SIT210: Embedded Device Development

Task 3.4D Photon: Buddy system

Hardware Required

Photons (x2)

Software Required

Photon CLI or web IDE

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

1) All previous Photon tasks
2) Read the tutorial aboud Publish and Subscribe: https://docs.particle.io/guide/getting-started/examples/photon/#the-buddy-system-publish-and-subscribe

Task Objective

In this task, you will build an embedded system that allows you to send virtual ‘waves’ to a buddy, using Particle Photon and the publish subscribe structure.

Steps:

1) Build an embedded system using Particle Photon that has 1 motion sensor and 1 LED light. (Modify task 3.1P to use distance sensor as motion sensor)
2) Create a photon event that sends out the word “wave” to any registered Photon whenever your system detects a waving motion using the motion sensor; i.e. when someone moves their hand left and right on the sensor. Make sure you publish your event with a unique name.
3) Create a handler method that whenever your system received a “wave”, the system will flash the LED x number of times.
4) Find a buddy and register your handler to their event.
5) Test out the system.

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: Modify to send out ‘pat’ in addition to ‘wave’: moving your hand back and forth on the motion sensor, like a virtual pat. For the pat handler, flash the LED in a different way to a wave.

Q4: Think of one or two more gestures you can send with the system. You are allowed to use a different sensor to detect the gesture.

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.