playground.arduino.cc

Arduino Playground - UltrasonicSensor

Better library: NewPing

The example below is a simple implementation that is easy to understand and great for simple testing. However, it is slow, is not meant to be run from interrupt code, and does not bound the pulseIn call by adding ", 38000" or whatever the appropriate maximum timeout (in microseconds) is for your sensor. In other words this code can introduce up to a 1 second delay as the worst case timeout to pulseIn.

If you need more efficient code that can be run from interrupts and can be used to talk to multiple sensors at the same time, look at NewPing from http://code.google.com/p/arduino-new-ping/

Simple example to play with

// * Copyleft 2007 Jason Ch

This code returns the distance in Inches... I think it's more accurate than other code I have seen online and returns more usable results. Remove the *.39 to return cm instead of inches. You could make **float ultrasoundValue = 0;** but then you can't print it unless you transfer it into another type, but it could be used for further calculations.

```
unsignedlong echo =0;
int ultraSoundSignal =9;// Ultrasound signal pin
unsignedlong ultrasoundValue =0;
```

void setup()

```
{ Serial. begin(9600); pinMode ( ultraSoundSignal , OUTPUT );
}
```

unsigned long ping()

```
{ pinMode ( ultraSoundSignal , OUTPUT );// Switch signalpin to output
digitalWrite ( ultraSoundSignal , LOW );// Send low pulse delayMicroseconds (2);// Wait for 2
microseconds digitalWrite ( ultraSoundSignal , HIGH );// Send high pulse
delayMicroseconds (5);// Wait for 5 microseconds digitalWrite ( ultraSoundSignal , LOW );//
Holdoff pinMode ( ultraSoundSignal , INPUT );// Switch signalpin to input
```

```
digitalWrite ( ultraSoundSignal , HIGH );// Turn on pullup resistor
// please note that pulseIn has a 1sec timeout, which may
// not be desirable. Depending on your sensor specs, you
// can likely bound the time like this -- marcmerlin
// echo = pulseIn(ultraSoundSignal, HIGH, 38000) echo = pulseIn ( ultraSoundSignal ,
HIGH );//Listen for echo ultrasoundValue =( echo /58.138)*.39;//convert to CM then to inches
return ultrasoundValue ;
}

  void loop()


{
int x =0; x = ping (); Serial. println( x ); delay (250);//delay 1/4 seconds.
}
```