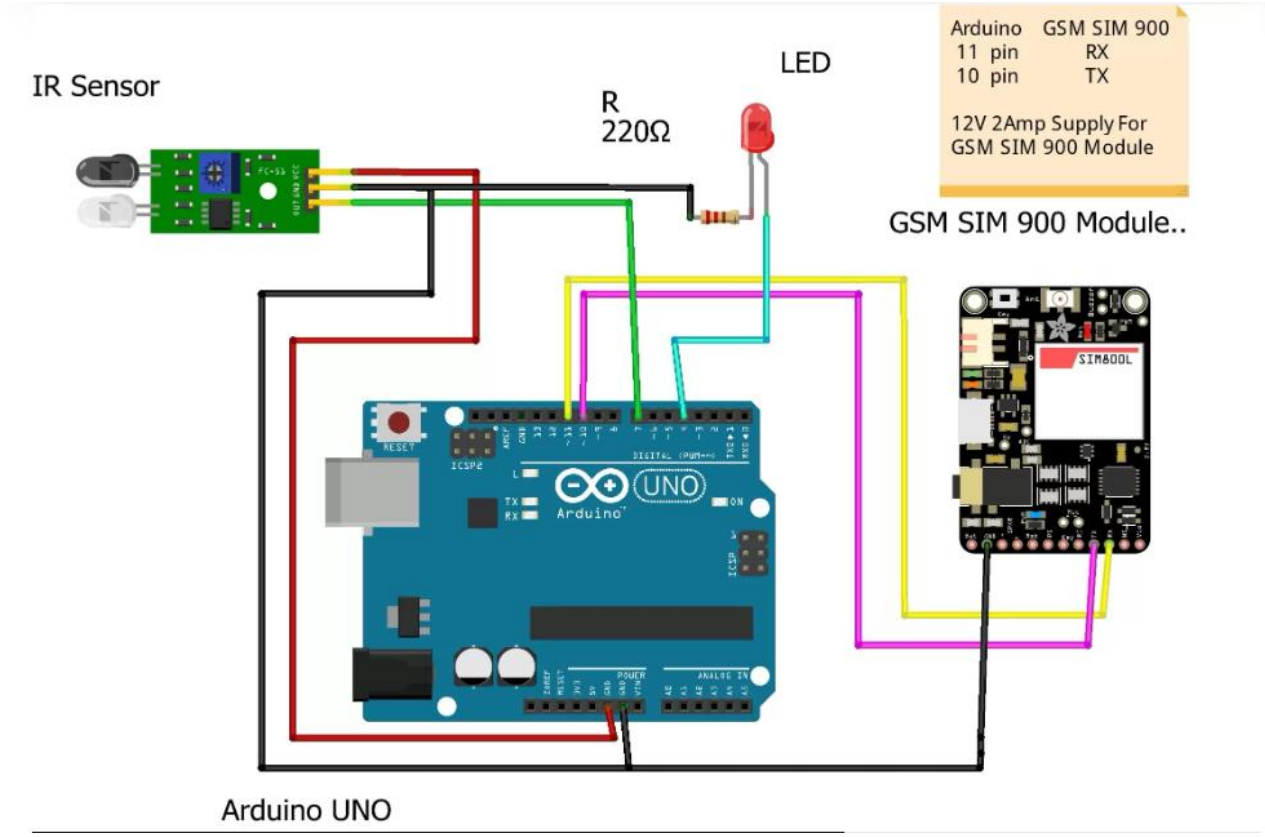
PROJECT 3

Smart Surveillance System using GSM

BY:- Utkarsh Patel



Circuit Diagram: Smart Surveillance system using GSM

Components Used:

- Arduino UNO R3
- IR Sensor
- GSM SIM 900 Module
- LED
- Resistor 220 ohm
- Breadboard (optional)s

PROGRAM:

```
#include <SoftwareSerial.h>

SoftwareSerial SIM900A(10,11);
```

```
SoftwareSerial( RX , TX );
// 10 pin connect to TX of GSM SIM 900 Module
// 11 pin connect to RX of GSM SIM 900 Module
int val = 0 ;
void setup()
{
    Serial.begin(9600); // sensor baud rate
    SIM900A.begin(9600); // GSM baud rate
    pinMode(4,HIGH); // LED connect D4
}
void loop()
{
    val = digitalRead(7); // IR sensor output pin connected D7
    Serial.println(val); // see the value in serial monitor in Arduino
IDE
    delay(1000);
    if (Serial.available()>0)
      switch(Serial.read())
   if (SIM900A.available()>0)
     Serial.write(SIM900A.read());
   if(val == 0 ) // Check your sensor Value 1 or 0
   {
       Serial.println ("Obstacle Detecting");
```

```
        digitalWrite(4,HIGH); // LED ON
        Serial.println ("Sending Message");
        SIM900A.println("AT+CMGF=1"); //Sets the GSM Module in
Text Mode
        delay(1000);
        Serial.println ("9140660600");
        SIM900A.println("AT+CMGS=\"9140660600\"\r"); //Mobile
phone number to send message
       delay(1000);
       Serial.println ("Set SMS Content");
       SIM900A.println("Someone is arrived, be safe");// Message
content
      delay(1000);
      Serial.println ("Finish");
     SIM900A.println((char)26);// ASCII code of undo
     delay(1000);
     Serial.println ("Message has been sent ");
     digitalWrite(4,LOW); // LED OFF
   }
}
```

Application of this Project

1. Real-Time Security Alerts

- **Use Case:** In residential, commercial, or industrial spaces.
- **How It Works:** The surveillance system monitors the area using cameras or sensors. If a suspicious activity is detected (e.g., motion during restricted hours), an alert is sent to the user's mobile phone via SMS or call using GSM.
- **Benefits:** Immediate notification ensures faster response to threats, even in areas with no internet connectivity.

2. Remote Monitoring

- **Use Case:** Farms, warehouses, and remote areas.
- **How It Works:** The system periodically sends status updates or alerts via GSM, allowing owners to stay informed about the state of their property even in locations where network coverage is limited to GSM.
- **Benefits:** Cost-effective and practical for rural or remote areas with minimal infrastructure.

3. Home Security

- **Door/Window Monitoring**: Detects if doors or windows are forced open and sends alerts.
- **Motion Detection**: Sends updates when motion is detected during specified periods.