Problem Statement:

IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

Domain:

Internet of Things

Assignment 1:

Circuit design Home automation system in TinkerCad

By,

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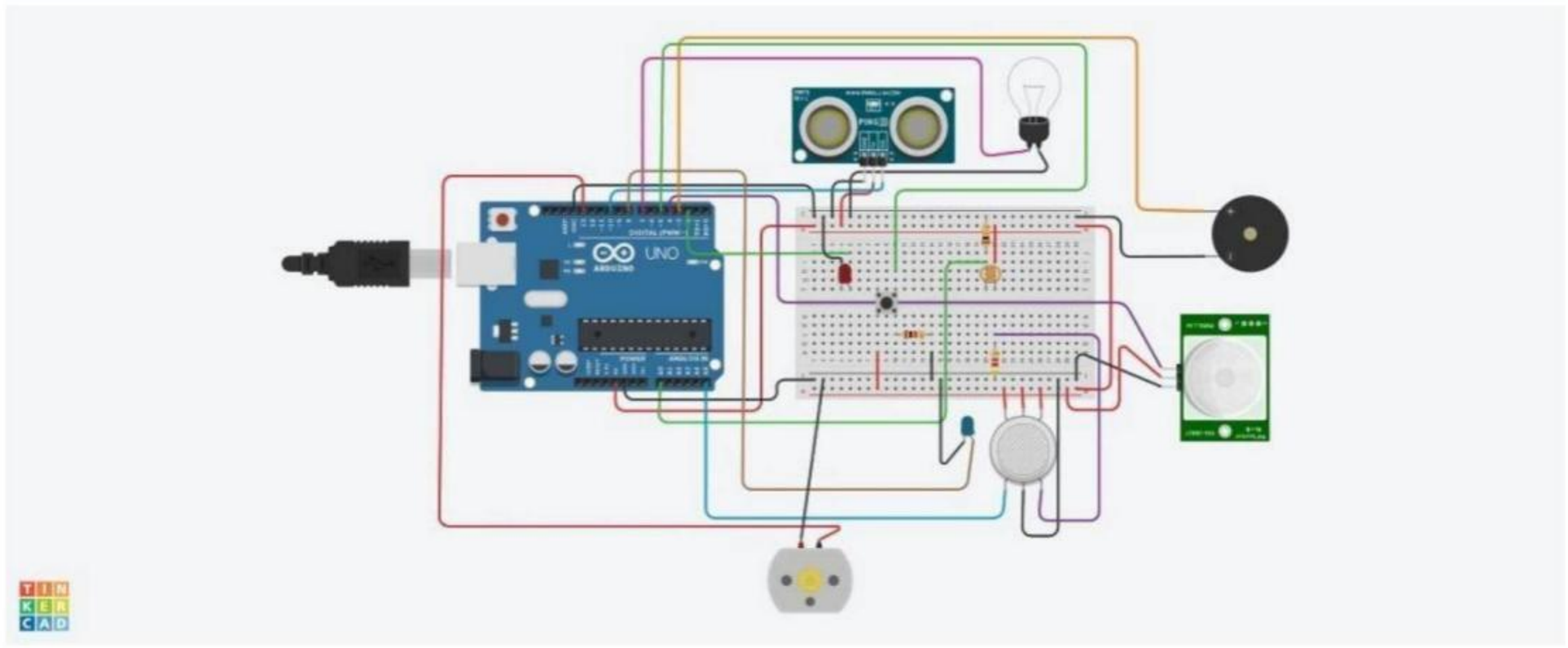
Link:

Circuit diagram:



ArduinoUnoCode:

```
constintpingPin=10;

constintledUS=2; constintlight=7;

constintpir=4;

#definephotoSensorA0

#definebuzzer3

intconstPINO_SGAS=A5;

intconstledGas=8;

intconstbutton=5;

intconstmotor=13; voidsetup()

{

 pinMode(ledUS,OUTPUT);

 pinMode(light,OUTPUT);

 pinMode(buzzer,OUTPUT);

pinMode(ledGas,OUTPUT);

pinMode(motor,OUTPUT);

pinMode(pir,INPUT);
```

```
  pinMode(button,INPUT);
  pinMode(photoSensor,INPUT);
  Serial.begin(9600);
}
voidloop()
{
  longduration,cm; intvalLight=analogRead(photoSensor); intvalPIR=digitalRead(pir);
  intvalGAS=analogRead(PINO_SGAS); valGAS=map(valGAS,300,750,0,100);
  intvalBt=digitalRead(button); pinMode(pingPin,OUTPUT);
  digitalWrite(pingPin,LOW); delayMicroseconds(2); digitalWrite(pingPin,HIGH);
  delayMicroseconds(5); digitalWrite(pingPin,LOW); pinMode(pingPin,INPUT);
  duration=pulseIn(pingPin,HIGH); cm=microsecondsToCentimeters(duration);
  if(cm<336){ digitalWrite(ledUS,HIGH);
  }else{ digitalWrite(ledUS,LOW);
  }
  if(valLight<890){
    digitalWrite(light,HIGH);
  }else{ digitalWrite(light,LOW);
  }
  if(valPIR==1){
    digitalWrite(buzzer,HIGH);
  }else{ digitalWrite(buzzer,LOW);
  }
  if(valBt==1){
    digitalWrite(motor,HIGH);
  }else{ digitalWrite(motor,LOW);
```

```
}
if(valGAS>20){
  digitalWrite(ledGas,HIGH);
}else{ digitalWrite(ledGas,LOW);
}
 Serial.print(valPIR);
 Serial.println();
}
longmicrosecondsToCentimeters(longmicroseconds){
 returnmicroseconds/29/2;
}
```