PROBLEM STATEMENT :

IoT based Smart crop protection system

DOMAIN :

Internet of Things

ASSIGNMENT 1:

Smart home with at least two sensors and led, buzzer in TinkerCad

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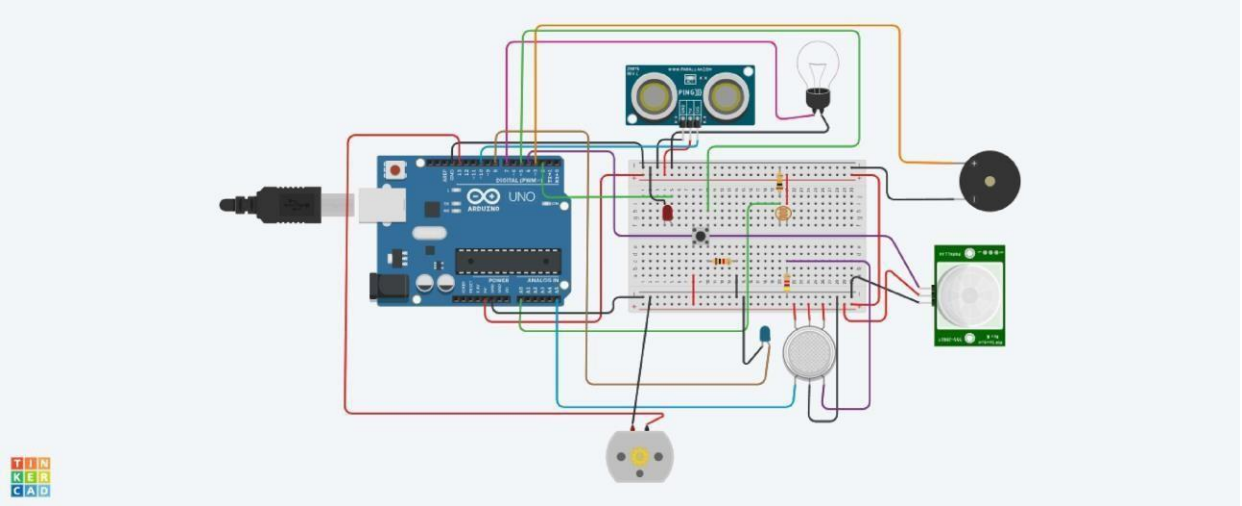
Link: https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR_ZuHMpvx0HiLrnrJ0Iagb3g2hb1sZ9oTxZPFFAo

CIRCUIT DIAGRAM :



ARDUINO UNO CODE:

```
const int pingPin =
10;     const int IedUS
= 2; const int light = 7;
const int pir = 4;
  #define photosensor A0
  #define buzzer 3
  intconst PINO SGAS =
  A5;  int const IedGas =
  8; int const button = 5;
  int const motor =13;
  void setup()
 pinMode(IedUS,
    OUTPUT);
    pinMode(light,
    OUTPUT);
    pinMode(buzzer,
    OUTPUT);
    pinMode(IedGas,
    OUTPUT);
```

```
 pinMode(motor,
 OUTPUT);  pinMode(pir,
 INPUT);
 pinMode(button,
 INPUT);
 pinMode(photoSensor, INPUT);
 Serial.begin(9600);

void loop()

 long duration, cm; int valLight =
 anaIogRead(photoSensor);  int vaIPIR=
 digitaIRead(pir);  intvaIGAS
 =anaIogRead(PIN0 SGAS);  vaIGAS =
 map(vaIGAS, 300, 750, 0, 100); int valBt =
 digitaIRead(button);  pinMode(pingPin,
 OUTPUT);  digitaIWrite(pingPin, LOW);
 deIayMicroseconds(2);
 digitaIWrite(pingPin,  HIGH);
 deIayMicroseconds(5); digitaIWrite(pingPin,
 LOW); pinMode(pingPin, INPUT);  duration
 =  puIseIn(pingPin, HIGH);  cm =
 microsecondsToCentimeters(duration);
 if(cm < 336)(
   digitaIWrite(IedUS, HIGH);
 }eIse(  digitaIWrite(IedUS,
   LOW);

 if(vaILight < 890)(
   digitaIWrite(light, HIGH);
 }eIse(
```

```
    digitaIWrite(light, LOW);
if(vaIPIR == 1)(
    digitaIWrite(buzzer, HIGH);
  }eIse(
    digitaIWrite(buzzer, LOW);
  if(vaIBt == 1)(
    digitaIWrite(motor, HIGH);
  }eIse(
    digitaIWrite(motor, LOW);
  if(vaIGAS > 20)(
    digitaIWrite(IedGas, HIGH);
  }eIse( digitaIWrite(IedGas,
    LOW);


  Serial.print(vaIPIR);
  Serial.println();
   long microsecondsToCentimeters(long microseconds) (
                                                        return
  microseconds / 29 / 2;
```