RFID CARD ATTENDANCE SYSTEM

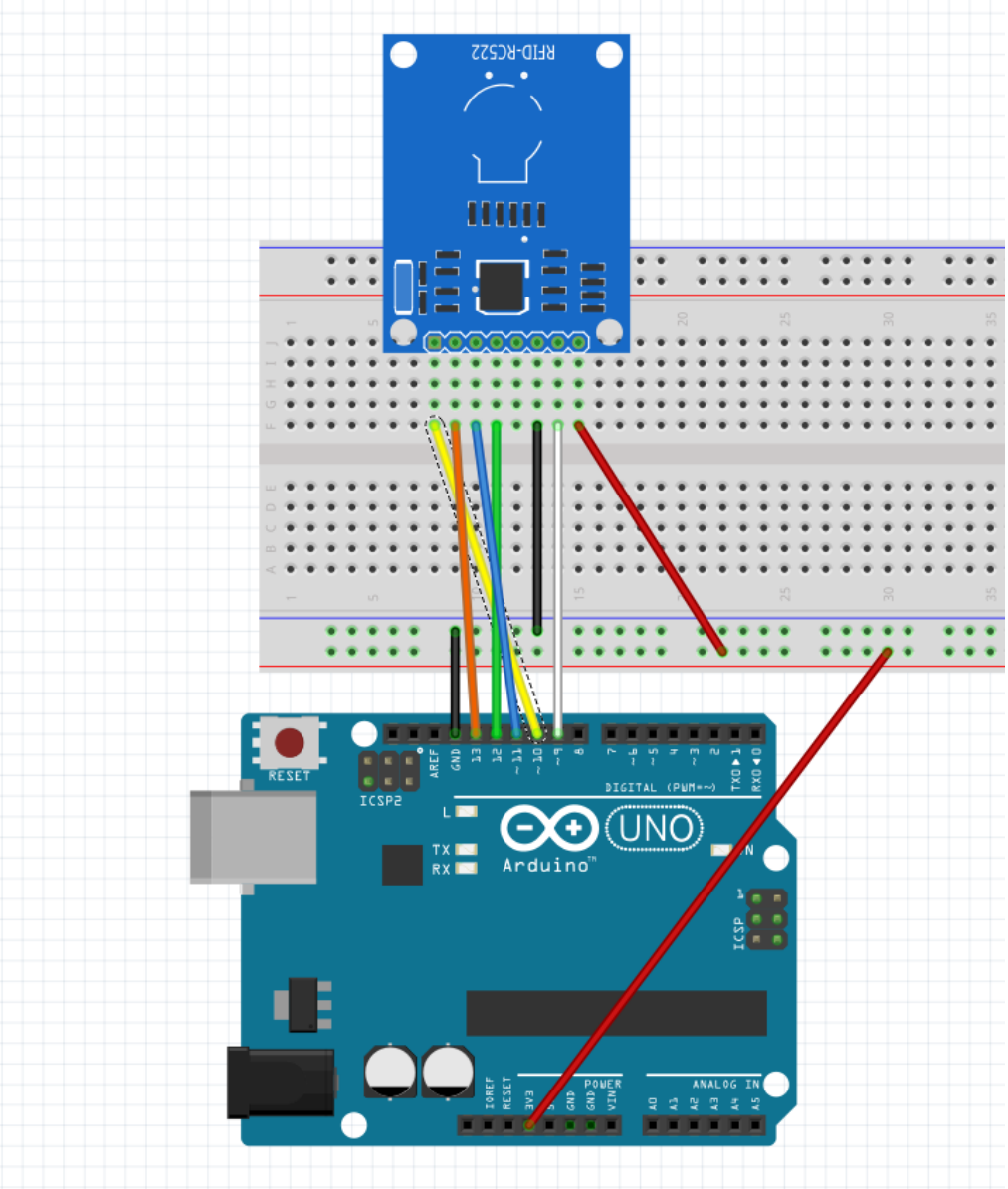
An RFID (Radio Frequency Identification) Card Attendance System is an automated method for tracking attendance using RFID technology. It is widely used in schools, colleges, offices, and industries to efficiently monitor the presence of students or employees. This system eliminates the need for manual attendance marking, reduces errors, and enhances security.

COMPONENTS REQUIRED

- **UNO R3 Development Board**
- **Nano V3 by Easy Electronics**
- **RFID Kit RC522 Sensor**
- **Jumper Wires Set**
- **ISO15693 RFID Wet Tag**
- **MFRC-522 Card Reader**
- **Biometric Time Attendance Clock**
- **Fingerprint Attendance System**
- **125 kHz RFID Cards**
- **RC522 RFID Module**

STEP 1 MAKE CONNECTIONS

1. **From Arduino 3.3v pin to 3.3v pin of RFID rc522**
2. **From Arduino GND pin to GND pin of RFID rc522**
3. **From Arduino D9 pin to RST pin of RFID rc522**
4. **From Arduino D10 pin to MOSI pin of RFID rc522**
5. **From Arduino D12 pin to MISO pin of RFID rc522**
6. **From Arduino D13 pin to SCK pin of RFID rc522**
7. **Make the connections like this**



STEP 2 CODING

Source code:

```
#include <SPI.h>

#include <MFRC522.h>


#define SS_PIN 10

#define RST_PIN 9

MFRC522 mfrc522(SS_PIN, RST_PIN);  // Create MFRC522 instance.
```

```
int readsuccess;
byte readcard[4];
char str[32] = "";
String StrUID;

void setup() {
  Serial.begin(9600); // Initialize serial communications with the PC
  SPI.begin();      // Init SPI bus
  mfrc522.PCD_Init(); // Init MFRC522 card

  Serial.println("CLEARDATA");
  Serial.println("LABEL,Date,Time,RFID UID");
  delay(1000);

  Serial.println("Scan PICC to see UID...");
  Serial.println("");
}
// ----------------------------------------------------------------
void loop() {
  readsuccess = getid();

  if(readsuccess){
    Serial.println( (String) "DATA,DATE,TIME," + StrUID );
  }
}
// ----------------------------------------------------------------
int getid(){
```

```
 if(!mfrc522.PICC_IsNewCardPresent()){
  return 0;
 }
 if(!mfrc522.PICC_ReadCardSerial()){
  return 0;
 }


 Serial.println("THE UID OF THE SCANNED CARD IS:");

 for(int i=0;i<4;i++){
  readcard[i]=mfrc522.uid.uidByte[i]; //storing the UID of the tag in readcard
  array_to_string(readcard, 4, str);
  StrUID = str;
 }
 mfrc522.PICC_HaltA();
 return 1;
}
// ------------------------------------------------------------------
void array_to_string(byte array[], unsigned int len, char buffer[])
{
   for (unsigned int i = 0; i < len; i++)
   {
      byte nib1 = (array[i] >> 4) & 0x0F;
      byte nib2 = (array[i] >> 0) & 0x0F;
      buffer[i*2+0] = nib1  < 0xA ? '0' + nib1  : 'A' + nib1  - 0xA;
      buffer[i*2+1] = nib2  < 0xA ? '0' + nib2  : 'A' + nib2  - 0xA;
   }
```

```
    buffer[len*2] = '\0';
}
```

Output: