

AD3 : Arduino & Firefly, Inputs

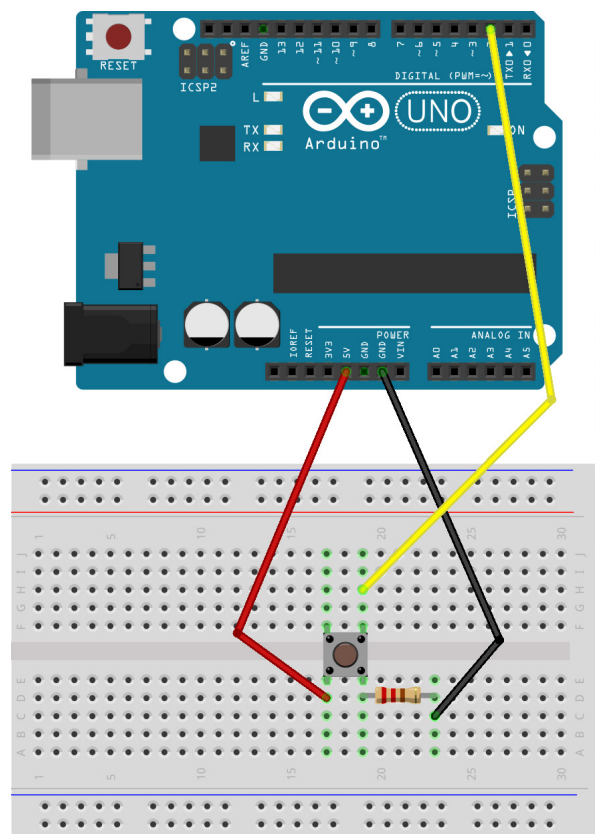
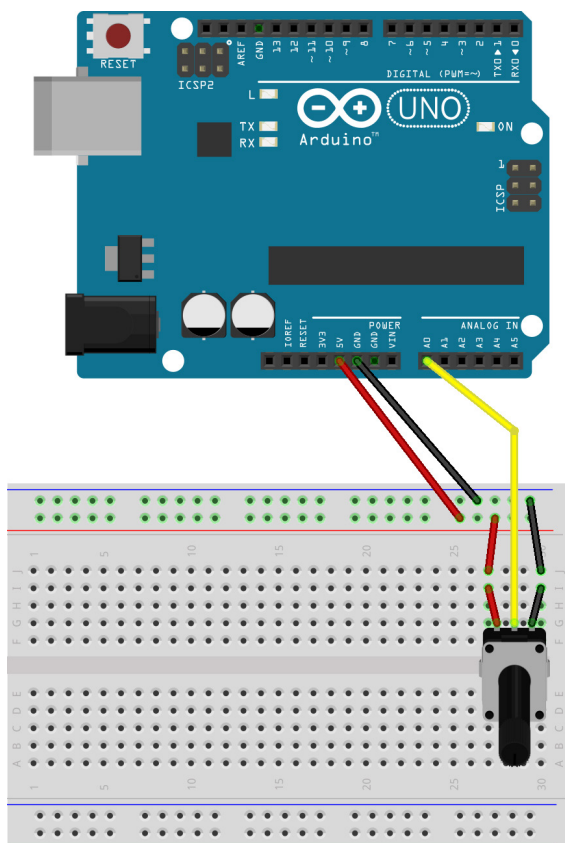


In this session we will be looking at various sensors we can use in conjunction with the Arduino. These sensors will include:

- Potentiometer
- Tactile push button
- Electret Microphone
- LDR (light dependant resistor)
- Ultrasonic sensor
- Soil moisture
- Smartphone sensors

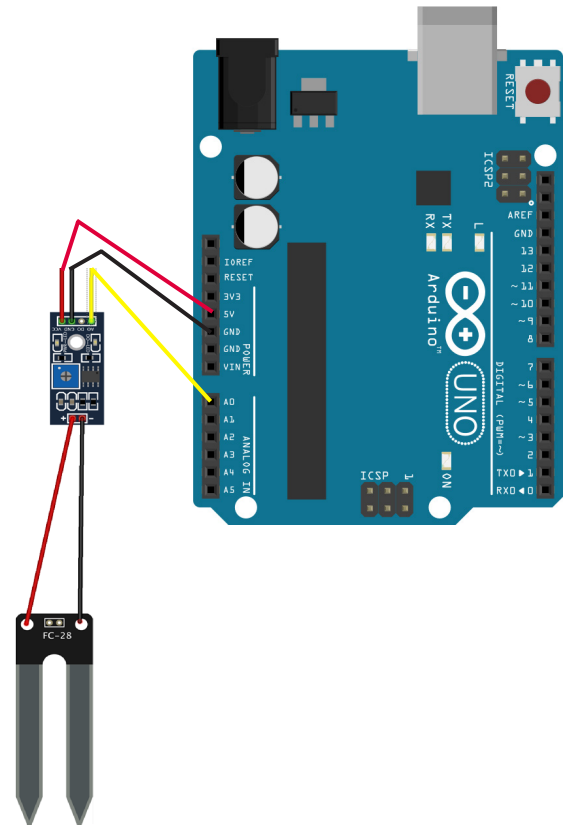
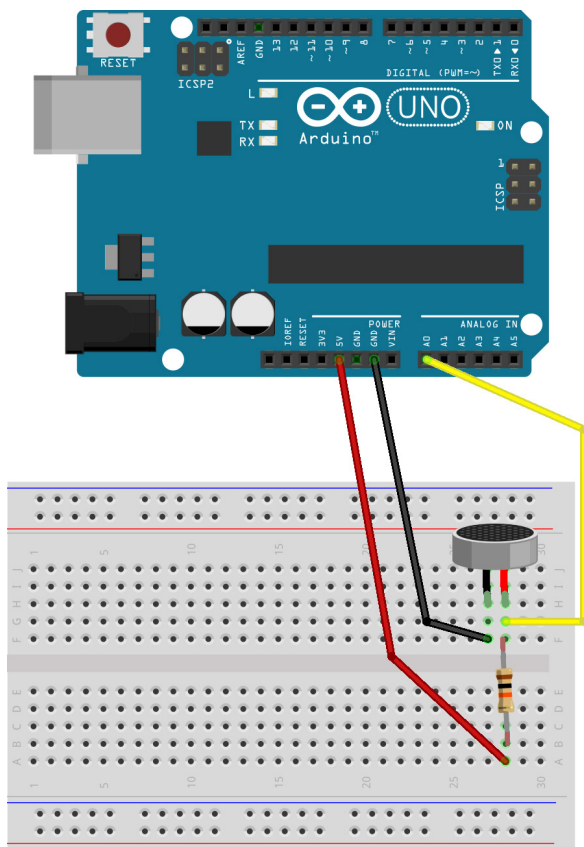
POTENTIOMETER.

PUSH BUTTON.

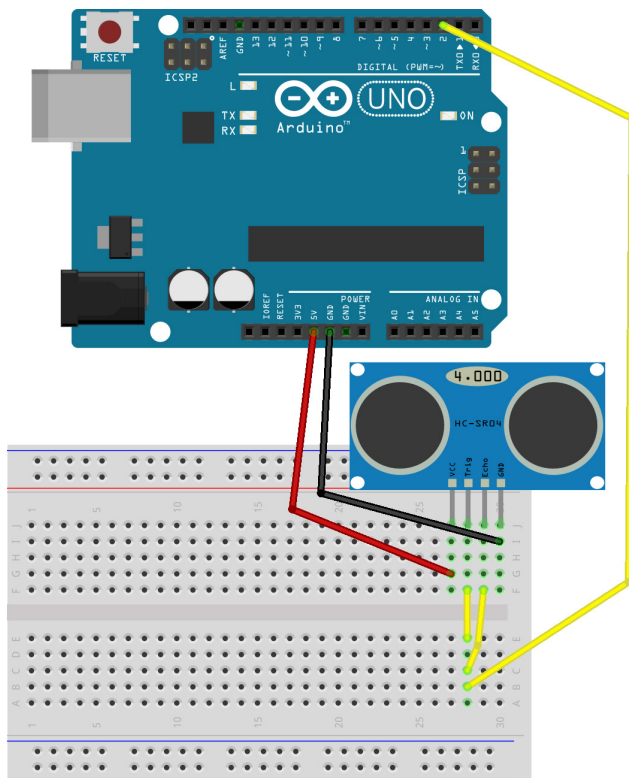


ELECTRET MICROPHONE.

SOIL MOISTURE.



ULTRASONIC.



The ultrasonic sensor requires a different Firefly firmata since the module need to both read and write (it must send out a pulse and receive the pulse in order to determine distance).

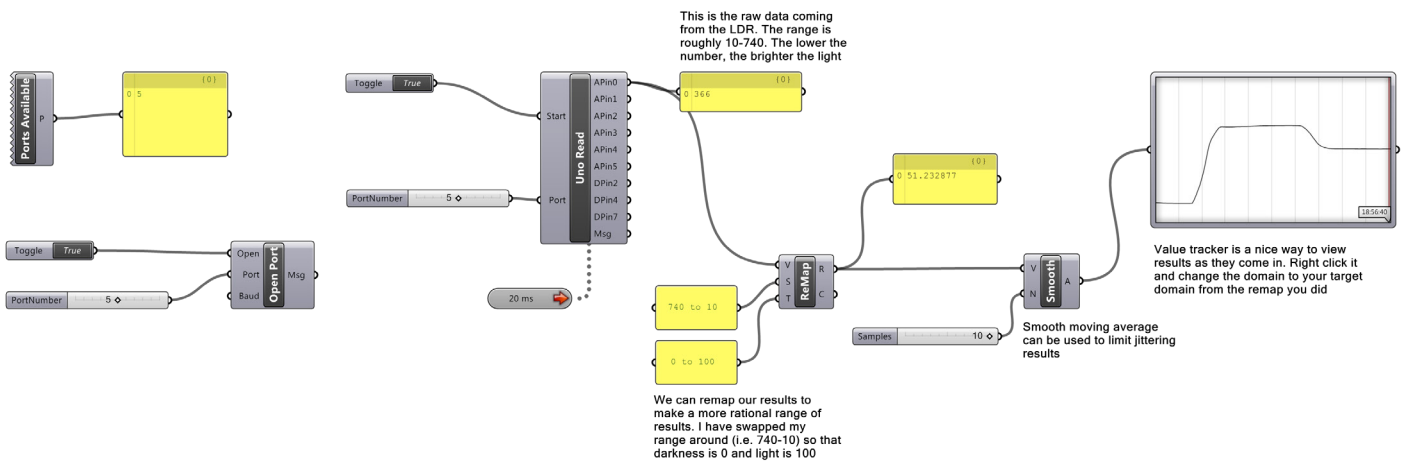
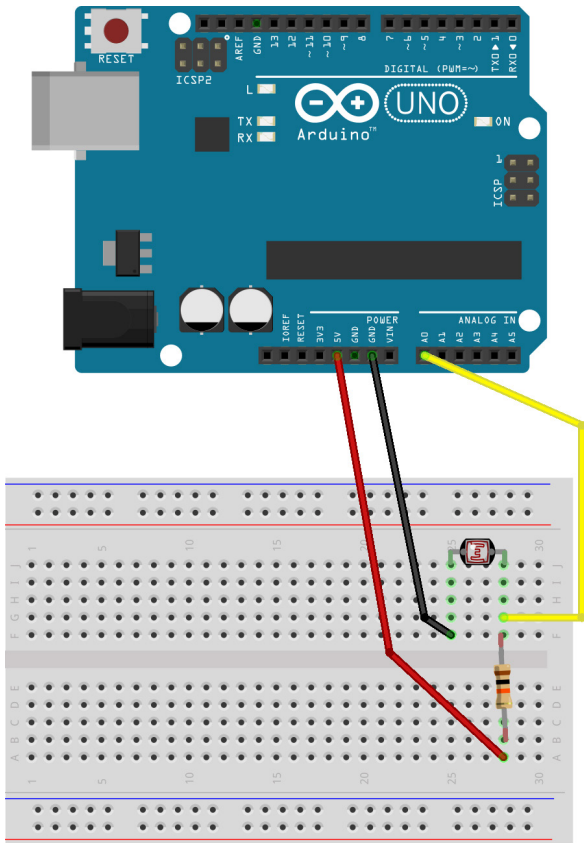
Luckily someone has written that special firmata for us. Paste this address for the download:

<http://www.grasshopper3d.com/forum/attachment/download?id=2985220%3AUploadedFile%3A952100>

Open Firefly_Firmata_ping.ino and upload the firmata to your Arduino Uno. Note that this firmata inhibits other functionality and the original firmata must be uploaded to restore that functionality.

*both resistors are rated 10kΩ

LIGHT DEPENDANT RESISTOR.



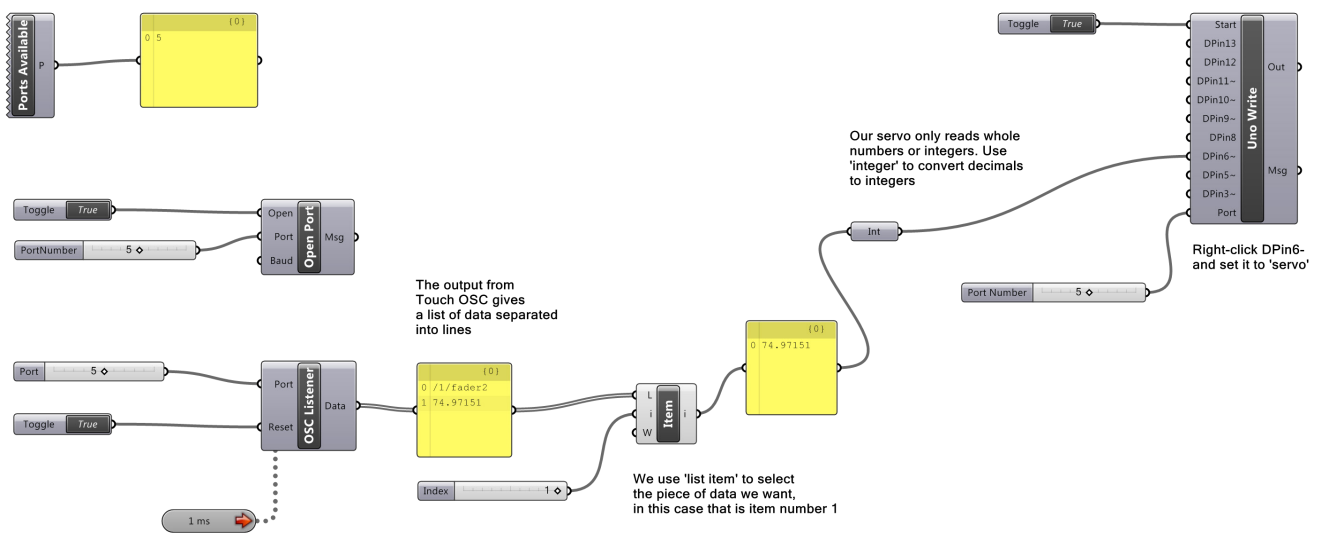
Touch OSC

OSC

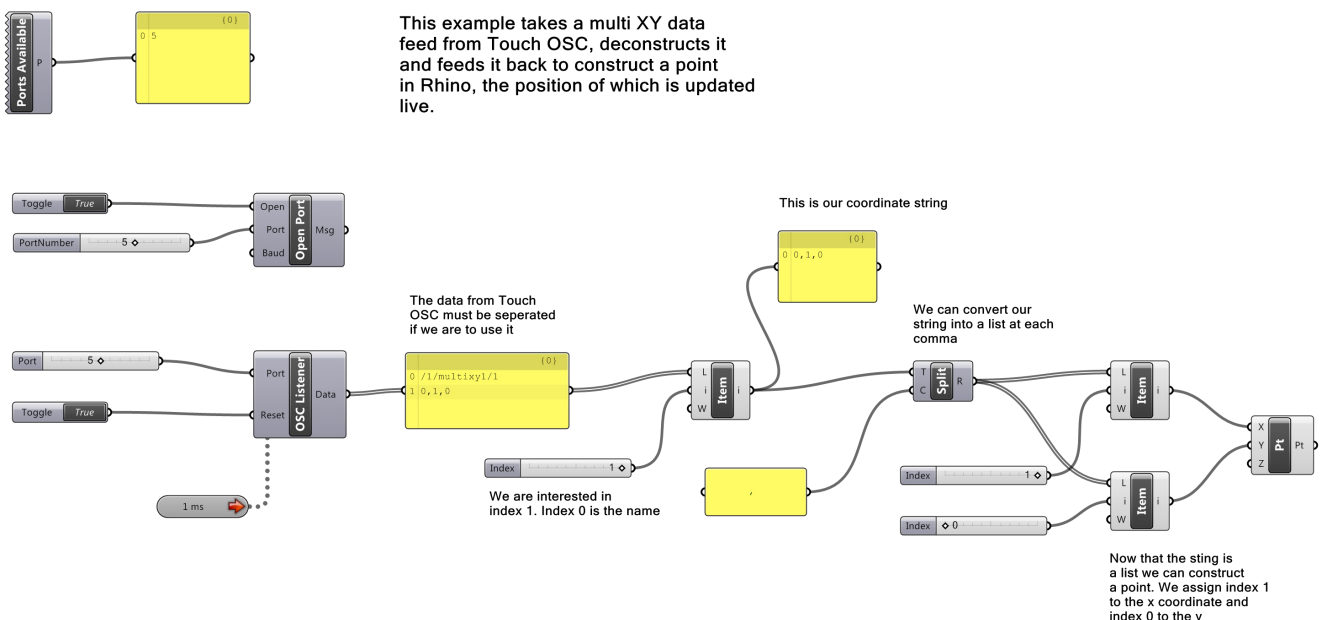
Touch OSC is a really powerful yet simple way to use the sophisticated array of sensors embedded in your smartphone or tablet device. Very quickly you can be receiving accelerometer data (how your phone decides whether to display content portrait or landscape) from your device. Or you can receive information about how the touch screen is being used.

Although the app is not free (£3.99 from the Google playstore, also available for iOS) to buy the equivalent sensors for your Arduino board would be much more expensive.

EXAMPLE 1_CONTROL A SERVO.



EXAMPLE 2_TRACK YOUR FINGER.



WIRING DIAGRAM FOR EXAMPLE_1

