WIFI Signal strength indicator

# **Introduction**

This handbook serves as a guide to setting up the Wi-Fi indicator using a Raspberry Pi Pico W to connect to a wireless connection and determine the strength of the signal using LED lights to represent the strength of the signal, this is used to determine, and it provides a unique way to measure signal strength.

## **Project Overview**

This project works by connecting to a Wi-Fi connection and it determines the strength of the network. It works by using the RSSI signal to light up the LEDS; the number of lights that turn on indicates the connection's strength.

## **Requirements (Hardware)**

· Raspberry Pi Pico W

· LED x 3

· Resistor

· Breadboard and jumper cables

## **Software**

· Thornny IDE

· Micropython

· PYflasher

## **Setup (Circuit assembly)**

1. Place the Raspberry Pi Pico W on the breadboard.

2. Connect each LED and resistor to a GPIO pin (2,0,4) to ensure that the LED cathode is connected to the ground.

3. Make sure the PI Pico W is connected to a computer to turn it on

## **Setup (Software)**

1. Install the Thonny IDE onto your computer.

2. load the provided code and ensure that the PI Pico is connected to the computer.

3. Setup your Wi-Fi connections within Thonny

4. Click run and wait for it to compile to the Raspberry Pi Pico W

## **Operating results**

Once the device is powered and set up, it connects to the desired network and determines the signal strengths, which powers the LED lights and indicates the signal strength based on the number of lights turned on. 3 lights – good signal strength /2 lights – ok signal strength /1 light – bad signal strength.

# **Troubleshooting and FAQ**

## **If no LEDs light up?**

Check if the breadboard circuit is wired properly.

## **The Raspberry Pi Pico W doesn’t connect to Wi-Fi.**

Verify the SSID and password when configuring the program on Thornny.

## **Cautions**

· Make sure that the wiring connections are connected properly to prevent short circuits.

· Ensure you review the required voltage of your desired microcontroller.

## **Improvements and problems**

To improve this project would improve the main problem as the code didn’t run

