Room Occupancy Monitor

Due: Jan 19th @ 11:59pm

This project will introduce you to Photon microcontroller and Particle ecosystem that we will be using throughout the semester.

Goal

The goal of this project is simple: develop an IOT device that uses the passive infrared sensor to detect motion, determines the occupancy of a room using some algorithm, displays the occupancy via turning on a LED when the room is occupied, and logs in a google spreadsheet when the status of the changes from occupied to free and vice versa.

Resources

This project can be accomplish using only the documentation available on the particle.io website, and is indeed a test if the teaching modality of this class is right for you.

Grading

The grading for this assignment will be based on 4 milestones:

- Photon wired correctly (25%).
- Application that determines and indicates (via LED) when the room is occupied. (25%)
- Changes to room status and their time are accessible somewhere on the web. (25%)
- Changes to room status are logged in google spreadsheet. (25%)

The points for these milestones are all dependent on correctly following the submission instructions.

Submission

All code should be developed in a private IU Github repository where the users akuhlens and lukefahr are added as collaborators. You must convey which commit will be demoed in class by submitting the link to the commit on IU Github. This link will look similar to

https://github.iu.edu/SOIC-Digital-Systems/Spring-2017/commit/269670d11d10decb79905ff3cb4ba456a9c928c0

and when followed should lead to the commit summary page. The commit submitted needs to have a set of instructions for how to build the project, and we suggest that the process be automated via makefiles or similar tool. During class on we will ask each group to download the commit, build and flash using that download, and demo the capabilities of their device.

Each group member should make a submission to canvas even if it is a duplicate of the github link.