Zachodniopomorski
Uniwersytet Technologiczny
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Arduino – An Introduction To The Internet of Things

Arduino Door Lock System With RFID Module

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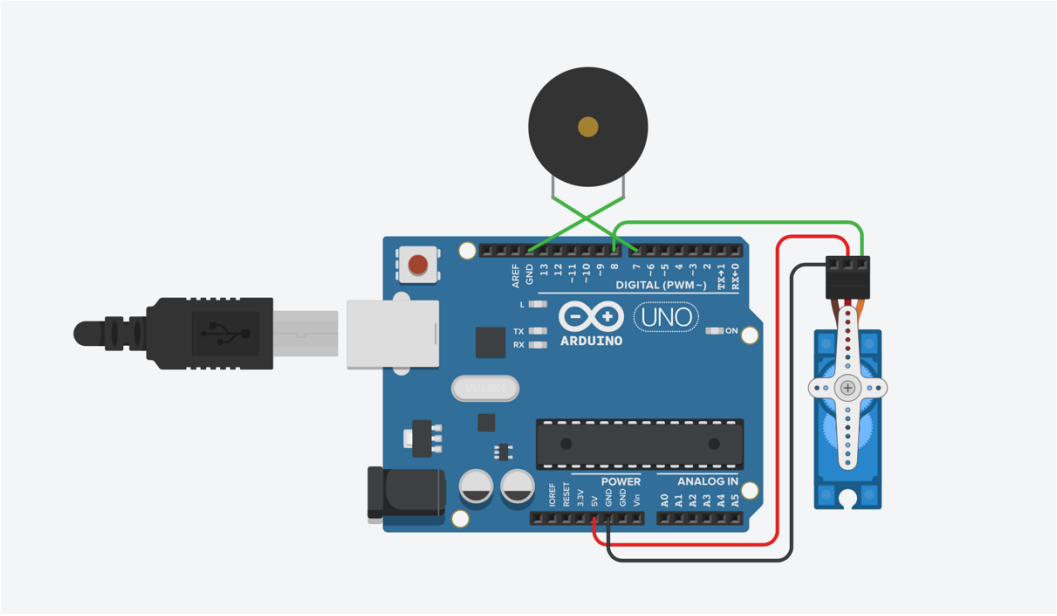
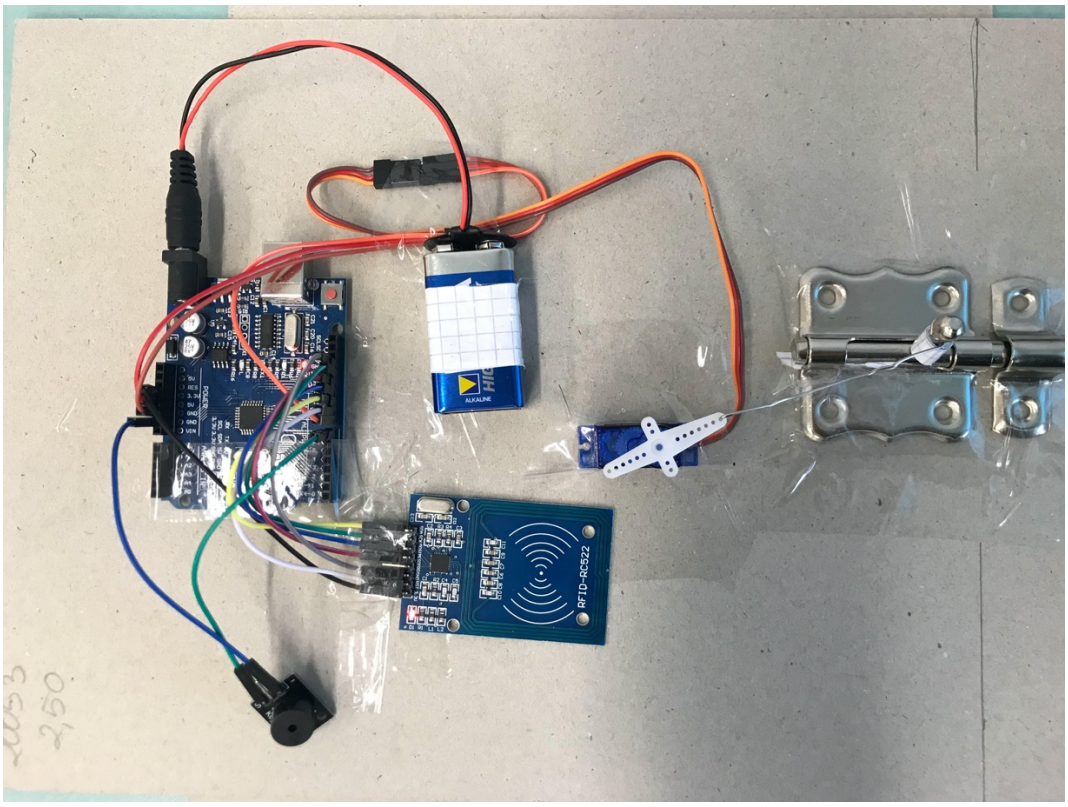
Circuit without RFID Module



Full Circuit



Project Codes

```
#include <MFRC522.h>
#include <Servo.h>
#include <SPI.h>


int buzzer = 7;
int RST_PIN = 9;
int SS_PIN = 10;
int servoPin = 8;

Servo motor;
MFRC522 rfid(SS_PIN, RST_PIN);
byte ID[4] = {176, 14, 195, 128};

void setup() {
  motor.attach(servoPin);
Serial.begin(9600);
SPI.begin();
rfid.PCD_Init();
pinMode(buzzer, OUTPUT);
}

void loop() {

  if ( ! rfid.PICC_IsNewCardPresent())
    return;

  if ( ! rfid.PICC_ReadCardSerial())
    return;

  if (rfid.uid.uidByte[0] == ID[0] &&
    rfid.uid.uidByte[1] == ID[1] &&
    rfid.uid.uidByte[2] == ID[2] &&
    rfid.uid.uidByte[3] == ID[3] ) {
       Serial.println("Kapi acildi");
       ekranaYazdir();
       motor.write(90);
       delay(3000);
       motor.write(0);
       delay(1000);


    }
```

```
    else{
      Serial.println("Yetkisiz Kart");
      ekranaYazdir();
      for (int i = 0; i < 80; i++) {
      digitalWrite(buzzer, HIGH);
      delay(1); // delay 1ms
      digitalWrite(buzzer, LOW);
      delay(1);}



    }
  rfid.PICC_HaltA();
}
void ekranaYazdir(){
  Serial.print("ID Numarasi: ");
  for(int sayac = 0; sayac < 4; sayac++){
    Serial.print(rfid.uid.uidByte[sayac]);
    Serial.print(" ");
  }
  Serial.println("");
}
```

How Project Working

The circuit consists of 3 modules with servo motor, buzzer and RFID module. By reading the registered card, the servo motor turns and unlocks by moving the lock slider. If the unregistered card is read, the door does not open and an error sounds through the buzzer.