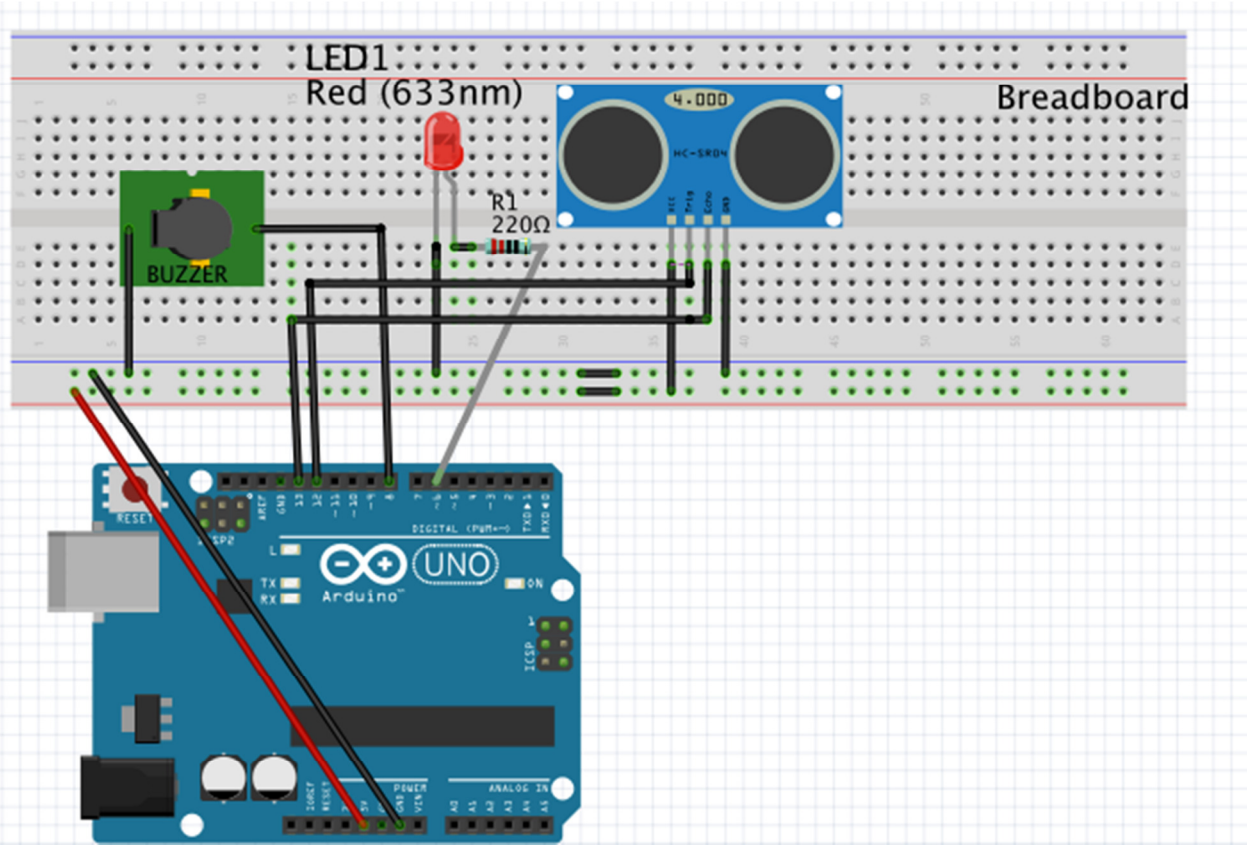
Ultrasonic Alarm Circuit




```
/* This simple project describes how to make an ultrasonic alarm system using
    LED, Ultasonic Sensor(HC-SR04) and a buzzer.*/

//First the connections of ultrasonic sensor connect +5v and GND normally and trigger pin to 12
//& echo pin to 13.

#define trigPin 12
#define echoPin 13
int Buzzer = 8; // Connect buzzer pin to 8
int ledPin= 6;  //Connect LEd pin to 6
int duration, distance; //to measure the distance and time taken

void setup() {
   Serial.begin (9600);
   //Define the output and input objects(devices)
   pinMode(trigPin, OUTPUT);
   pinMode(echoPin, INPUT);
   pinMode(Buzzer, OUTPUT);
   pinMode(ledPin, OUTPUT);
}
```

```
void loop() {
   digitalWrite(trigPin, HIGH);
   delayMicroseconds(10);
   digitalWrite(trigPin, LOW);
   duration = pulseIn(echoPin, HIGH);
   distance = (duration/2) / 29.1;

   //when object is more than 30 cm, the buzzer and LED are off
   if (distance >= 30){
      Serial.println("no object detected");
      digitalWrite(Buzzer,LOW);
      digitalWrite(ledPin,LOW);
      noTone(Buzzer);
   }
   else {
      Serial.println("object detected \n");
      Serial.print("distance= ");
      Serial.println(distance);       //prints the distance if it is between the range 0 to 30 cm
      tone(Buzzer,400);             // play tone of 400Hz
      digitalWrite(ledPin,HIGH);
   }
}
```