# Smart Home

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# The Components used in the project:

1- RFID-RC522
2- Arduino UNO
3- Module relay
4- Mostion sensor
5- MQ-2
6- Liquid pump
7- Leds
8- buzzer
9- Push button
10- LDR sensor

# How the project work :

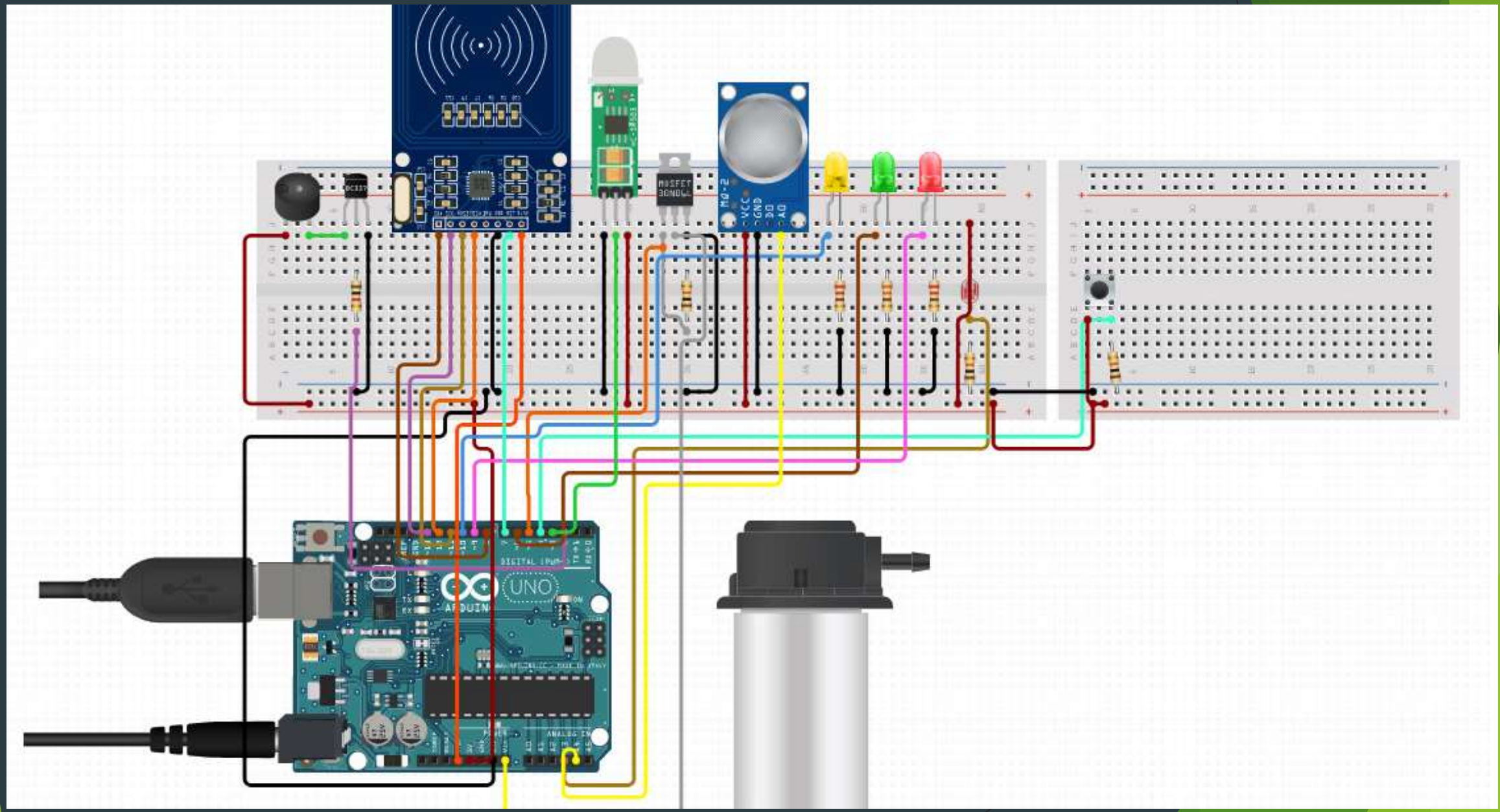
1- The door opening system is a system that consists of an RFID module that reads by radio rays (radio frequency), which is by approaching a unique RFID card, and it gives a signal to the Arduino, and then the Arduino gives a signal to the motor in order to open the door.

2 - The protection system works after 12 o'clock at night, its function when any breach in the windows or doors is triggered, an alarm is triggered and this process occurs by means of a push switch, and if it is pressed, the switch becomes in the off state and when the doors or windows are opened, a time is put in The code for the security alarm to be triggered

3- The fire system is a gas sensor that when it smells the smell of fire, a process is carried out through it, which is to give a signal to the Arduino, which is responsible for operating the water pumps, so the water is directly downloaded.

4- The motion sensor is responsible for turning on the lighting automatically when it senses a movement in the room by making moduel

# Shematic Drawing of the project:



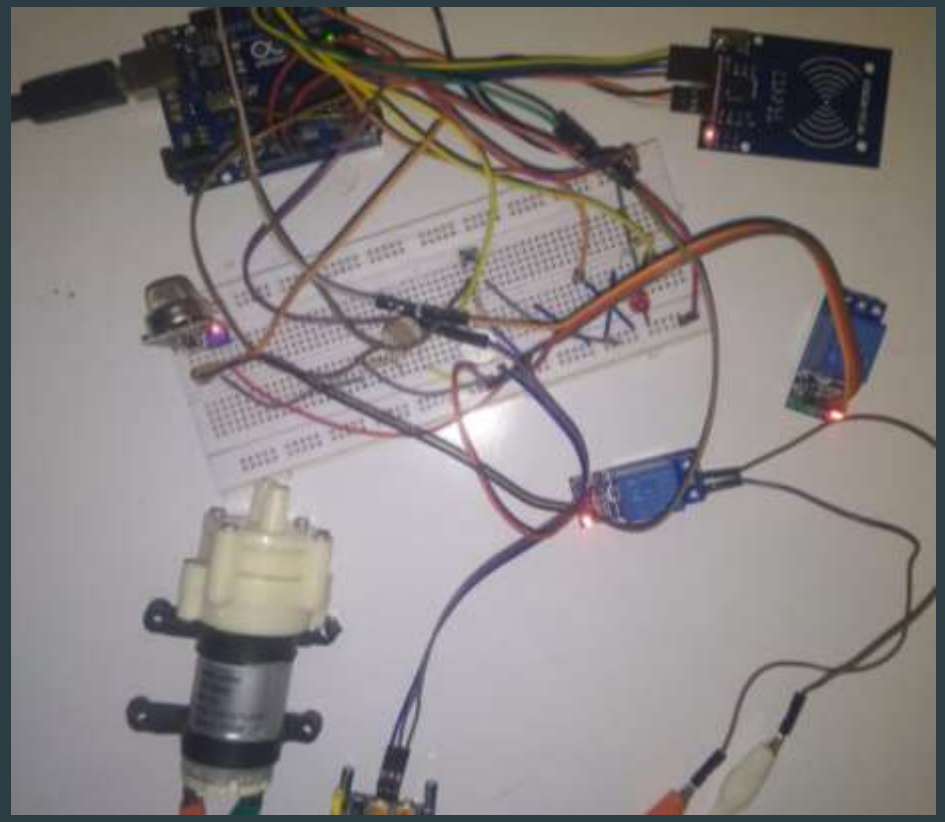
# The code used in this project :

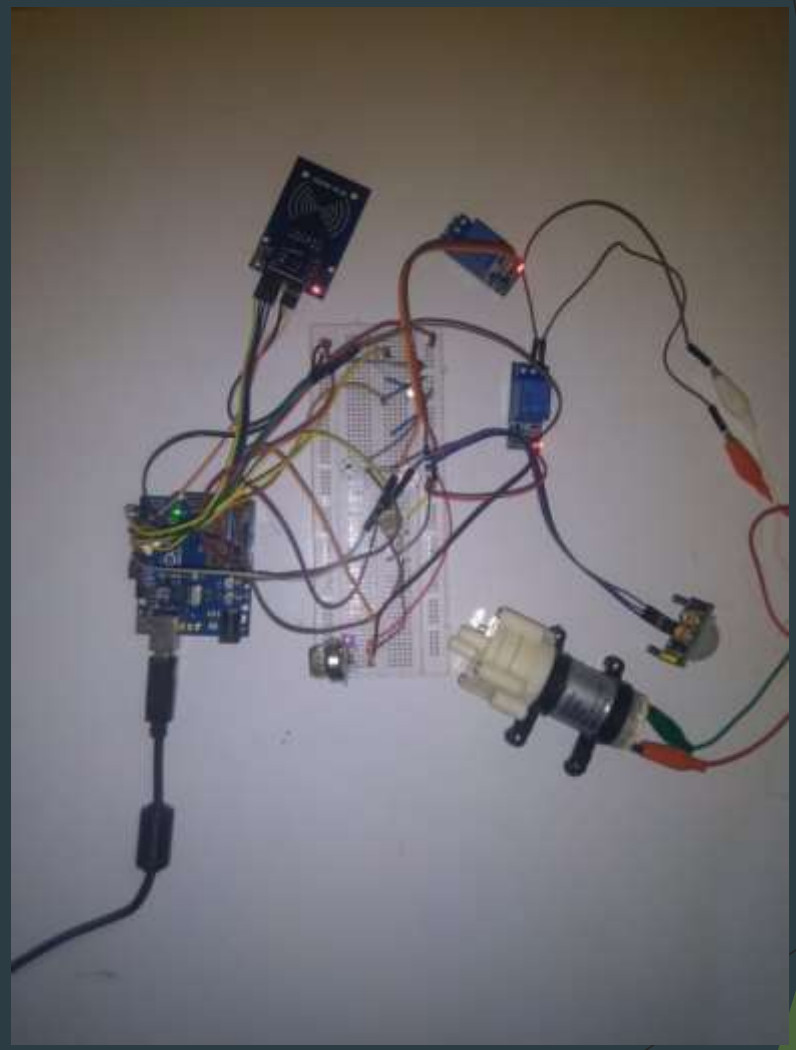
```
#include <RFID.h>
RFID rf (8, 7); //7RST 8 SDA
int Gled = 6 , Rled = 9;
#define Relayled 10
int MS, LDR ; //MS = Mostion Sensor
#define buz 3
#define RelayMotor 5
int MQ ; // MQ=MQ-2 gas sensor
int bu ;  // bu= push button
void setup() {
rf.init();
  pinMode(Gled, OUTPUT);
pinMode(Rled, OUTPUT);
 pinMode(MS, INPUT);
 pinMode(Relayled, OUTPUT);
  pinMode(buz, OUTPUT);
pinMode(RelayMotor, OUTPUT);
 pinMode(MQ, INPUT);
pinMode(bu, INPUT);
}
```

```
void loop() {  MQ = analogRead(A4);
    if (MQ >150) {
  digitalWrite(RelayMotor, HIGH);
  digitalWrite(buz , HIGH);
  }
  else {
  digitalWrite(RelayMotor, LOW);
    digitalWrite(buz , LOW);
  }
 if (rf.isCard()) {
 if (rf.readCardSerial()) {
 if (rf.serNum[0] == 154 && rf.serNum[1] ==
249 && rf.serNum[2] == 252 && rf.serNum[3]
== 63 && rf.serNum[4] == 160) {
      digitalWrite(Gled, HIGH);
  delay(2000);
    digitalWrite(Gled, LOW);
  }
  }
```

```
 else {
   digitalWrite(Rled, HIGH);
   delay(5000);
  digitalWrite(Rled, LOW);
  }
 }
else {  }
LDR = analogRead(A3);
MS = analogRead(A2);
if (LDR <= 100 && MS >= 700 )
{
digitalWrite(Relayled, HIGH);
delay(2000);
}
else
 {
 digitalWrite(Relayled, LOW);
  }
 bu = analogRead(A5);
if (bu >= 900   ) {
 digitalWrite(buz, HIGH);
  delay(1000);
 }
 else {
 digitalWrite(buz, LOW);
  } }
```

# Pictures of the project:





# Thank you !