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/*
```

```
    All the resources for this project: https://randomnerdtutorials.com/  
    Modified by Rui Santos
```

```
    Created by FILIPEFLOP
```

```
*/
```

```
#include <Wire.h>
```

```
#include <Adafruit_GFX.h>
```

```
#include <Adafruit_SSD1306.h>
```

```
#define SCREEN_WIDTH 128 // OLED display width, in pixels
```

```
#define SCREEN_HEIGHT 64 // OLED display height, in pixels
```

```
// declare an SSD1306 display object connected to I2C
```

```
Adafruit_SSD1306 oled(SCREEN_WIDTH, SCREEN_HEIGHT,  
&Wire, -1);
```

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

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

```
#define SS_PIN 10
```

```
#define RST_PIN 9
```

```
MFRC522 mfr522(SS_PIN, RST_PIN); // Create MFRC522  
instance.
```

```
void setup()
```

```
{
```

```
    Serial.begin(9600); // Initiate a serial communication
```

```
    SPI.begin(); // Initiate SPI bus
```

```
    mfr522.PCD_Init(); // Initiate MFRC522
```

```
    Serial.println("Approximate your card to the reader...");
```

```
    Serial.println();
```

```

// initialize OLED display with address 0x3C for 128x64
if (!oled.begin(SSD1306_SWITCHCAPVCC, 0x3C)) {
  Serial.println(F("SSD1306 allocation failed"));
  while (true);
}
delay(2000);      // wait for initializing
oled.clearDisplay(); // clear display

oled.setTextSize(3);      // text size
oled.setTextColor(WHITE); // text color
}
void loop()
{
  // Look for new cards
  if ( ! mfrc522.PICC_IsNewCardPresent())
  {
    return;
  }
  // Select one of the cards
  if ( ! mfrc522.PICC_ReadCardSerial())
  {
    return;
  }
  //Show UID on serial monitor
  Serial.print("UID tag :");
  String content = "";
  byte letter;
  for (byte i = 0; i < mfrc522.uid.size; i++)
  {
    Serial.print(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " ");
    Serial.print(mfrc522.uid.uidByte[i], HEX);
    content.concat(String(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " "));
    content.concat(String(mfrc522.uid.uidByte[i], HEX));
  }
}

```

```
}
Serial.println();
Serial.print("Message : ");
content.toUpperCase();
if (content.substring(1) == "04 90 84 22 D6 64 80") //change here the
UID of the card/cards that you want to give access
{
  oled.clearDisplay();
  oled.setCursor(5, 10);    // position to display
  oled.println(" STOP  SIGN"); // text to display
  oled.display();          // show on OLED
  delay(3000);
}
else if (content.substring(1) == "04 90 6E 22 D6 64 80") //change
here the UID of the card/cards that you want to give access
{
  oled.clearDisplay();
  oled.setCursor(5, 10);    // position to display
  oled.println(" BIKE  LANE"); // text to display
  oled.display();          // show on OLED
  delay(3000);
}
}
```