CentraleSupélec

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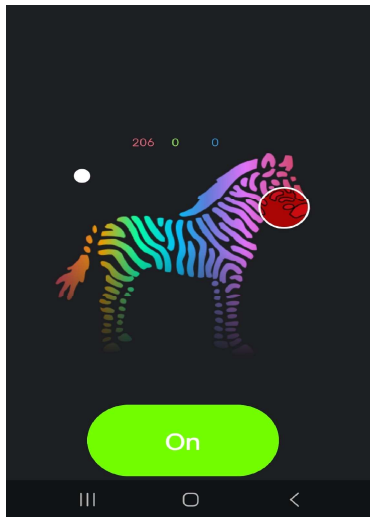# IoT Lab : Control RGB Ring with your phone via WIFI

Build your own Smart Desk RGB Lamp using ESP32 using the Blynk App
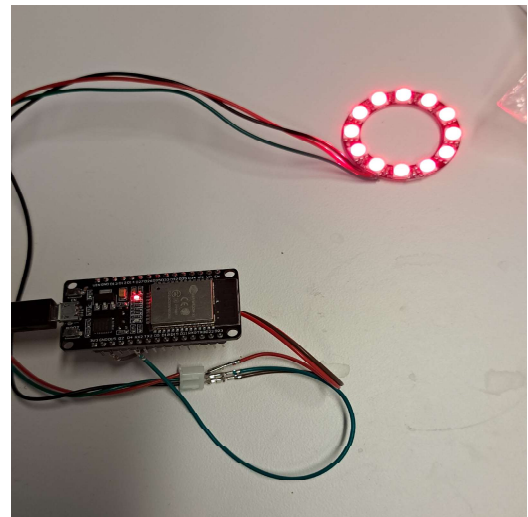
These are the components we need :

- a development Board with a microcontroller and Bluetooth : $Esp32DevModule$,
- an RGB WS2812B Ring,$Neopixel$: NeoPixel can produce multiple colors in any combination and brightness. It can be powered by the esp32Devmodule and each Led can be addressed individually via programming.
- a smartphone
- WIFI connexion

Software apps and online services

- For mobile phone app we will use Blynk App
- To progrtam the esp32 devmodule we will need Arduino

(a) Blynkapp

(b) esp32 +Neopixel

FIGURE 1 – Neopixel Ring color control with Blunk app

— A step by step installation and configuration is provided to turn on/off and change the color the Leds
— students are asked to add slider to change the Brightness of the leads , you can also add widgets to create animations with the Leds