

ARDUINO LAB 8:

PONG

Name: _____ Signature _____

INTRO

This lab from Chapter 2 of Tom Igoe's great book Making Things Talk) In this lab we are going to make a Pong game. The game itself will be displayed on your laptop using Processing. The Arduino will read in sensor values and send them to your Processing code.

HARDWARE

In this project you will need to construct a circuit with the following:

- one reset button connected to digital 2. When the button is not pressed the circuit should be connected to ground with a pulldown resistor.
- one serve button connected to digital 3. When the button is not pressed the circuit should be connected to ground with a pulldown resistor.
- one analog sensor (potentiometer, light sensor, whatever) connected to analog 0 - controlling a paddle
- one analog sensor (potentiometer, light sensor, whatever) connected to analog 1 - controlling a paddle

ARDUINO WIRING CODE

The code for the Arduino is on our course website.

To test whether everything is working so far, open the serial monitor. You should see something like:

```
284,284,1,1,  
285,283,1,1,  
286,284,1,1,  
289,283,1,1,
```

PROCESSING CODE

The processing code is on our website.

You will need to experiment and come up with your own values for

```
float leftMinimum = 250;      // minimum value of the left flex sensor
float rightMinimum = 260;     // minimum value of the right flex sensor
float leftMaximum = 450;     // maximum value of the left flex sensor
float rightMaximum = 460;    // maximum value of the right flex sensor
```

GRADING

85 points for implementing the above. 15 additional points for extending the hardware or code in some way.

DEMO

Instructor sign off: _____