ProblemStatement:

IoT-BasedIndustry – Safety Gadget for Child Safety Monitoring and Notification

Domain:

Internet of Things

Assignment1:

Circuit design Home automation system in TinkerCad

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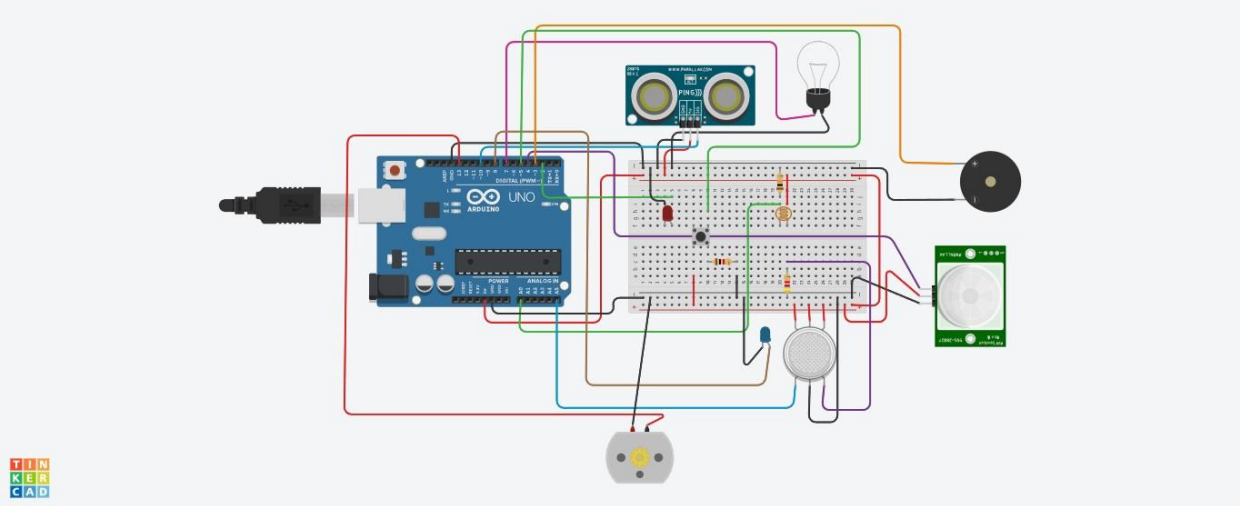
Link: https://www.tinkercad.com/things/frttRR6s91p-shiny-stantia-wolt/editel?tenant=circuits

Circuitdiagram:



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;
}
```