

Embedded System Labs - Homework 2

Name: Benjamin Tsai Student ID: B03901028

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1 Network Setup

Open the wpa_supplicant configuration file:

```
> sudo nano /etc/wpa_supplicant/wpa_supplicant.conf
```

And input:

```
> network={  
>   ssid="..."  
>   psk="..."  
>   key_mgmt="WPA-PSK"  
> }
```

Then we can use the following command to start *wpa_supplicant* :

```
> sudo systemctl start wpa_supplicant
```

If we want to SSH into RPi, then we should enable ssh connection in raspi-config.

2 GPIO

To test programs of LED twinkling every 2 seconds, we connect one of RGB to pin 12 and Ground to pin 14. While in python pin 12 is regarded as BCM pin 18, in C it's regarded as pin 1.

We also implement the experiments of buttons. In python we set input as pin 4, in C pin 7.

But the programs above read input every second or so, and it's inefficient, so we use function `wait_on_edge` in python to implement async input.

3 PWM

Codes written as the examples, but I found that python's light is relatively twinkling compared to C. So I delve into their source codes, but only to find that they are implemented similarly. I was confused until I found that in python the for loop jumps every 5 in 100...

Another important things to beware of is that we should use sudo to run C program, or the Rpi will crash.