PIR Sensor (HC-SR501)

Introduction

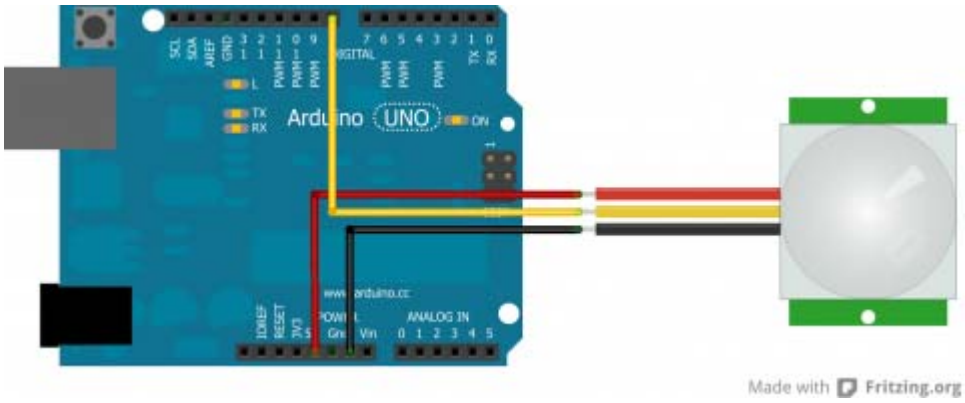
Passive Infra-Red (PIR) sensors are used to detect motion based on the infrared heat in the surrounding area. This makes them a popular choice when building a system to detect potential intruders or people in general. These sensors can take for 10-60 seconds to warm up, so try to avoid motion during that time.

Parts

- Arduino
- PIR Sensor
- Wires

Schematic

Below is the schematic for using a PIR sensor. It is fairly simple.



Code

Adafruit has a really good tutorial for how these sensors are used and various projects for them.

Below is the code for working with a PIR sensor. It should be noted that the PIR sensor does not respond immediately when motion stops. This has to do with the two potentiameters on the sensor.

```
int pirPin = 8;
int val;

void setup() {
  Serial.begin(9600);
}

void loop() {
  val = digitalRead(pirPin); //read state of the PIR

  if (val == LOW) {
    Serial.println("No motion"); //if the value read is low, there
was no motion
  }
  else {
    Serial.println("Motion!"); //if the value read was high, there
was motion
  }

  delay(1000);
}
```