

# RFID門禁系統



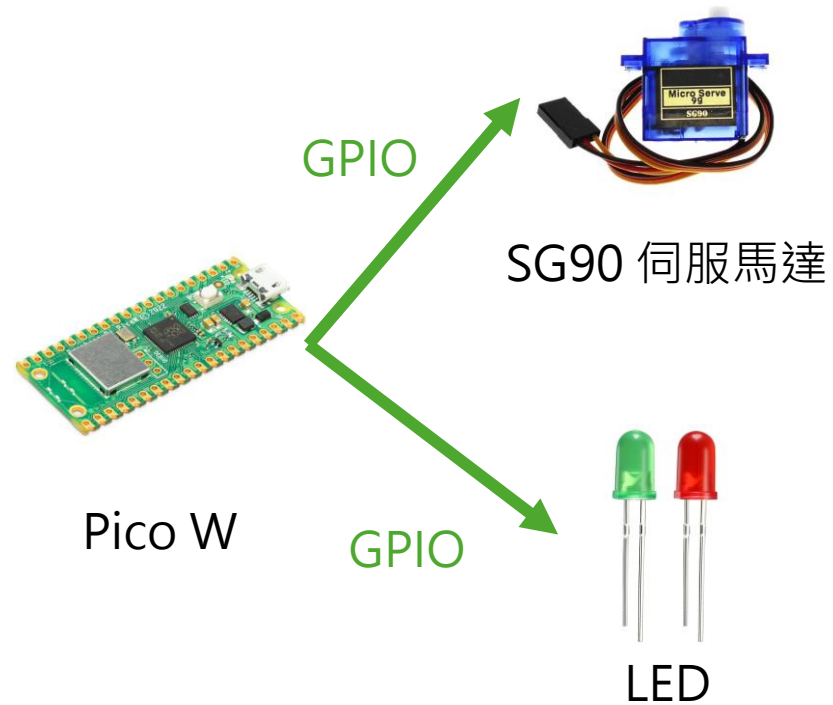
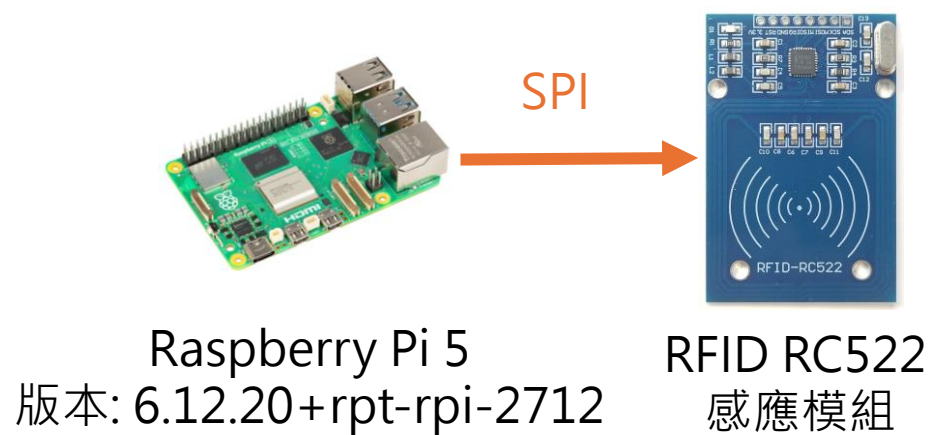
張傑婷

# RFID 門禁系統簡介

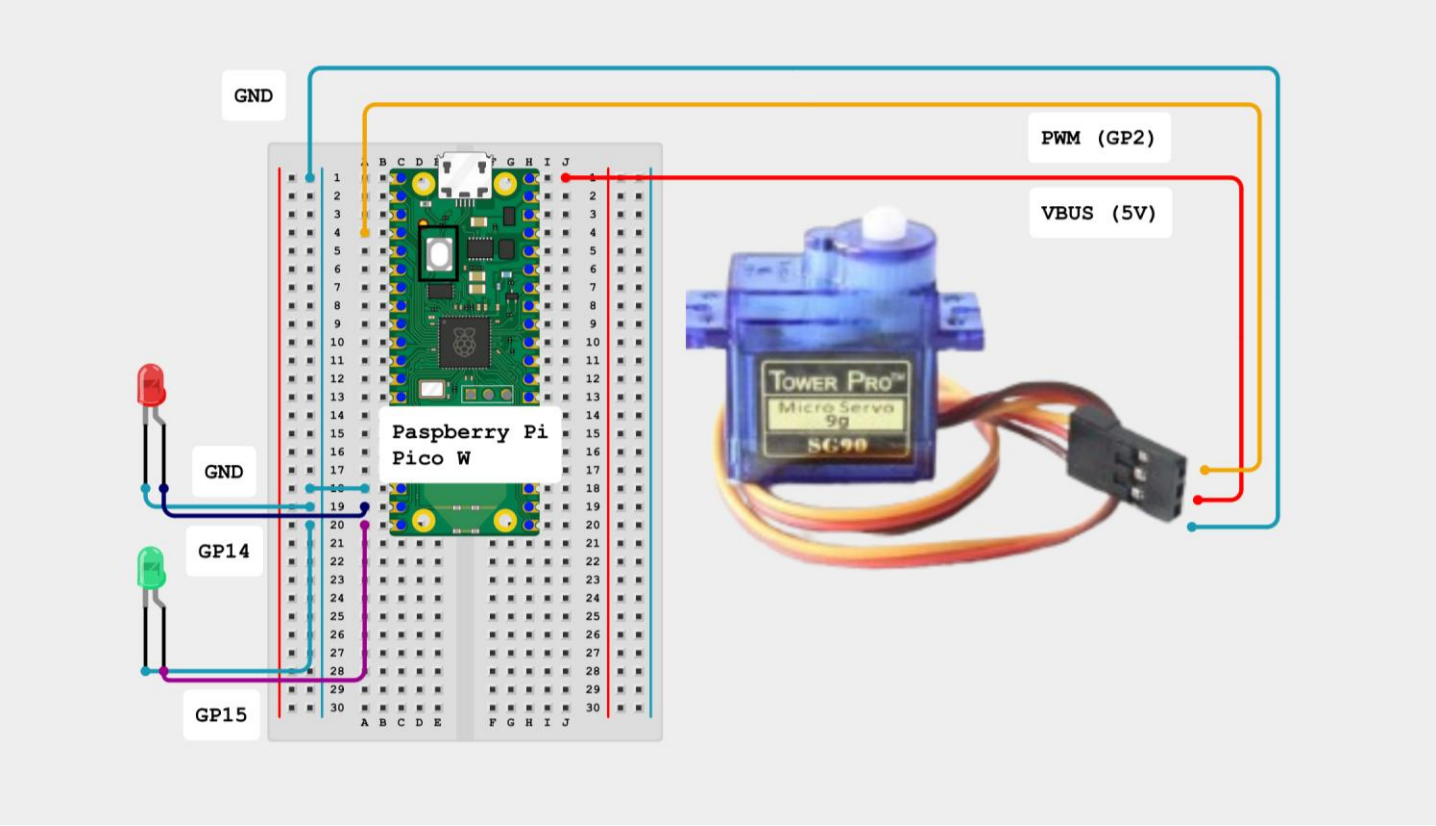
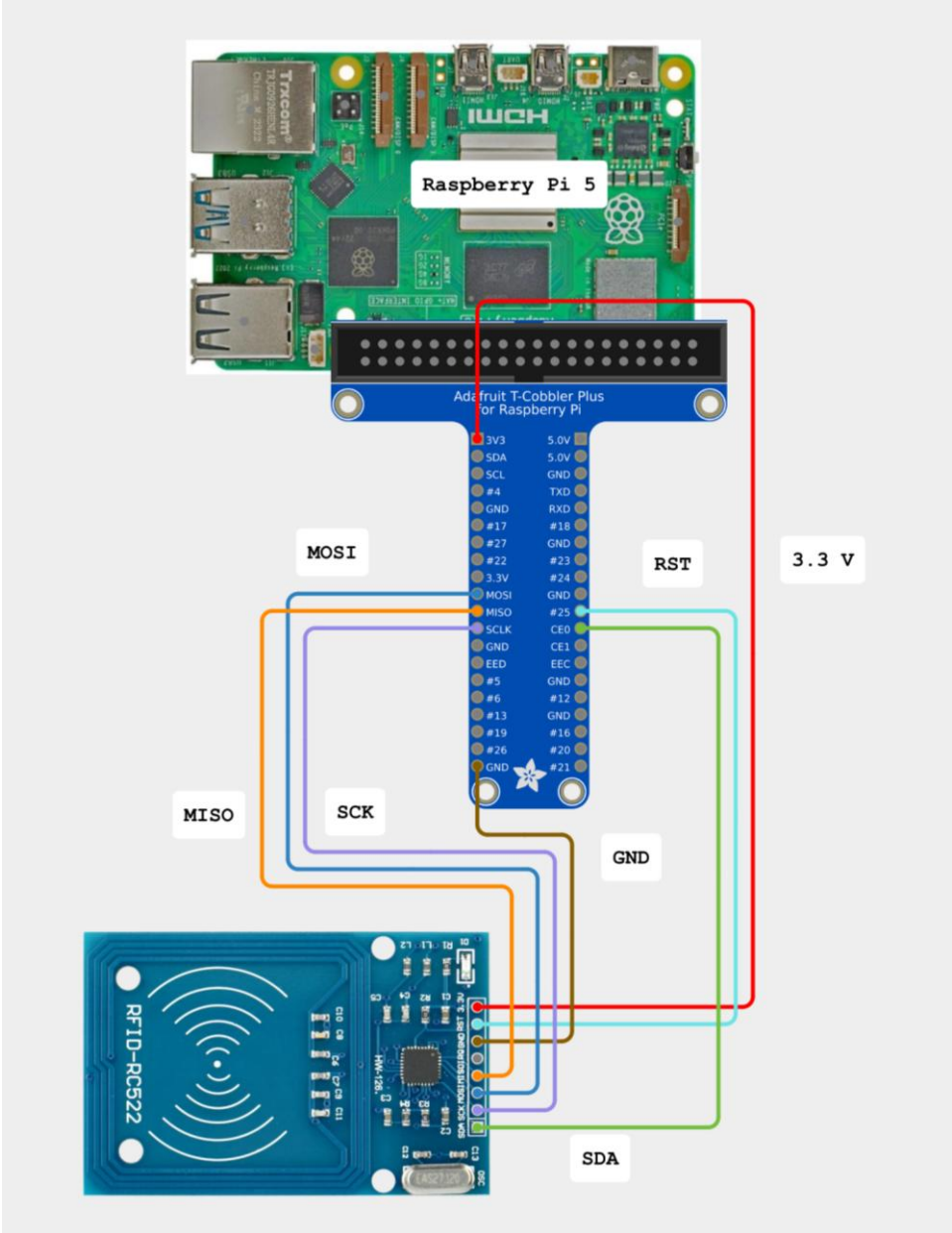
- 提升進出控管精確度
- 降低人為疏失與非法進入風險



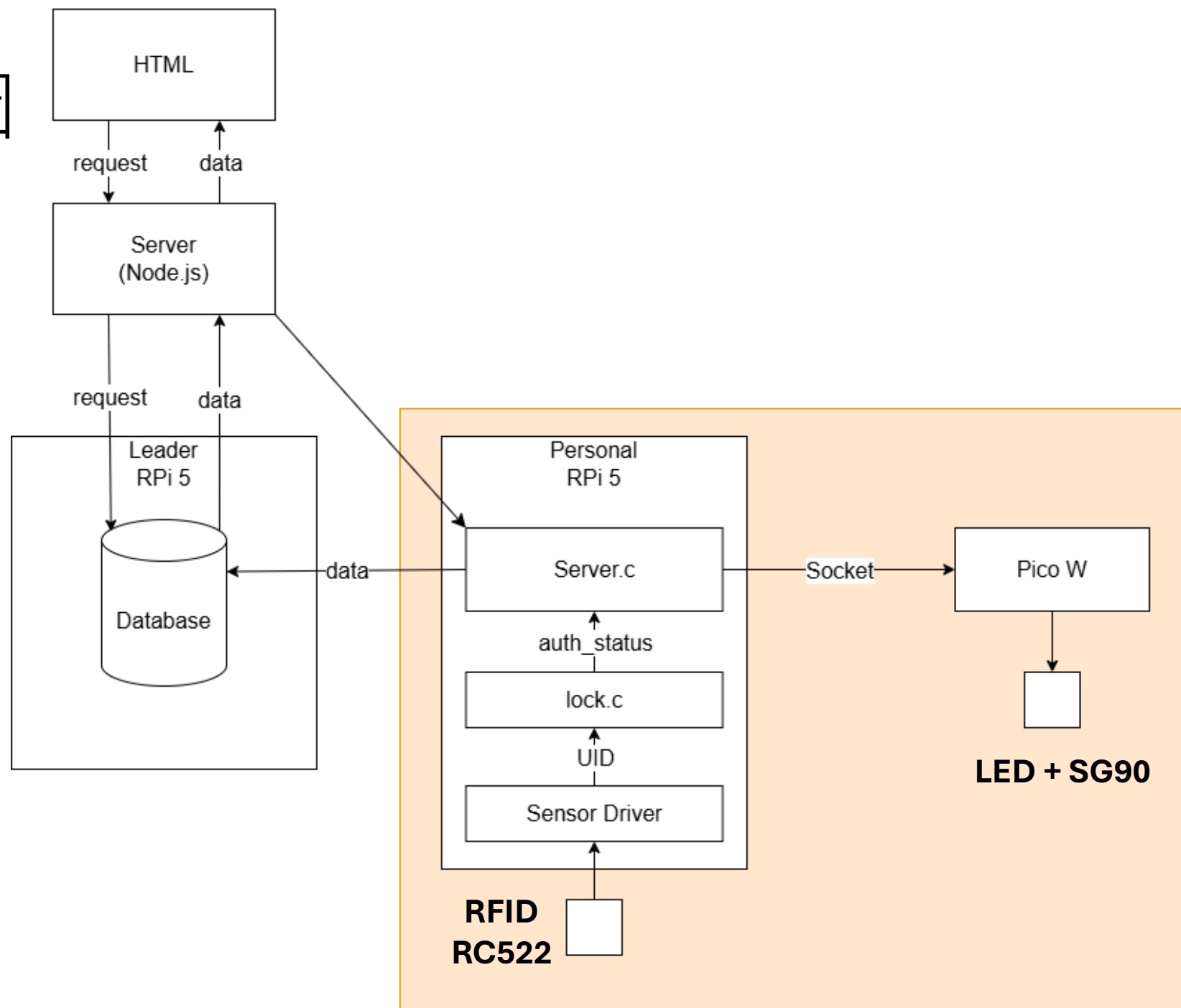
# 硬體設備



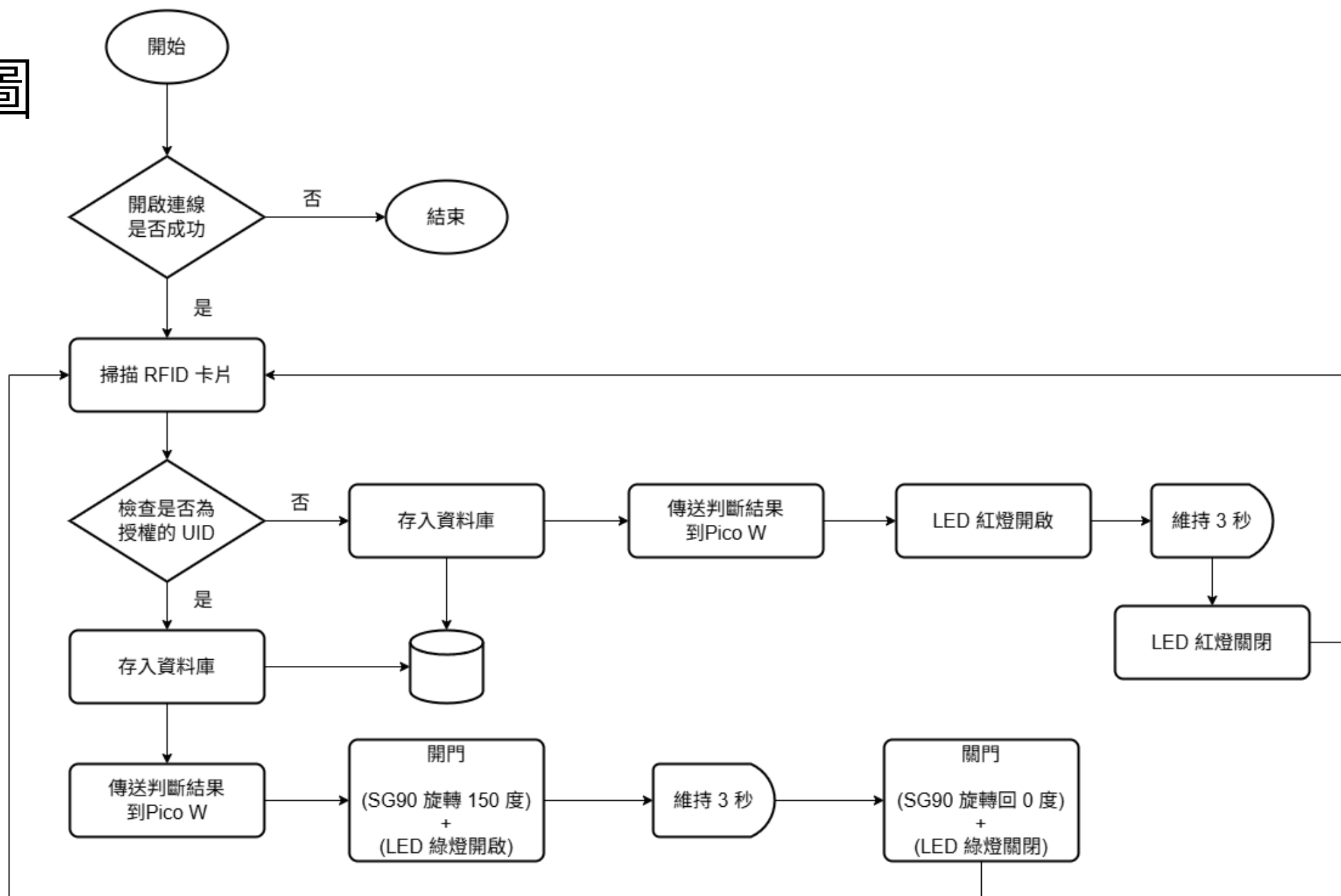
# 硬體配置圖

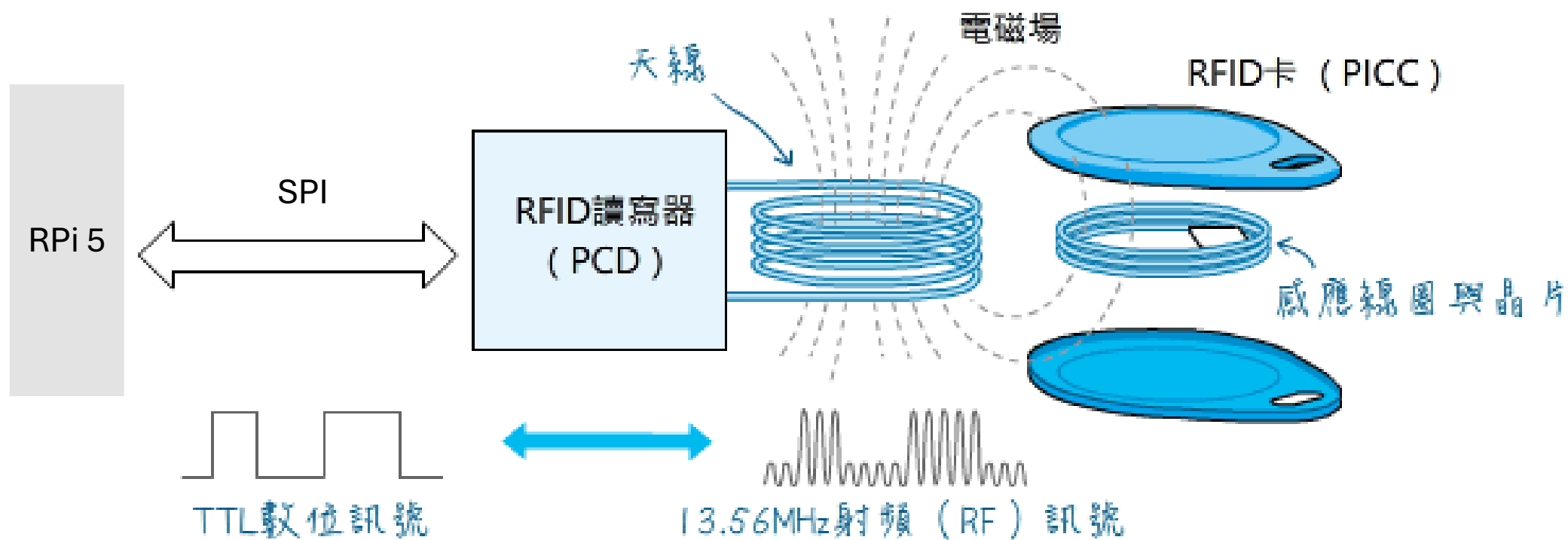


# 架構圖

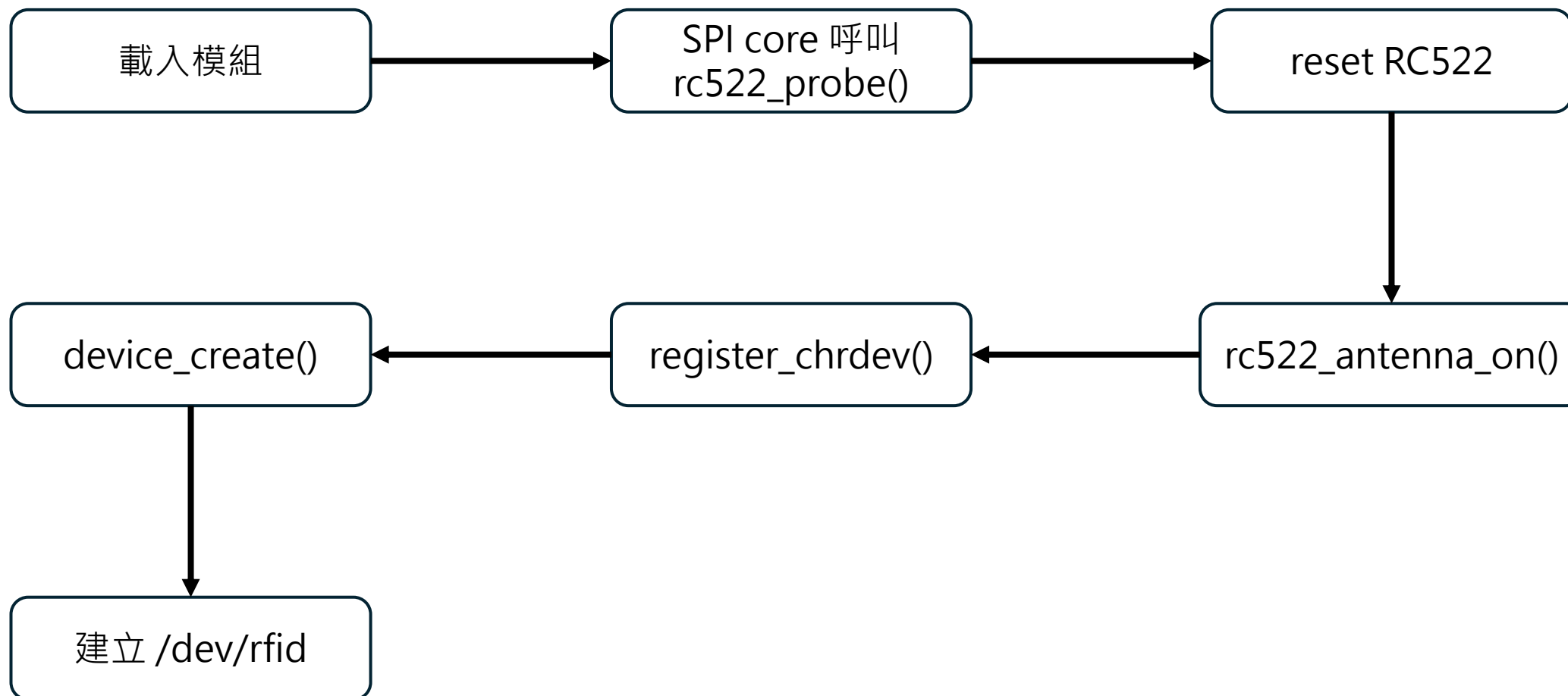


# 流程圖



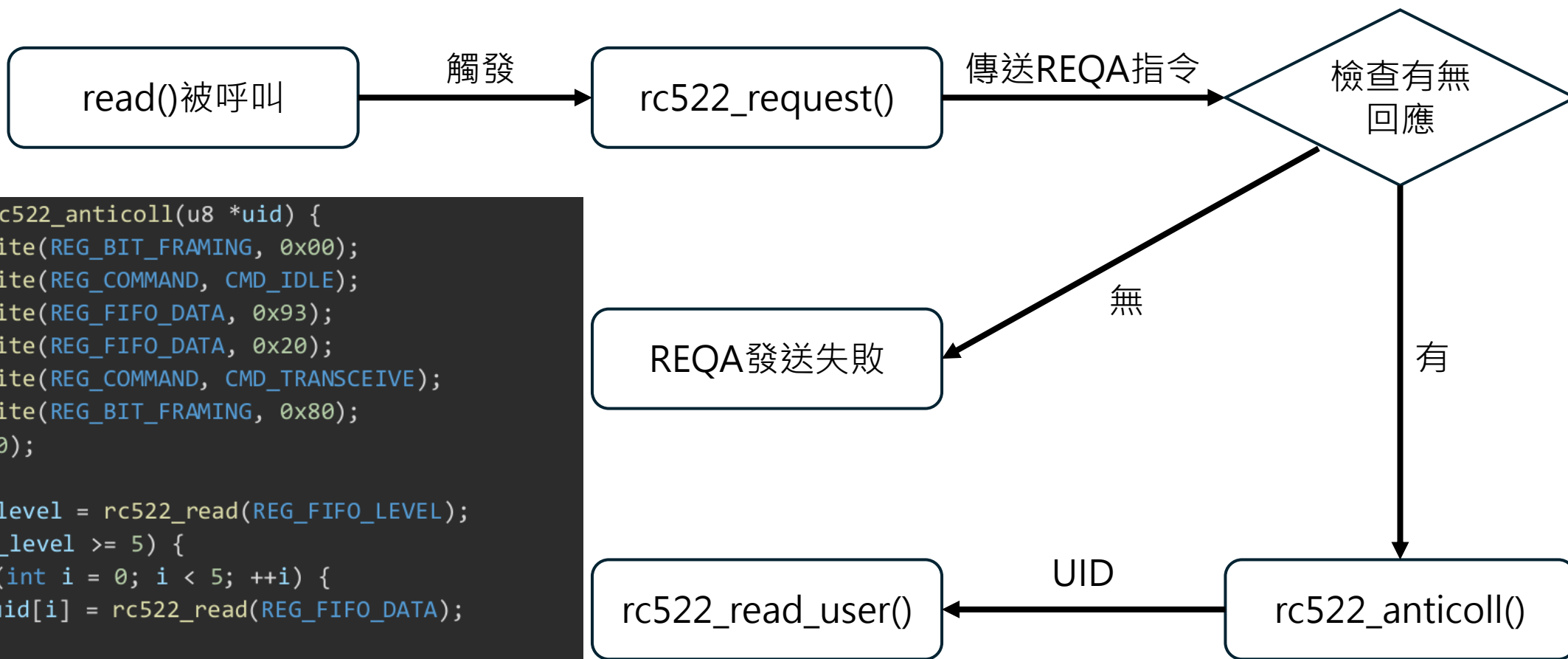


# RC522設備驅動\_初始化流程





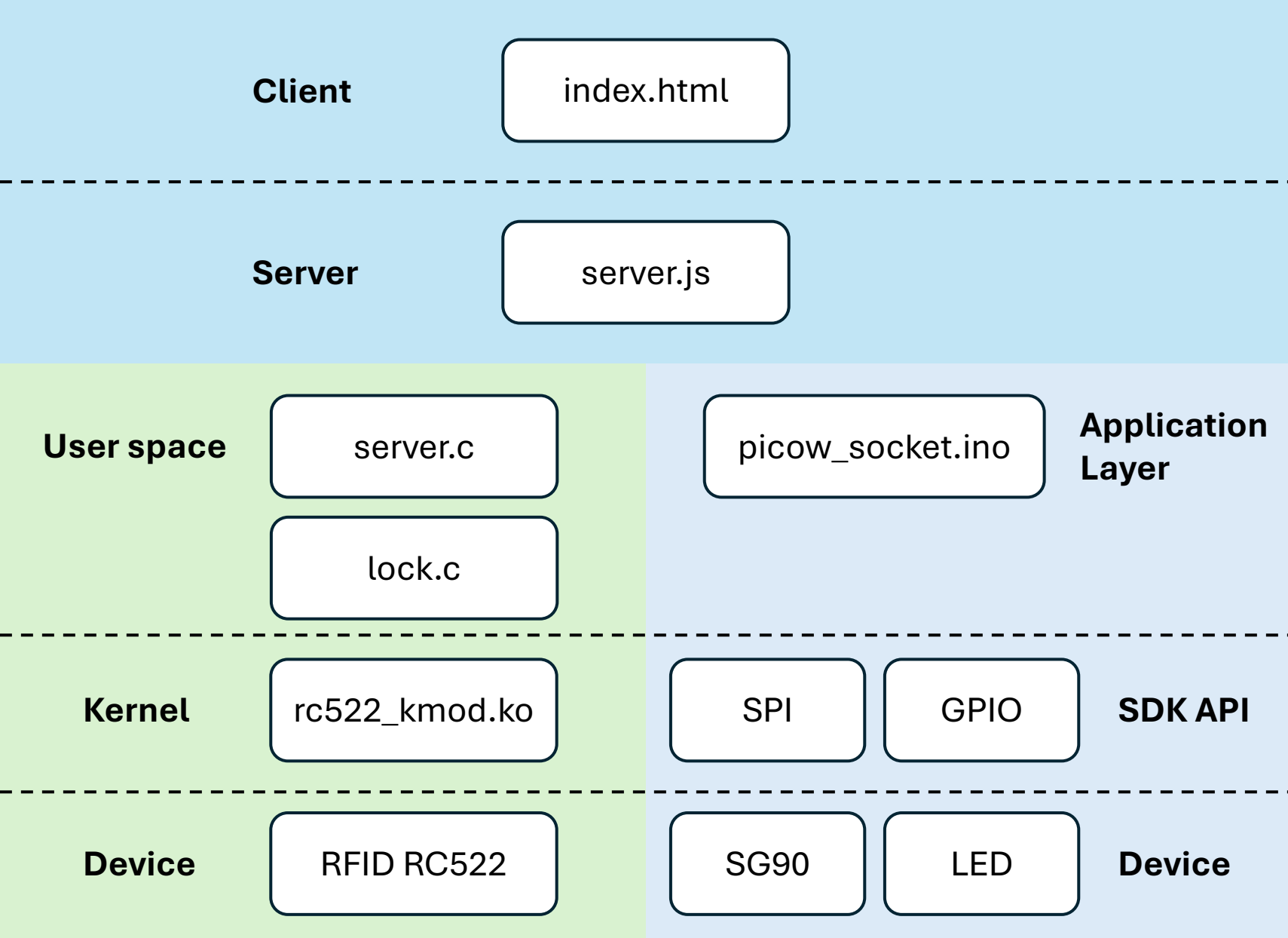
# UID掃描與read()運作流程



```
static int rc522_anticolll(u8 *uid) {  
    rc522_write(REG_BIT_FRAMING, 0x00);  
    rc522_write(REG_COMMAND, CMD_IDLE);  
    rc522_write(REG_FIFO_DATA, 0x93);  
    rc522_write(REG_FIFO_DATA, 0x20);  
    rc522_write(REG_COMMAND, CMD_TRANSCEIVE);  
    rc522_write(REG_BIT_FRAMING, 0x80);  
    msleep(10);  
  
    u8 fifo_level = rc522_read(REG_FIFO_LEVEL);  
    if (fifo_level >= 5) {  
        for (int i = 0; i < 5; ++i) {  
            uid[i] = rc522_read(REG_FIFO_DATA);  
        }  
        return 0;  
    }  
    return -EIO;  
}
```

# RC522設備驅動\_重要 function 說明

function	說明
rc522_probe()	驅動載入時由核心呼叫，設定 SPI、註冊 /dev/rfid 裝置節點、打開天線
rc522_antenna_on()	開啟 RC522 天線
rc522_read()	SPI 通訊函式，用來讀取 RC522 register
rc522_request()	送出 REQA 指令給卡片，確認有卡片存在
rc522_anticoll()	卡片防碰撞機制，讀出卡片的 5 bytes UID
rc522_read_user()	提供 /dev/rfid 的 read 行為，回傳 UID 給 user space



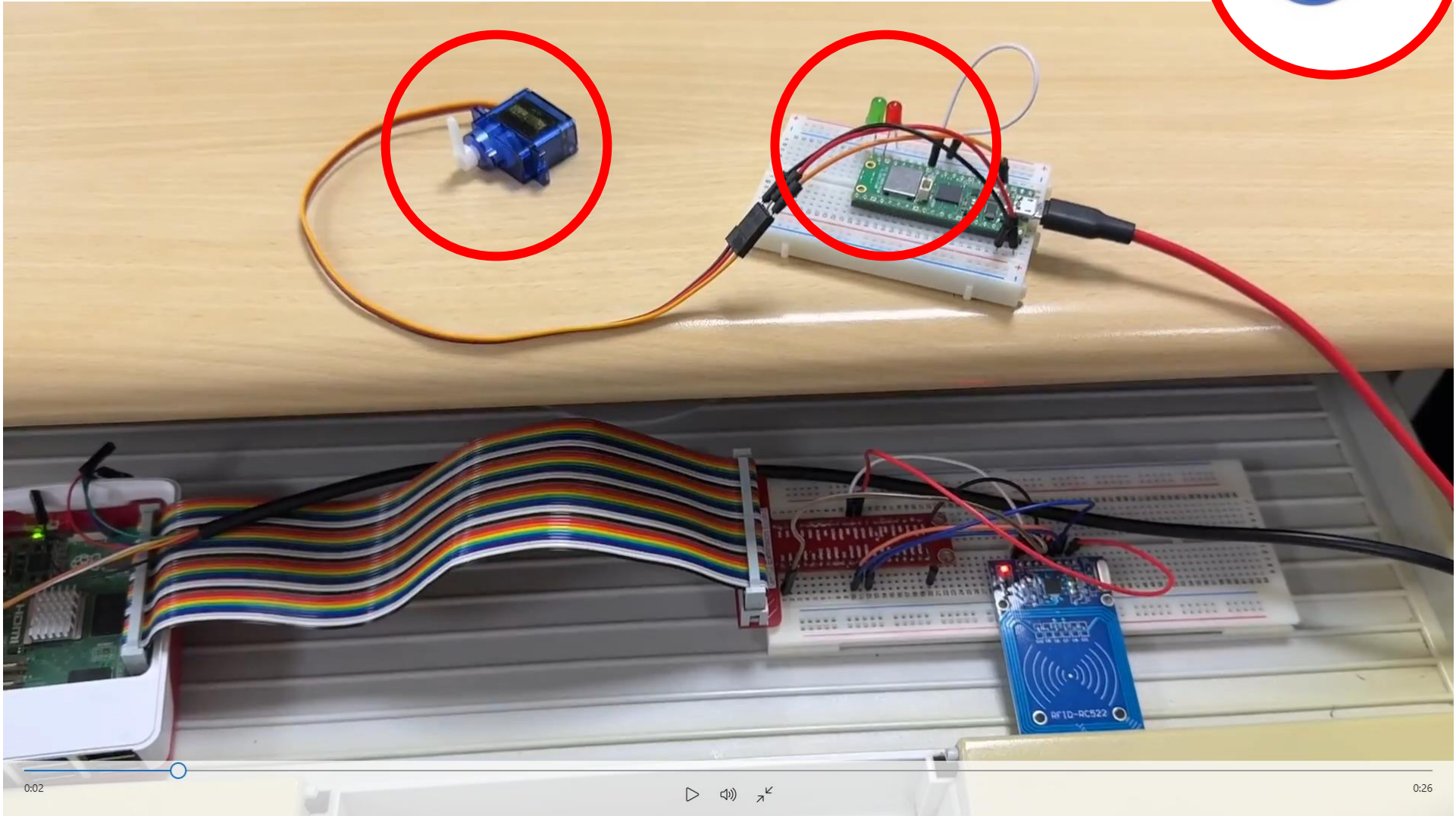
# 影片展示

關門狀態

授權卡：亮綠燈  
非授權卡：亮紅燈



授權卡



# 影片展示

