SIT315 Programming Paradigms

Module1 Real-time and Embedded Systems

TaskM1.T4D: More-Inputs-Timer Board

Overview of the task

To fulfill the requirements of this task, you will need to modify your board from Task M1.3C to use more sensors as input. This means we want to push beyond the limits of Arduino default interrupts (only two available). To do this we need to use Pin Change Interrupts PCINT library to help you capture more interrupts. The trick here is that these interrupts will be coming from a group of pins instead of one pin per interrupt. So we need to figure out how to handle this scenario. Furthermore, we want to add timer interrupt that fires every X (yes choose a number) and turns a led on - of course you can get it to do something else - like read other sensor(s) data and send somewhere.

Submission Details

Please make sure to provide the following:

- A diagram of your new board,
- An image of the actual system/board,
- A screenshoot of your system monitoring log (from your screen), and
- The ∏.

Instructions

1. Watch this Youtube video on Timer interrupts: https://www.youtube.com/watch?v=2kr5A350H7E
2. Add a new file to your Module1 called Task1.4D
3. Implement your program (save the file as Task1.4D) in the Module1 folder, upload it on Arduino and test it.
4. Submit your task as detailed on the submission details section above to OnTrack.