



: Put Rust in your keyboard



#### About me



#### I am Haobo

- LLM researcher
- Rust embedded enthusiast
- Keyboard collector & creator





# Rust in keyboards?

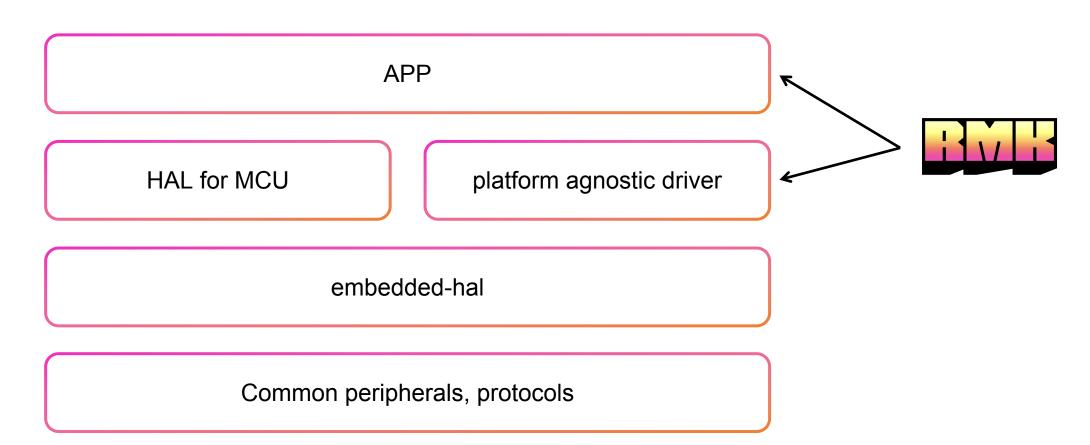






### **Embedded Rust**







### **RMK** Core



Key Matrix

Rotary Encoder

Joystick

...

**Input Devices** 

**Key Processor** 

**Rotary Procesor** 

**Event Processors** 

**USB** 

BLE

**HID Reporter** 

HAL for MCUs (rp, nrf, esp32...)

embassy-executor embassy-sync

HID traits bt-hci

Event-driven, async based, low-power ready



**GOSIM Spotlight** 

# RMK App



project + rmkit + template

```
[keyboard]
    name = "RMK Keyboard"
    product name = "RMK Keyboard"
    manufacturer = "haobo"
    chip = "nrf52840"
    [layout]
    rows = 4
    cols = 3
    layers = 2
    keymap = [
12
            ["Kp7", "Kp8", "Kp9"],
13
            ["Kp4", "Kp5", "Kp6"],
14
            ["Kp1", "Kp2", "Kp3"],
15
            ["Kp0", "_", "KpDot"]
16
17
18
19
    [ble]
    enabled = true
22
```

RMK App





## Demo time



#### **Features**



- Easy configuration via toml
- Great microcontroller support: ESP32, STM32, RP2040, nRF52, etc
- VIAL support: on-the-fly keymap changes
- Low-power ready
- Wireless ready



#### Future



- More microcontrollers support: cyw(rp2040w), ch32, etc
- Lighting, RGB
- Display support
- BLE OTA

● ...



## Thank you



- Project link: https://github.com/HaoboGu/rmk
- Project templates: https://github.com/haobogu/rmk-template
- Slices: https://github.com/HaoboGu/rustweek\_2025\_slices

- About me: https://github.com/HaoboGu/
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# THANK YOU

