IOT Based Smart Crop Protection System

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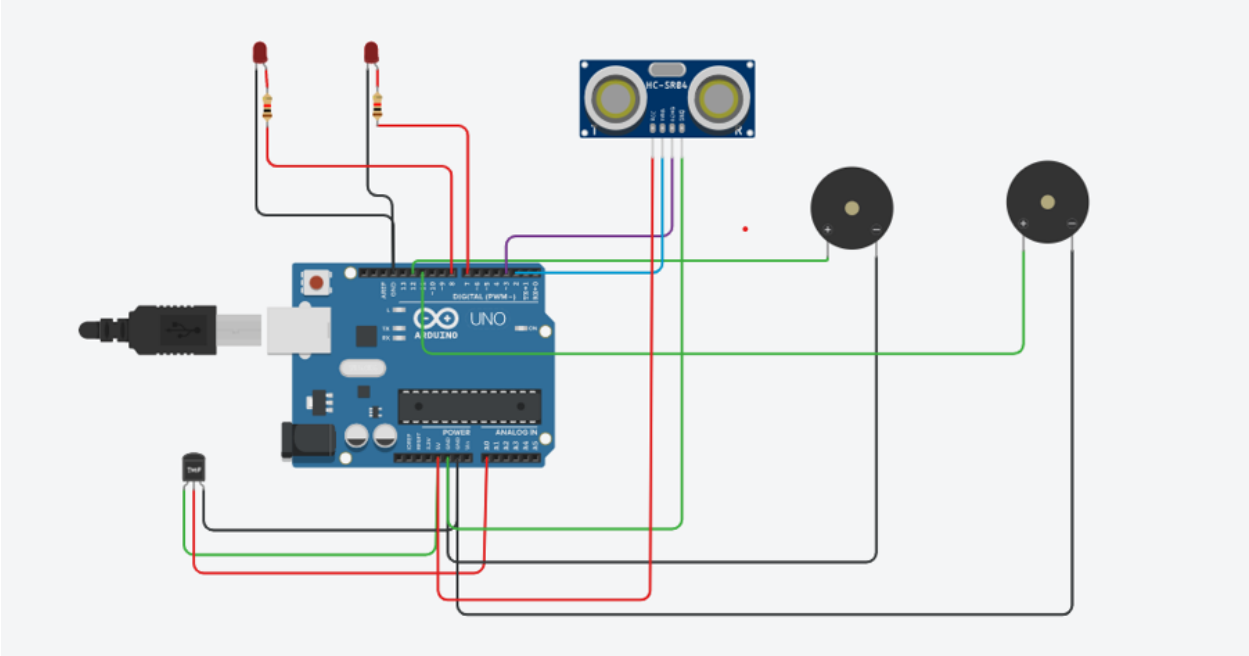
Circuit Design:



Code:

```
int t=2;
int e=3;
void setup()
{
Serial.begin(9600);
pinMode(t,OUTPUT);
pinMode(e,INPUT);
pinMode(12,OUTPUT);
}
void loop() {   //ultrasonic sensor
  digitalWrite(t,LOW);
  digitalWrite(t,HIGH);
  delayMicroseconds(10);
  digitalWrite(t,LOW);
  float dur=pulseIn(e,HIGH);
  float dis=(dur*0.0343)/2;
  Serial.print("Distance is: ");
  Serial.println(dis);
   //LED ON
if(dis>=60)//(in terms of centimeter)
{
```

```
digitalWrite(8,HIGH);
 digitalWrite(7,HIGH);
 }
 //Buzzer For ultrasonic Sensor
 if(dis>=60)
 {
 for(int i=0; i<=5; i=i+1)
 {  tone(12,i);
  delay(1000);
  noTone(12);
 delay(1000);
 }
 }
 //Temperate Sensor
 double a= analogRead(A0);
 double t=(((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
 Serial.println(t);
 delay(1000);
//LED ON
 if(t>=20)//(in terms of celsius)
 {
digitalWrite(8,HIGH);
   digitalWrite(7,HIGH);
 }
```

```
 //Buzzer for Temperature Sensor
 if(t>=20)
 {
 for(int i=0; i<=5; i=i+1)
 {   tone(12,i);
  delay(1000);
  noTone(12);
  delay(1000);
 }
 }
//LED OFF
 if(t<20)
 {
digitalWrite(8,LOW);
   digitalWrite(7,LOW);
 }
}
```