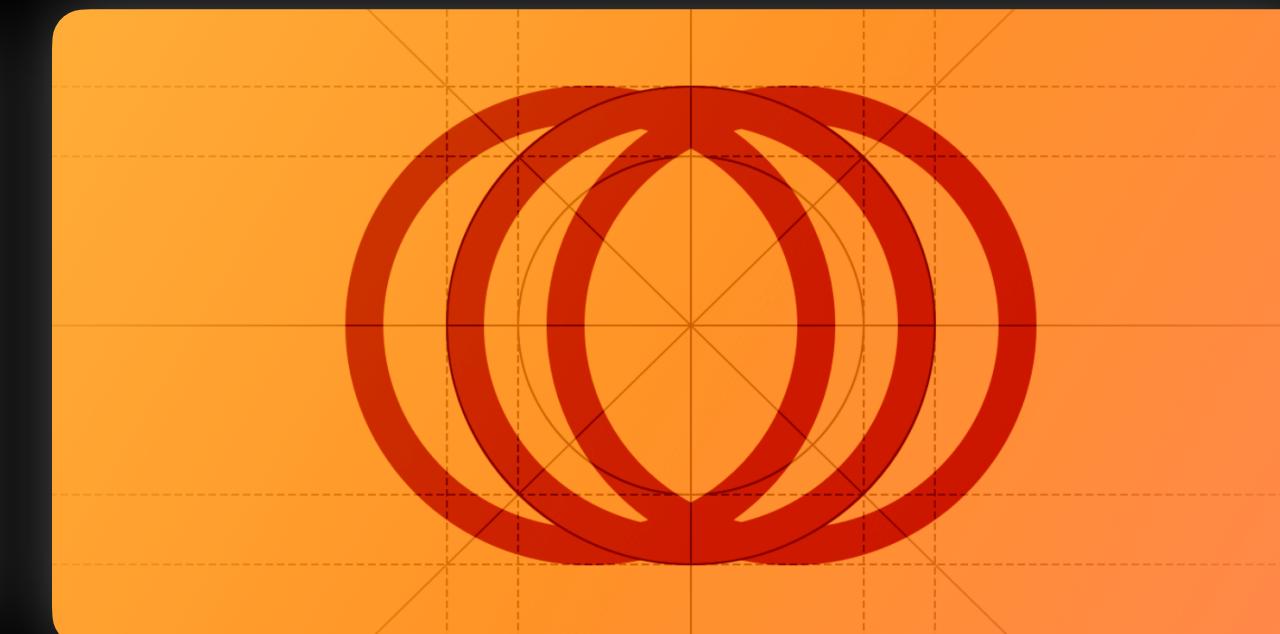
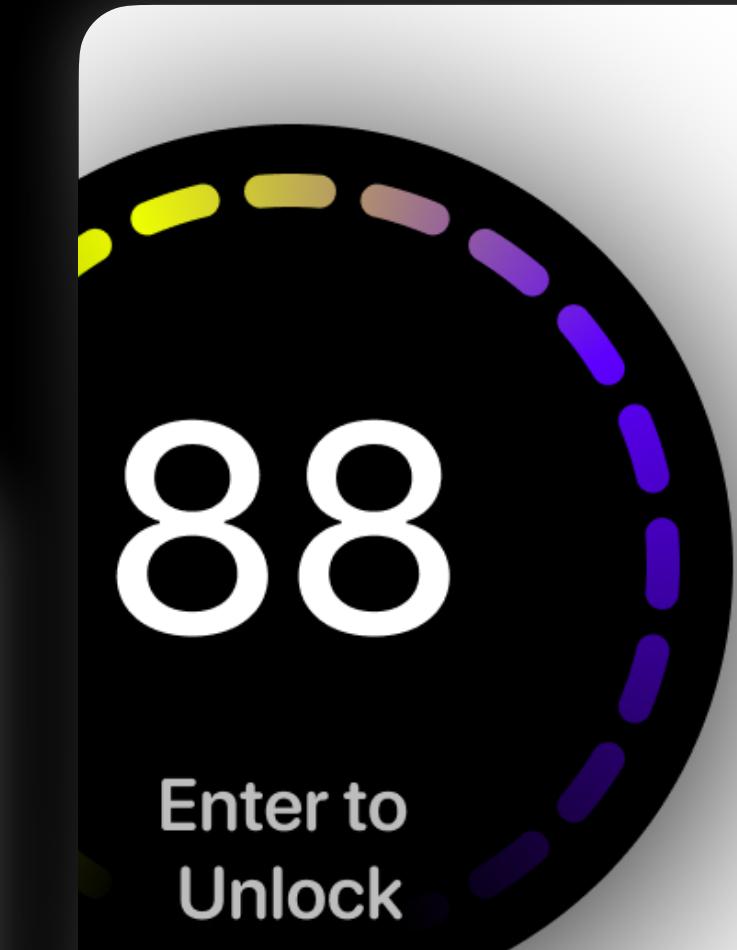
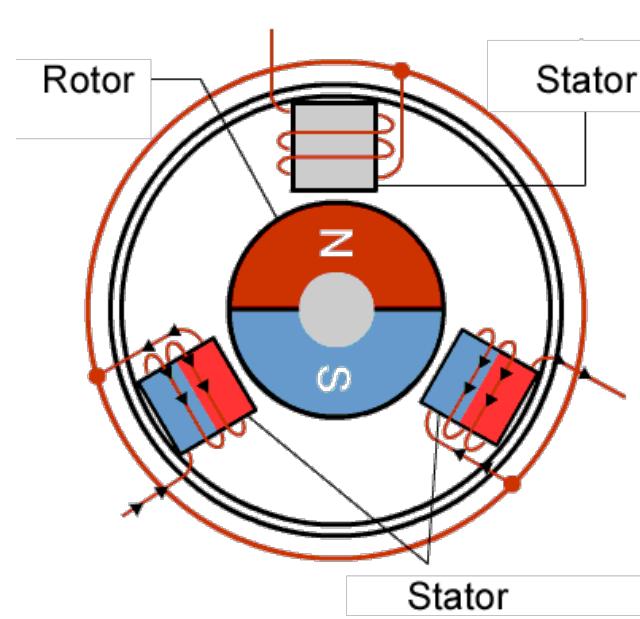
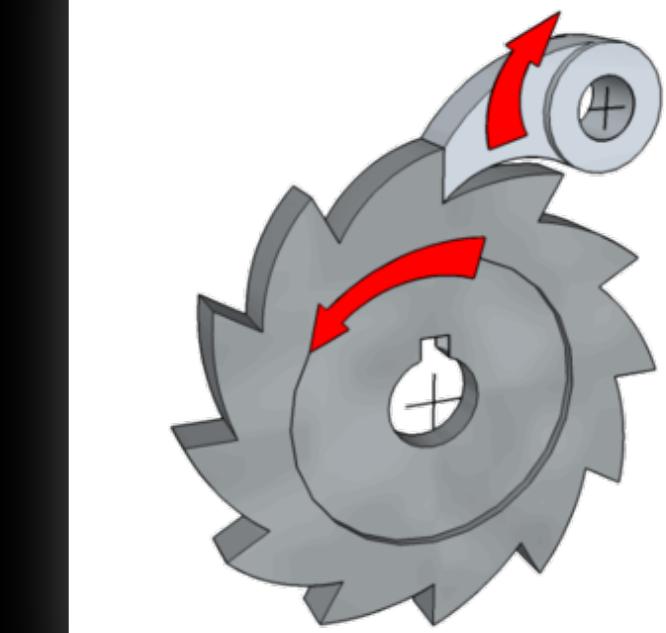
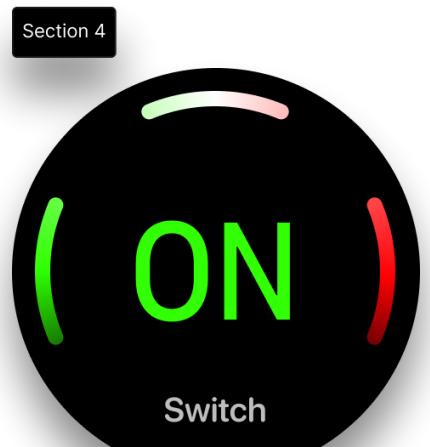
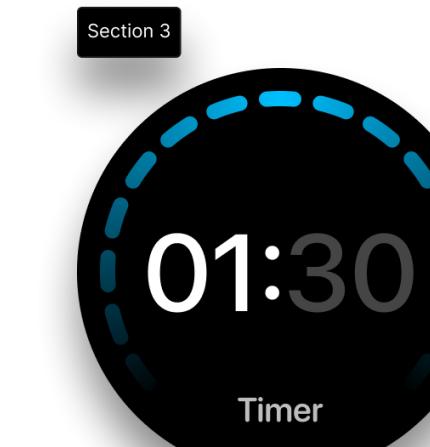
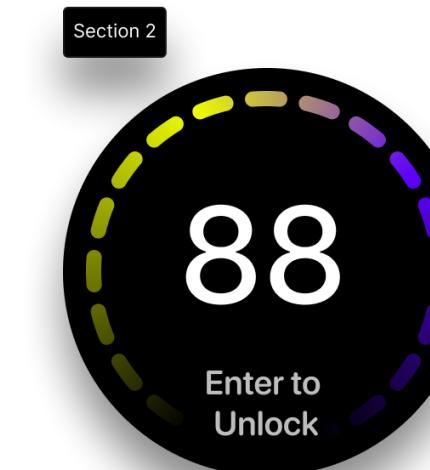
**User Interface Design**

**LVGL**



**USB-C  
Powered**

**Usability-driven**



**GC9A01  
Display**

# **Outline**

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