

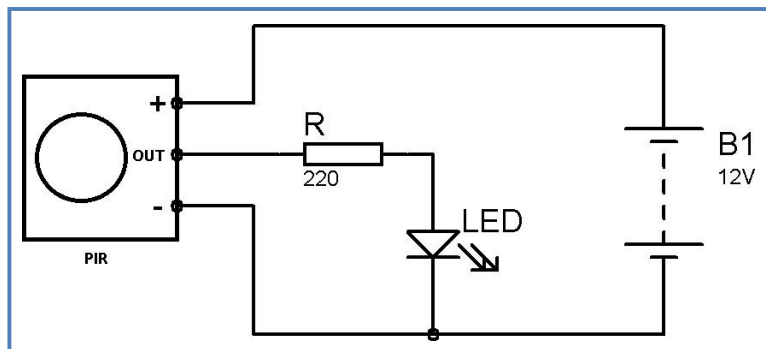
Meet Gala 16010121051

Comps A3

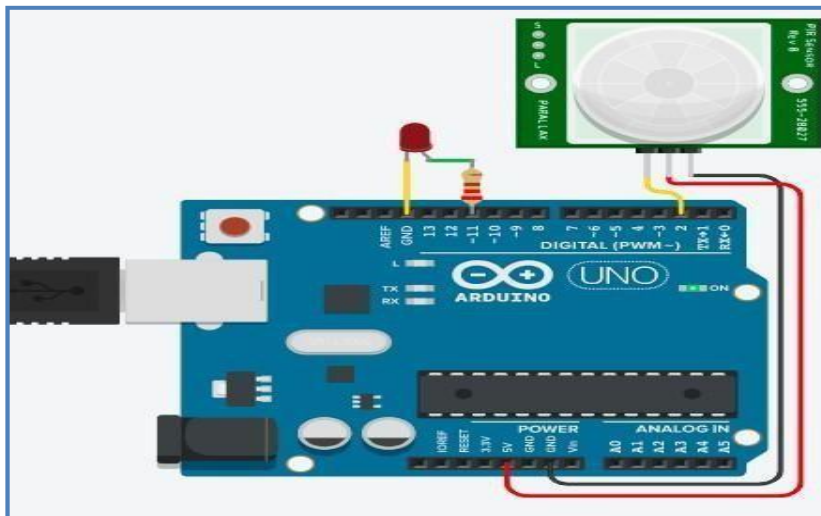
7: Interfacing of Sensors

PIR Motion SENSOR:

Schematic Diagram:



TinkerCAD Circuit:



Implemenation Details (CODE)

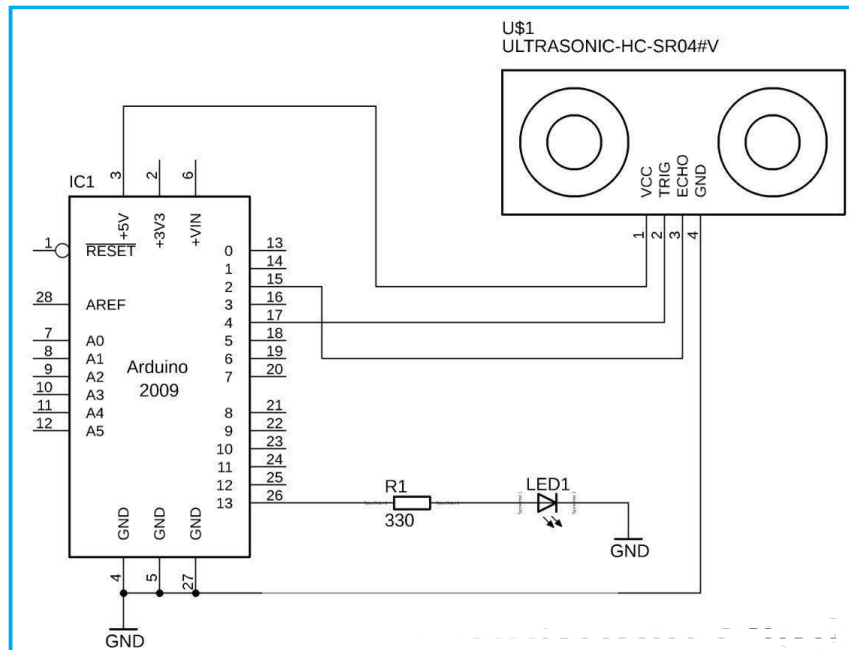
```
int pirsensor = 0;

void setup()
{
  pinMode(2, INPUT);
  pinMode(11, OUTPUT);
  Serial.begin(9600);
}

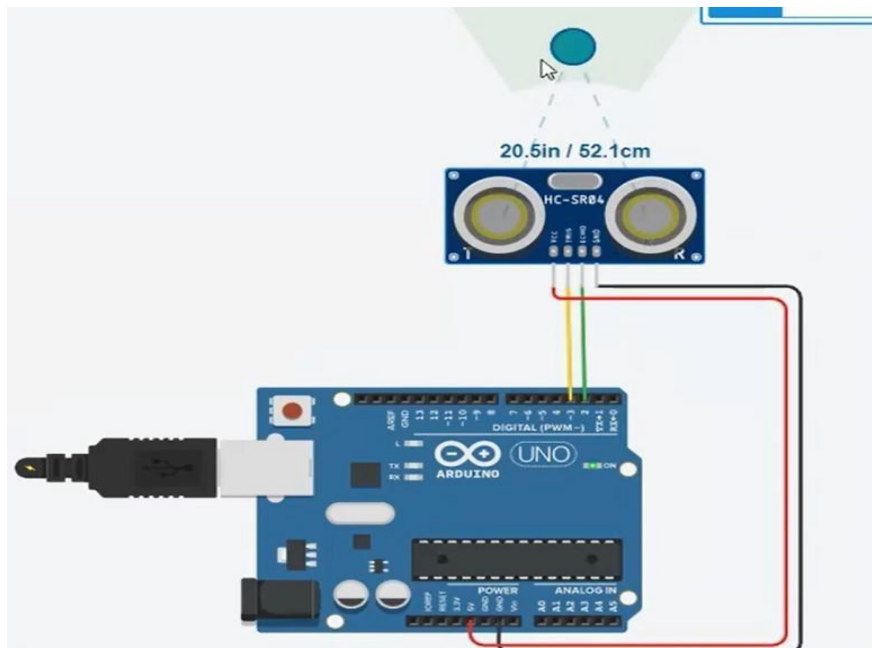
void loop()
{
  pirsensor = digitalRead(2); if
  (pirsensor == 1)
  {
    digitalWrite(11, HIGH);
    Serial.println("Motion detected , presence of human or animals");
  }
}
```

Ultrasonic sensor

Schematic Diagram:



TinkerCAD Circuit:



Implementation Details (CODE)

```
#define echoPin 2
#define trigPin 3

// defines variables
long duration; // variable for the duration of sound wave travel
int distance; // variable for the distance measurement

void setup()
{
  pinMode(12,
  OUTPUT);
  pinMode(trigPin, OUTPUT); // Sets the trigPin as an OUTPUT
  pinMode(echoPin, INPUT); // Sets the echoPin as an INPUT
  Serial.begin(9600); // // Serial Communication is starting with 9600 of baudrate speed
  Serial.println("Ultrasonic Sensor HC-SR04 Test"); // print some text in Serial Monitor
  Serial.println("with Arduino UNO R3");
}
void loop() {
  // Clears the trigPin condition
  digitalWrite(trigPin, LOW);
  delayMicroseconds(200);
  // Sets the trigPin HIGH (ACTIVE) for 100 microseconds
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(100);
  digitalWrite(trigPin, LOW);
  // Reads the echoPin, returns the sound wave travel time in microseconds
  duration = pulseIn(echoPin, HIGH);
  // Calculating the distance
  distance = duration * 0.034 / 2; // Speed of sound wave divided by 2 (go and back)
  // Displays the distance on the Serial Monitor
  Serial.print("Distance: ");
  Serial.print(distance);
  Serial.println(" cm"); if
  (distance <= 20)
  {
    digitalWrite(12, HIGH);
  }
  else
  {
    digitalWrite(12, LOW);
  }
}
```