

ASSIGNMENT – I

DOMAIN:IoT

TITLE:SMART HOME

Team Leader:

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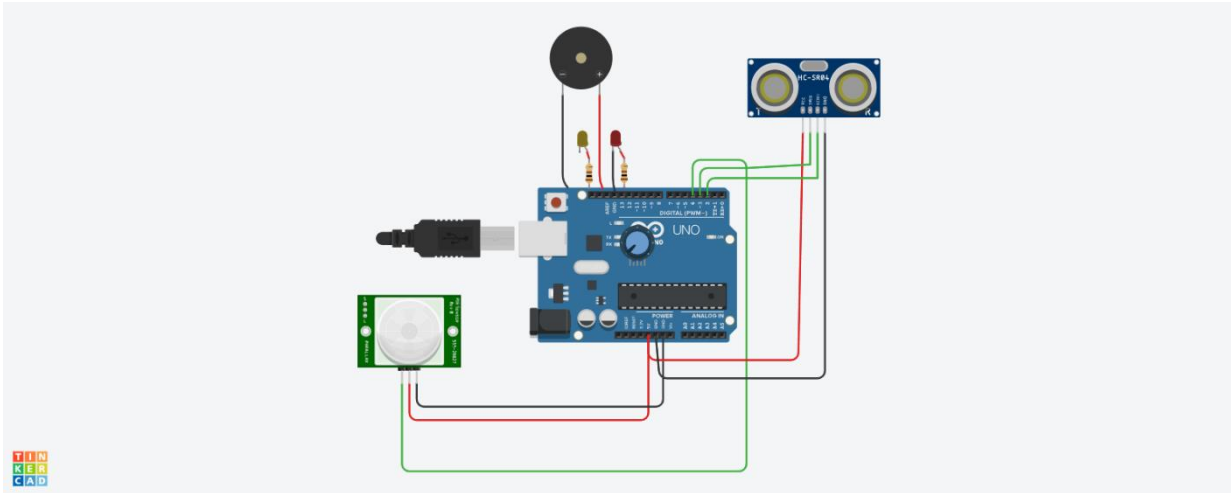
Team Members:

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SMART Home Circuit Connection:



Components Used:

- i) Arduino Uno R3
- ii) Ultrasonic Distance Sensor
- iii) PIR Sensor
- iv) Yellow LED
- v) Resistor
- vi) Piezo
- vii) Red LED
- viii) Capacitor
- ix) Potentiometer

Code :

```
void setup()
{
  pinMode(11, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
  pinMode(2, INPUT);
  pinMode(3, OUTPUT);
  pinMode(4, INPUT);
  Serial.begin(1000);
}

void loop()
```

```

{
int a=digitalRead(4);

//Reads the motion in the room.

//-----

if(a)
{
digitalWrite(11,HIGH);

//if moment is detected the light will glow for 5 minutes.

delay(5000);//5 minutes is taken as 5 seconds.

Serial.println("\n\nmotion in the room,lights is ON");
}
else
{
digitalWrite(11,LOW);

//if there is no motion after 5 minutes the light turns off .

Serial.println("\n\nNo motion,light is OFF");
}

//-----

digitalWrite(3,LOW);//no gen. of pulse of sound
digitalWrite(3,HIGH);//gen, of pulse of sound
delayMicroseconds(5);//10ms of sound pulse.
digitalWrite(3,LOW);//ultrasonic sensor is off.

float p=pulseIn(2,HIGH);//receives the reflected signal.
float d=(p*0.0343)/2;//calculate distance of the water level.;

if(d<50)
{
tone(12,500);//the water tank is full is indicated

//using a buzzer.

Serial.println("\n\nThe Water Tank is full");
}

else if (d>250)
{
noTone(12);

digitalWrite(13,HIGH);//if the water tank is empty,yellow

//light gets on indicating tank is empty.

Serial.println("\n\nThe Water Tank is empty");
}
}

```

```
}  
else  
{  
noTone(12);  
digitalWrite(13,LOW);//the water level is normal.  
Serial.println("\n\nThere is Water in the water Tank");  
}  
Serial.println(d);  
}
```

TINKERCAD LINK:

<https://www.tinkercad.com/things/fRqDDMudAqp-assignment-1/editel?sharecode=9EKlMaKBkcvSSyoZORscH5ohvNBuAFUD37NUus87H-c>