

Automatic Door Control System

```
#include <SoftwareSerial.h>
```

```
#define trigPin 9
```

```
#define echoPin 8
```

```
#define relayPin 10
```

```
SoftwareSerial gsm(6, 7); // RX, TX
```

```
Void setup() {
```

```
    pinMode(trigPin, OUTPUT);
```

```
    pinMode(echoPin, INPUT);
```

```
    pinMode(relayPin, OUTPUT);
```

```
    digitalWrite(relayPin, LOW);
```

```
    Serial.begin(9600);
```

```
    Gsm.begin(9600);
```

```
    Delay(1000);
```

```
    sendSMS("System Initialized. Door control active.");
```

```
}
```

```
Void loop() {
```

```
    Long duration, distance;
```

```
    digitalWrite(trigPin, LOW);
```

```
    delayMicroseconds(2);
```

```
digitalWrite(trigPin, HIGH);  
delayMicroseconds(10);  
digitalWrite(trigPin, LOW);  
duration = pulseIn(echoPin, HIGH);  
distance = (duration / 2) / 29.1;  
  
if (distance < 20) { // If an object is detected within 20 cm  
    digitalWrite(relayPin, HIGH); // Open the door  
    sendSMS("Door Opened");  
    delay(5000); // Keep the door open for 5 seconds  
    digitalWrite(relayPin, LOW); // Close the door  
}
```

```
    Delay(1000); // Check every second  
}
```

```
Void sendSMS(String message) {  
    Gsm.print("AT+CMGF=1\r"); // Set SMS to text mode  
    Delay(1000);  
    Gsm.print("AT+CMGS=\"" + 1234567890 + "\"\r"); // Replace with the recipient's phone number  
    Delay(1000);  
    Gsm.print(message);  
    Delay(100);  
    Gsm.write(26); // Ctrl+Z to send the SMS  
    Delay(1000);  
}
```

