

Problem Statement :

IoT Based Safety Gadget for Child Safety Monitoring and Notification

Domain :

Internet of Things

Assignment 1:

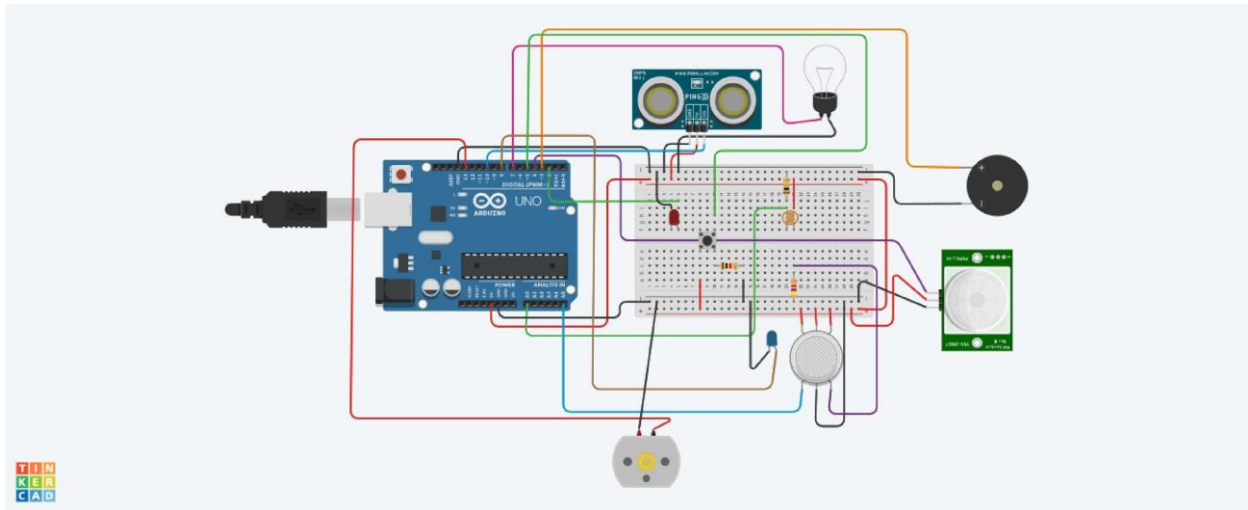
Smart home with at least two sensors and led, buzzer in TinkerCad

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Link: https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR_ZuHMpvx0HiLnrJ0Iagb3g2hb1sZ9oTxZPFFAo

Circuit diagram



Arduino Uno Code:

```
const int pingPin = 10;
const int ledUS = 2;
const int light = 7;
const int pir = 4;
#define photosensor A0
#define buzzer 3
int const PINO SGAS = A5;
int const ledGas = 8;
int const button = 5;
int const motor = 13;
void setup()

    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);
```

```
void loop()
```

```
    long duration, cm;  
    int valLight = analogRead(photoSensor);  
    int valPIR= digitalRead(pir);  
    int valGAS=analogRead(PINO SGAS);  
    valGAS = map(valGAS, 300, 750, 0, 100);  
    int valBt = 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();
```

```
long microsecondsToCentimeters(long microseconds) (  
    return microseconds / 29 / 2;
```