Problem Statement :

IoT-Based Safety Gadget for Child Safety Monitoring & Notification

Domain :

Internet of Things

ASSIGNMENT 1

By,

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Code :

```cpp
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{
```

```
}else{
```

```
    digitalWrite(motor, LOW);
  }
  if(valGAS > 20){
    digitalWrite(ledGas,
    HIGH);
  }else{
    digitalWrite(ledGas, LOW);
  }
  Serial.print(valPI
  R);
  Serial.println();
}
long microsecondsToCentimeters(long
 microseconds) { return microseconds / 29 / 2;
}
```

Simulation :