IOT Based Safety Gadget for Child Safety Monitoring & Notification

ASSIGNMENT ONE:DOOR BUZZER USING ULTRASONIC SENSOR

ABSTRACT:

Security has always been a major concern for all of us and there are many Hi tech and IOT based security and surveillance system are available in the market. Intruder or Burglar Alarm is one of the classic and popular project among the Electronics students and hobbyists. We have also built many Burglar Alarms based on various technologies:

Required Components:
Ultrasonic Sensor
Buzzer
Arduino Mega (any model)
Jumper Wires
USB cable for Arduino or 12v, 1A adapter.

Ultrasonic Sensor Module:

Ultrasonic sensor HC-SR04 is used here to detect the presences of any person at the door. The sensor module consists of ultrasonic transmitter, receiver and the control circuit. Ultrasonic Sensor consists of two circular eyes out of which one is used to transmit the ultrasonic wave and the other to receive it.

PROJECT CODE:

```
int trigger_pin = 2;
int echo_pin = 3;
int buzzer_pin = 10;
int time;
int distance;
void setup()
{
    Serial.begin (9600);
    pinMode (trigger_pin, OUTPUT);
    pinMode (echo_pin, INPUT);
    pinMode (buzzer_pin, OUTPUT);
}
void loop()
{
  digitalWrite (trigger_pin, HIGH);
  delayMicroseconds (10);
```

```
    digitalWrite (trigger_pin, LOW);
    time = pulseIn (echo_pin, HIGH);
    distance = (time * 0.034) / 2;

if (distance <= 10)
     {
     Serial.println (" Door Open ");
     Serial.print (" Distance= ");
     Serial.println (distance);
     digitalWrite (buzzer_pin, HIGH);
     delay (500);
     }
 else {
     Serial.println (" Door closed ");
     Serial.print (" Distance= ");
     Serial.println (distance);
     digitalWrite (buzzer_pin, LOW);
     delay (500);
     }
}
```