SIT210: Embedded Device Development

Task 3.3C Photon: Calling a function from the Web to Photon

Hardware Required

Particle Photon

Software Required

Web IDE or Photon IDE

Pre-requisites: You must do the following before this task

1) Complete all previous photon tasks (2.1P and 2.2P)
2) Read up about cloud function in Particle Reference API: https://docs.particle.io/reference/firmware/photon/#particle-function-

Task Objective

This task will introduce you to the concept of remotely calling a function from the web to be ran on your Photon.

Steps:

1. Complete a simple circuit board using Particle Photon that includes: 3 LEDs connected to 3 pins on the Photon that allows you to turn them on and off separately. Label the 3 LED with “red”, “green”, and “blue”.
    a. Alternatively, if possible, use 3 LED with 3 different colors (red, green, blue)
    b. Another alternative is to use an RGB LED.
2. Write a function on the photon that takes in a string argument, “red”, “green” or “blue” to toggle the corresponding LED on/off.
3. Expose your method to the cloud using Particle.function() call. Refer to the API for examples.
4. Create a simple HTML page that has 3 checkbox forms to use to toggle your LEDs on your Photon. The sample code is below:

```
<html>
```

```
<body>
<center> <br> <br> <br>
<form action="https://api.particle.io/v1/devices/your-device-ID-goes-
here/led?access_token=your-access-token-goes-here" method="POST">
Toggle the LED!<br>
<br>
<input type="checkbox" name="args" value="red">Red LED.
<br>
<input type="checkbox" name="args" value="green">Green LED.
<br>
<input type="checkbox" name="args" value="blue">Blue LED.
<br>
<input type="submit" value="Send">
</form>
</center>

</body>
</html>
```

Replace your device ID and access token ID

5. Open the HTML file and use the checkbox to turn toggle the LEDs on your photon.

Task Submission Details

Q1: Submit a video that shows the outcome of the task. Include the link here.

Q2: Create a repository named CloudFunction on Github. Upload your code to the repository. Include the link to your repository here.

Q3. Describe a real life usage scenario for your system.

Q4. How would you improve this task? (suggestion: webhook?)

Remember to submit this to Doubtfire, and check the status of any existing tasks. You may need to fix and resubmit some of your work. You want to check out why, so that you can learn from this and make it faster and easier to get later work to the required standard.