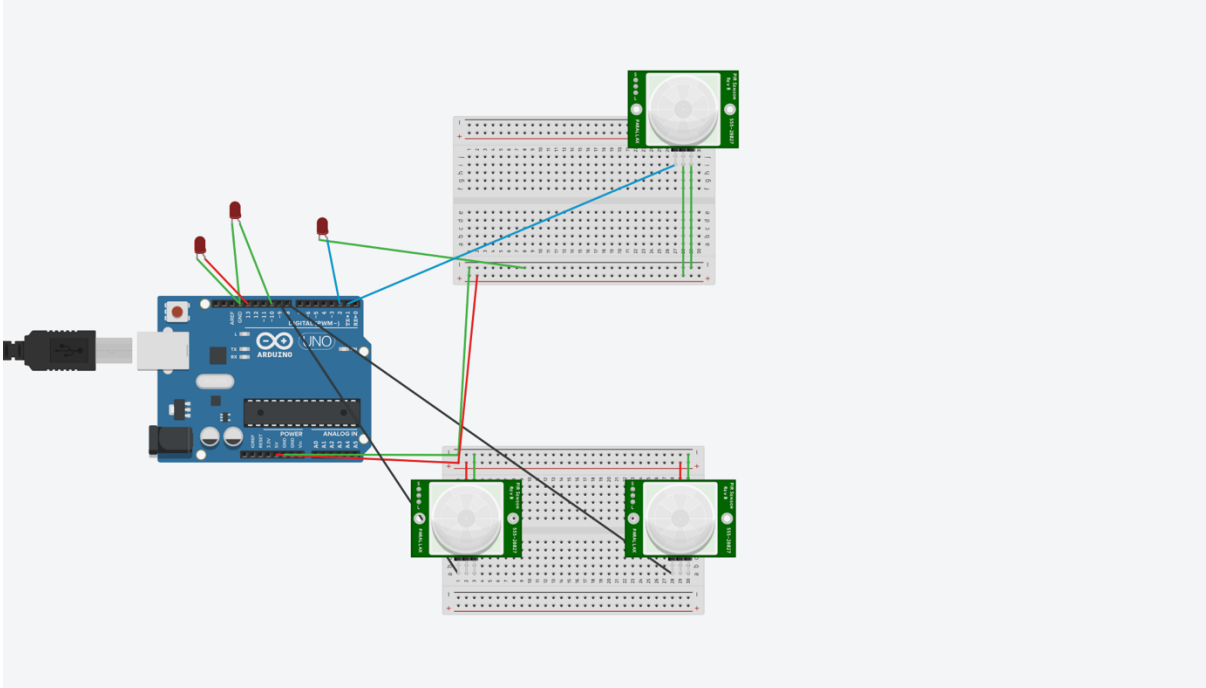
Module1 Real-time and Embedded Systems

TaskM1.T4D: More-Inputs-Timer Board

A schematic of your new board or an image of the actual system/board

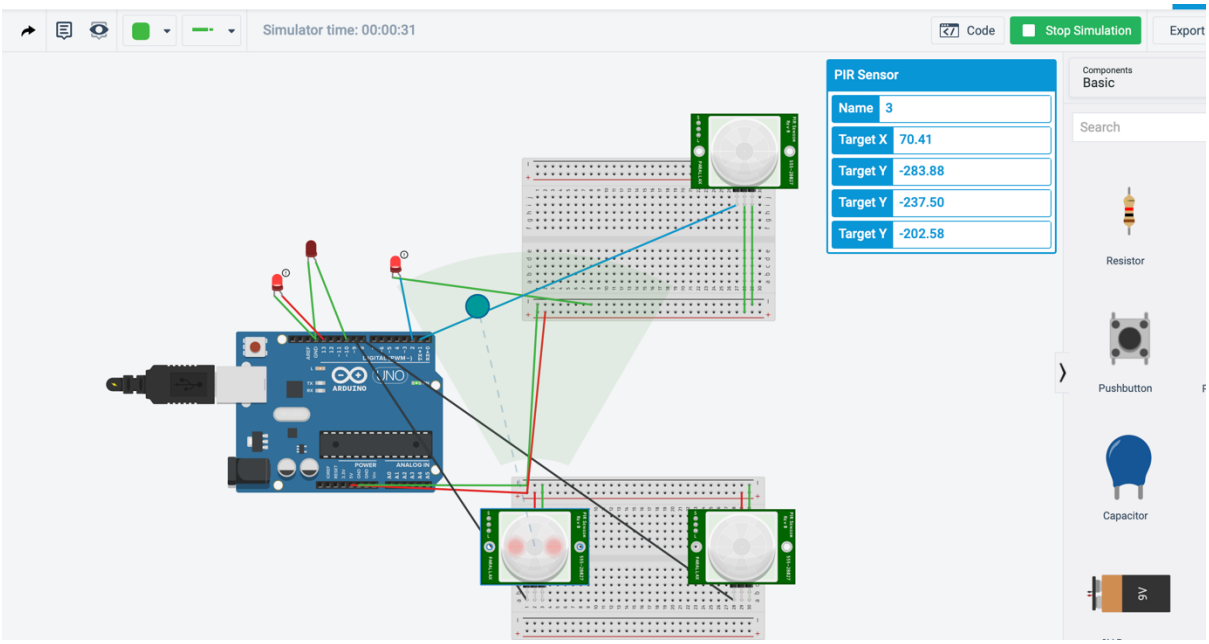
Setup is as followed:

- Multiple interrupts would be read from the PORTS B and D, three sensors are fitted to the Arduino.
- 2 motion sensors are connected to PORT B and an LED is also connected in same PORT to act upon the interrupts from these pins in PORT B.
- 1 motion sensor is connected to PORT D along with an LED to act upon in event of an interrupt.
- To execute the timer interrupt, an LED is connected to PORT B, pin PB5 or digitalPin 13.



A screenshot of your system monitoring log (from your screen)

Here the interrupt occurs at PORT B, pin PCINT1, and LED attached to PORT B, PCINT3 is toggled as can be seen in the SS, in the code the logic is executed to find the specific pin from which the input is coming from, check the code for better understanding.
In similar fashion if other sensors detect motion, the interrupt is read and the LED's are toggled.
For execution of timer interrupt, LED on PORT B, PCINT5 is used, the prescaler is set to 1024 and the led toggles after a period of time, calculations can be found in the comments in the code.



The source code of your new program

Code provided in the Repository with comprehensive comments to understand the code.