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Midterm Project Proposal: Arduino Intervalometer

Not too long ago, I created a DIY [Interrotron](#) (actually two of them so that the viewers sitting in front of each interrotron could see each other). At the time, I had hoped to incorporate sensors to trigger the cameras to take pictures as well as video. In the interest of continuing to play with this idea, essentially I would build a sensor-induced intervalometer where a digital camera would be triggered to take a picture every time the sensor is "tripped".

This idea is not new. In Tom Igoe's book Making Things Talk, Project 9 uses an infrared LED and an arduino to control a digital SLR camera using a "Multi Camera IR Control Library."

I have thought about using a flex sensor (or more than one) embedded in a seat cushion to trigger the camera to take a picture. In other words, "sleep mode" would mean that the camera is on, once the sensor is triggered by someone sitting down on the chair, the camera will take a picture. When they get up to move away from the chair, I would like the image to be displayed on a nearby monitor. Perhaps I would use an IR break beam sensor that only runs its program after the camera has gone off. Other options are ultrasonic sensors that display the image based on proximity to the monitor or some other type of movement.

The flex sensors could be sewn along the edge of a seat cushion using conductive thread. By sewing it all along the edge, I might avoid the camera being triggered by placing a bag or coat on the seat. As far as the ultrasonic sensor, I would enclose the monitor in a wooden box with the sensor installed unobtrusively underneath. In Igoe's book, Figure 6-7 is a photograph of a camera with a box next to it in which the PIR sensor on the outside triggers the DSLR camera via the Arduino enclosed within the box. I am not yet familiar enough with the IR control library to understand why they used a PIR sensor instead of something else. Maybe the sensor has to be an infrared signal.

At any rate, I would probably want to use a breakout board that can communicate with the Arduino wirelessly. I have to research this idea a bit more to sketch out the configuration of the elements. Perhaps a bluetooth or wireless shield might be able to connect the three elements (flex sensors, camera trigger, motion sensor) that require communication with the Arduino.