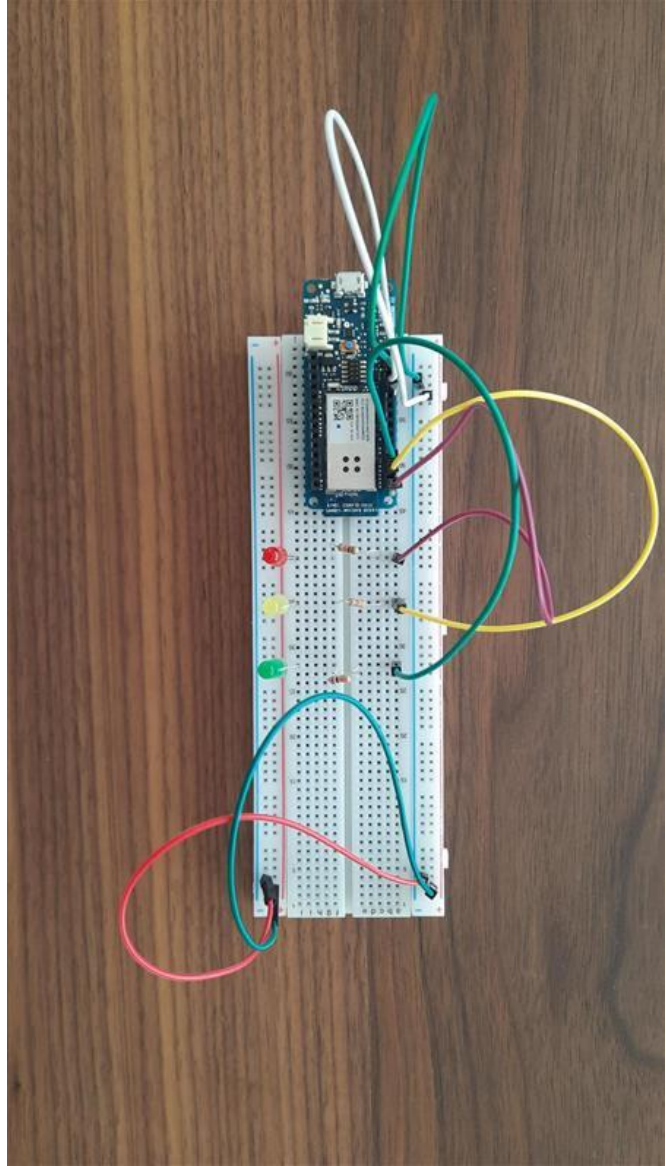
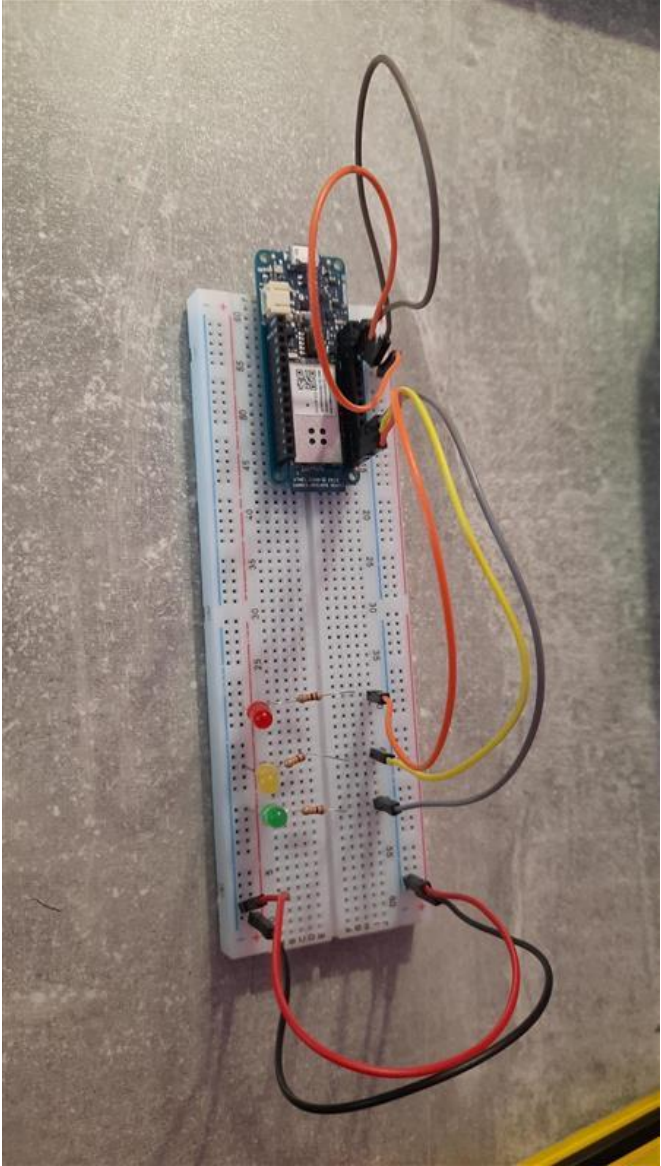
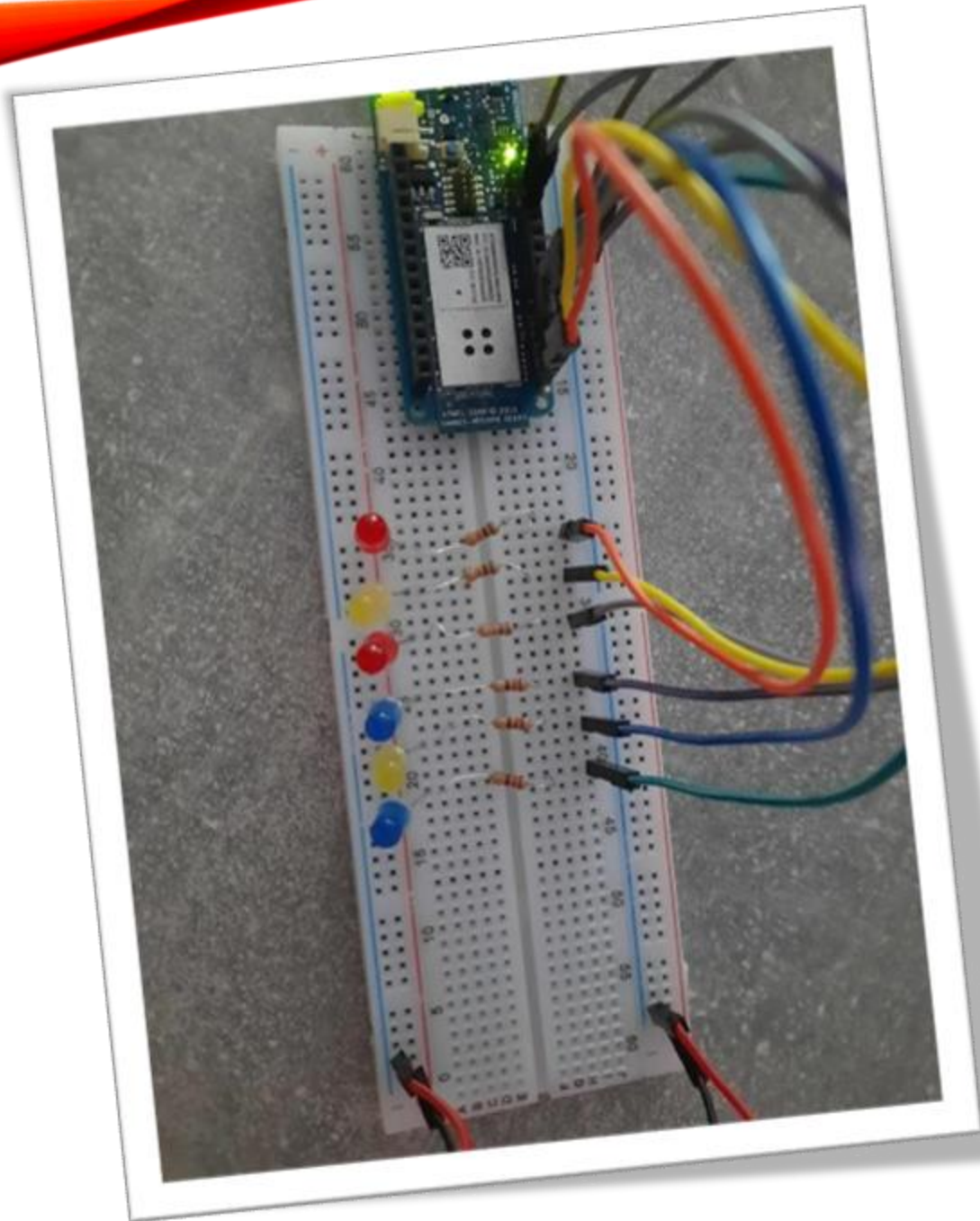


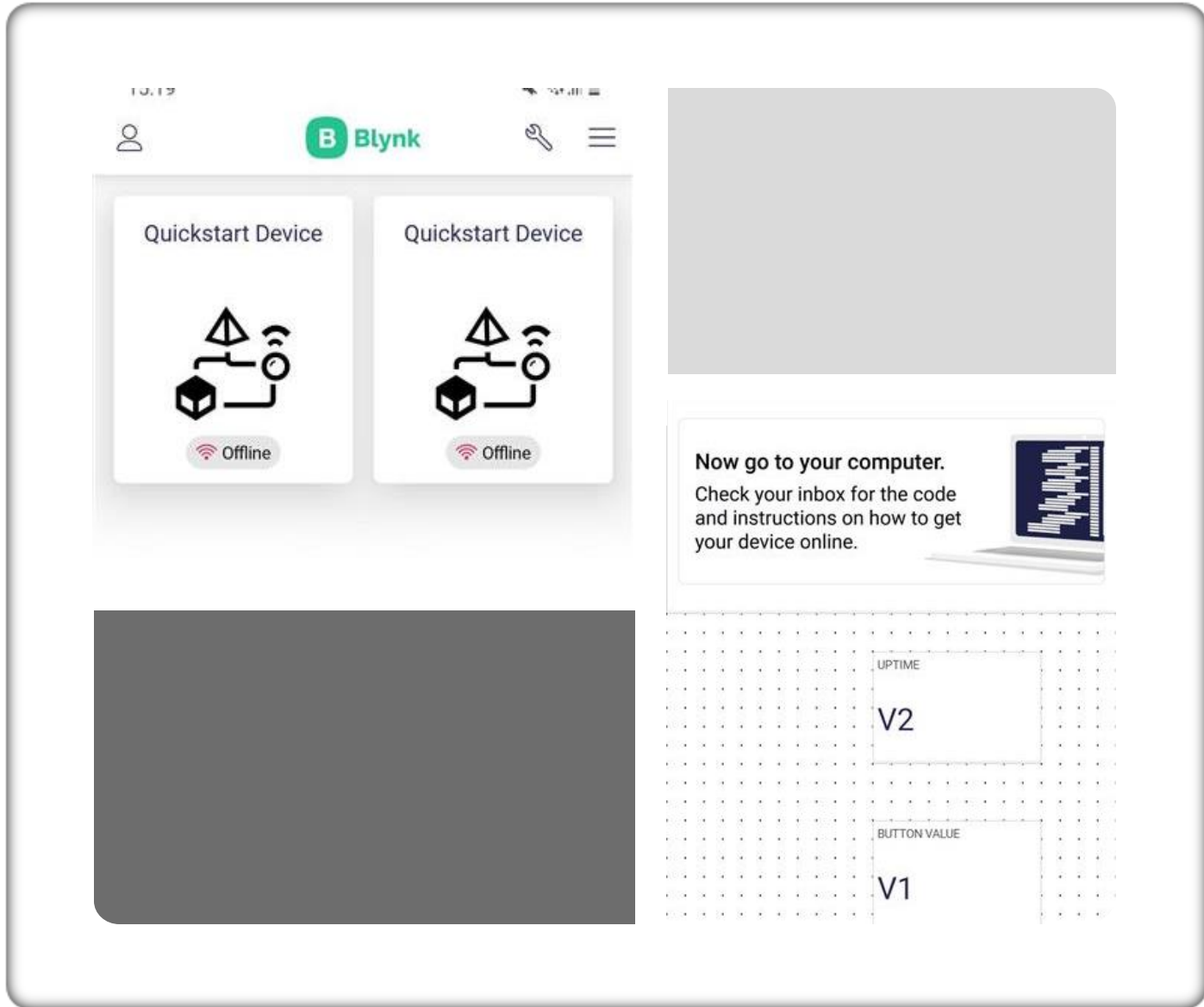
STEM GRUPA 2021 / 2022

Željko Vučković, Ivan Pišković, Lorena Semenski, Gloria Svečnjak, Lana Pripeljaš





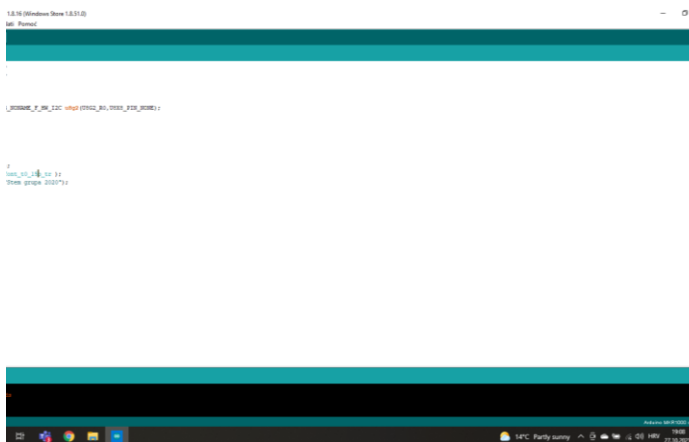
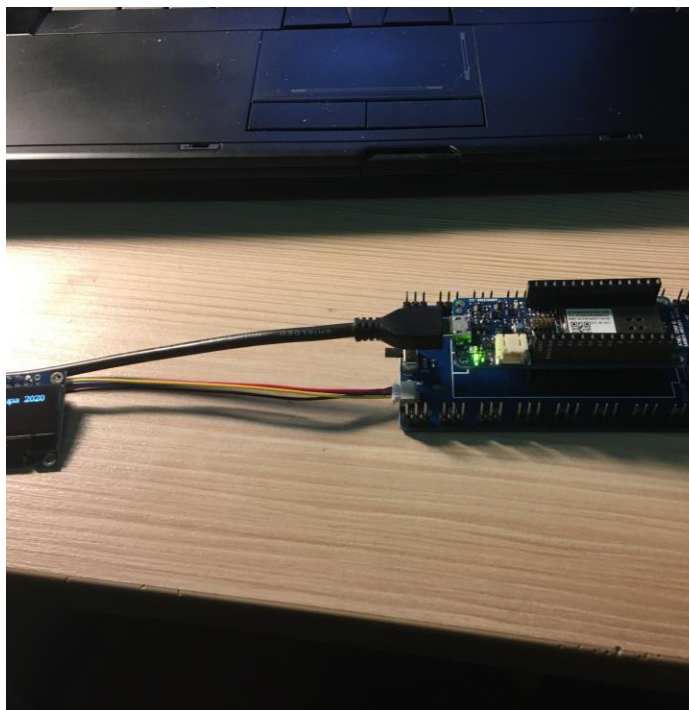




BLYNK



- OLED EKTRAN



mfal.g

```
#include <Arduino.h>
#include <Usp211k.h>

// #include <SPI.h>
#include <Wire.h>

//0002_0001304_120X44_MONGAME_F_HW_IDC wdg2(//rotation"/0002_00, // wdg2// UHX8_FIM_WORKE);
//0002_0001304_120X44_MONGAME_1_4R_HW_SPI wdg2(// rotation"/0002_00, // wdg2// 10, // do"/.0);
// End of constructor list

void setup(void) {
  wdg2.begin();
}

void loop(void) {
  wdg2.clearBuffer();
  wdg2.write(wdg2.get_text(176, 176));
  wdg2.write(0, 10, "PRIM OROVA 2022");
  wdg2.writeBuffer();
  delay(1000);
}
```

Skica koristi 3168 bytes (25%) od prostora za program. Maksimum je 32256 bajtova.
Globalne promjenljive koriste 1553 bajtova (75%) RAM-a, ostalo je 495 bajtova za lokalne promjenljive. Maksimum je 2048 bajtova.
Low memory available, availability problems may occur.



sketch_oct28a

```
#include <Arduino.h>
#include <U8g2lib.h>

#include <Wire.h>

U8G2_SSD1306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0, U8X8_PIN_NONE);

void setup() {
  u8g2.begin();
}

void loop() {
  u8g2.clearBuffer();
  u8g2.setFont(u8g2_font_t0_15b_tr );
  u8g2.drawStr(0,15,"STEM GRUPA 2022");
  u8g2.sendBuffer();
  delay(1000);
}
```








107, serial, LED, 2024

```
int StanjeSenzora;  
int LedDioda = 6;  
  
void setup() {  
  Serial.begin(9600);  
  pinMode(LedDioda, OUTPUT);  
}  
  
void loop() {  
  StanjeSenzora = analogRead(A0);  
  if (StanjeSenzora < 15) {  
    digitalWrite(LedDioda, HIGH);  
  } else {  
    digitalWrite(LedDioda, LOW);  
  }  
}
```

UZV_senzor_i_LED_dioda

```
int StanjeSenzora;  
int LedDioda = 6;  
  
void setup() {  
  Serial.begin(9600);  
  pinMode(LedDioda, OUTPUT);  
}  
  
void loop() {  
  StanjeSenzora = analogRead(A0);  
  if (StanjeSenzora < 15) {  
    digitalWrite(LedDioda, HIGH);  
  } else {  
    digitalWrite(LedDioda, LOW);  
  }  
}
```

```
sketch_oct12a.ino
1 byte sensorPin = 7;
2 byte indicator = 6;
3
4 void setup()
5 {
6   pinMode(sensorPin, INPUT);
7   pinMode(indicator, OUTPUT);
8   Serial.begin(9600);
9 }
10
11 void loop()
12 {
13   byte state = digitalWrite(sensorPin);
14   digitalWrite(indicator, state);
15   if(state == 1) Serial.println("Pokret je primijećen");
16   else if(state == 0) Serial.println("Nigdje nikog");
17 }
```

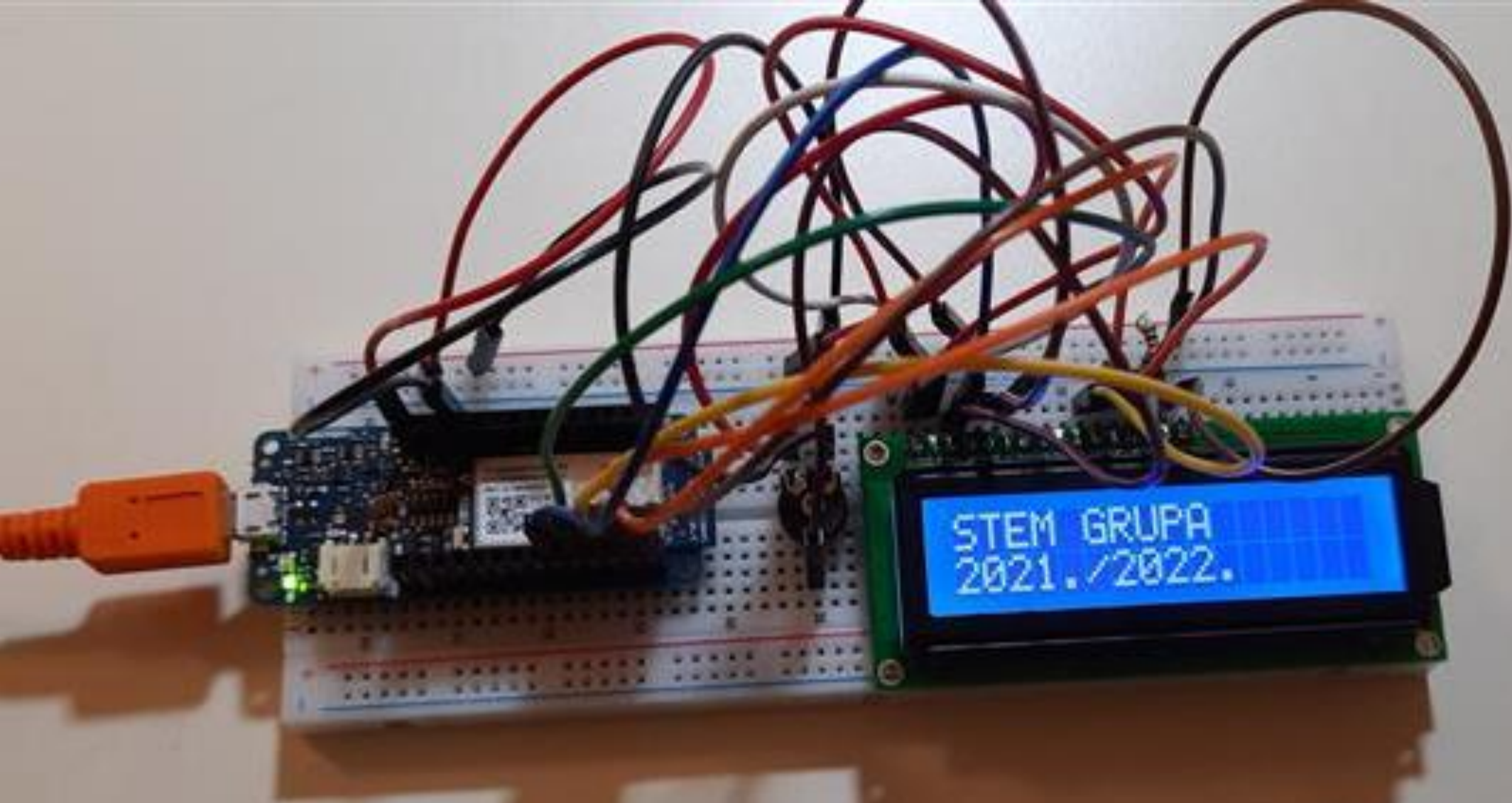
```
sketch_nov28a | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
sketch_nov28a
#include <LiquidCrystal.h>

LiquidCrystal Icd(0, 1, 2, 3, 4, 5);

void setup() {
  Icd.begin(16, 2);
}

void loop() {
  Icd.setCursor(0, 0);
  Icd.print("STEM GRUPA");
  Icd.setCursor(0, 1);
  Icd.print("2021./2022.");
}
```

```
1 #include <LiquidCrystal.h>
2
3
4 LiquidCrystal Icd(0,1,2,3,4,5);
5
6 void setup() {
7   Icd.begin(16,2);
8 }
9
10
11 void loop() {
12
13   Icd.setCursor(0,0);
14   Icd.print("STEM GRUPA");
15   Icd.setCursor(0,1);
16   Icd.print("2021./2022.");
17 }
```



STEM GRUPA
2021./2022.

```
sketch_oct12a.ino
1 #include<Arduino.h>
2 #include<Arduino.h>
3
4 #include<Wire.h>
5
6 U8G2_SSDI306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0,U8X8_PIN_NONE);
7
8 void setup(void) {
9   u8g2.begin();
10 }
11
12 void loop(void) {
13   u8g2.clearBuffer ();
14   u8g2.setFont(u8g2_font_t0_15o_tr);
15   u8g2.drawStr(0,15,"Stem grupa 2020");
16   u8g2.sendBuffer();
17 }
```

```
sketch_oct12a.ino
1 int CrvenaDioda = 7;
2 int Senzor = 9;
3 int StanjeSenzora;
4
5 void setup() {
6   pinMode(CrvenaDioda, OUTPUT);
7   pinMode(Senzor, INPUT);
8 }
9
10 void loop() {
11   StanjeSenzora = digitalRead(Senzor);
12   if (StanjeSenzora == HIGH) {
13     digitalWrite(CrvenaDioda, HIGH);
14   } else {
15     digitalWrite(CrvenaDioda, LOW);
16   }
17 }
```

```
1 int StanjeSenzora;
2 int LedDioda = 6;
3
4 void setup() {
5   Serial.begin(9600);
6   pinMode(LedDioda, OUTPUT);
7 }
8
9 void loop() {
10   StanjeSenzora = analogRead(A0);
11   if (StanjeSenzora < 15) {
12     digitalWrite(LedDioda, HIGH);
13   } else {
14     digitalWrite(LedDioda, LOW);
15   }
16 }
```

sketch_nov28b | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoc



sketch_nov28b

```
byte sensorPin = 7;  
byte indicator = 6;  
  
void setup()  
{  
  pinMode(sensorPin, INPUT);  
  pinMode(indicator, OUTPUT);  
  Serial.begin(9600);  
}  
  
void loop()  
{  
  byte state = digitalRead(sensorPin);  
  digitalWrite(indicator, state);  
  if(state == 1) Serial.println("Pokret je primijećen");  
  else if(state == 0) Serial.println("Nigdje nikog!");  
  delay(500);  
}
```

COM5

Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Pokret je primijećen
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!

Newline (NL) 9600 baud Clear output
 Autoskrol Show timestamp

EKRAN 16*2

```
Ekran_16 | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć

Ekran_16
#include <LiquidCrystal.h>
LiquidCrystal lcd(0, 1, 2, 3, 4, 5);

void setup() {
  lcd.begin(16, 2);
}

void loop() {
  lcd.setCursor(0,0);
  lcd.print("STEM GRUPE");
  lcd.setCursor(0,1);
  lcd.print("2021./2022.");
}
```

Arduino MKR1000 on COM5

3°C Mostly cloudy 22:41
8.12.2021.



Zvu_nik

```
#define NOTE_C4 262
#define NOTE_G3 196
#define NOTE_A3 220
#define NOTE_B3 247
int melodija[] = {
  NOTE_C4, NOTE_G3, NOTE_G3 ,NOTE_A3 ,NOTE_G3, NOTE_B3, NOTE_C4
};

int notaTrajanjaSve[] = {
  4, 8, 8, 4, 4, 4, 4
};

void setup(){

  for( int nota = 0; nota < 7; nota++){
    int notaTrajanja = 1000 / notaTrajanjaSve[nota];
    tone(8, melodija[nota], notaTrajanja);
    int pauza = notaTrajanja * 1.30;
    delay(pauza);
    noTone(8);
  }
}

void loop(){
  |
}
```

ZVUČNIK

Prenosjenje završeno.

```
Verify 13792 bytes of flash with checksum.
Verify successful
done in 0.015 seconds
CPU reset.
```



PIR_senzor

```
byte senzorPin = 7;
byte indicator = 6;

void setup() {
  pinMode(senzorPin, INPUT);
  pinMode(indicator, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  byte state = digitalRead(senzorPin);
  digitalWrite(indicator, state);
  if(state == 1) Serial.println("Pokret je primjećen.");
  else if(state == 0) Serial.println("Nigdje nikog!");
  delay(500);
}
```

PIRSENZOR

```
COM5
Pošalji

Pokret je primjećen.
Nigdje nikog!
Pokret je primjećen.
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
```

Autoskrol Show timestamp

Newline (NL) 9600 baud Clear output

```
Verify successful
done in 0.011 seconds
CPU reset.
```



Moj_projekt_1

```

int senzor;
#include<Arduino.h>
#include<U8g2lib.h>

#include<Wire.h>

U8G2_SSD1306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0,U8X8_PIN_NONE);

void setup(void) {
u8g2.begin();

Serial.begin(9600);
}

void loop(void) {
senzor = analogRead(A0);
if (senzor < 40) {
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"STOP!");
u8g2.sendBuffer();
}
else if (senzor < 60) {
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"Uspori!");
u8g2.sendBuffer();
}
else{
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"Uredu je.");
u8g2.sendBuffer();
}
}

```

PARKING SENZOR

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

```
Servo motor;           // definiranje objekta iz biblioteke
```

```
int Motor = 9;
```

```
int Potenciomitar = A6;
```

```
int potenciomitar;
```

```
void setup() {
```

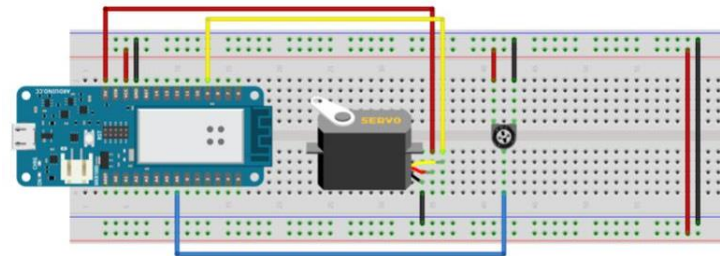
```
  pinMode(Potenciomitar, INPUT); //postavi izvod Potenciomitar(A6) kao ulazni
```

```
  pinMode(Motor, OUTPUT); //postavi izvod Motor(9) kao izlazni
```

```
  motor.attach(Motor); // postavi object na izvod Motor (9)
```

```
}
```

Prikaz spajanja



MJENJANJE POLOŽAJA METLICE U OVISNOSTI O POLOŽAJU POTENCIOMETRA



JOYSTICK I 2 SERVO MOTORA

```

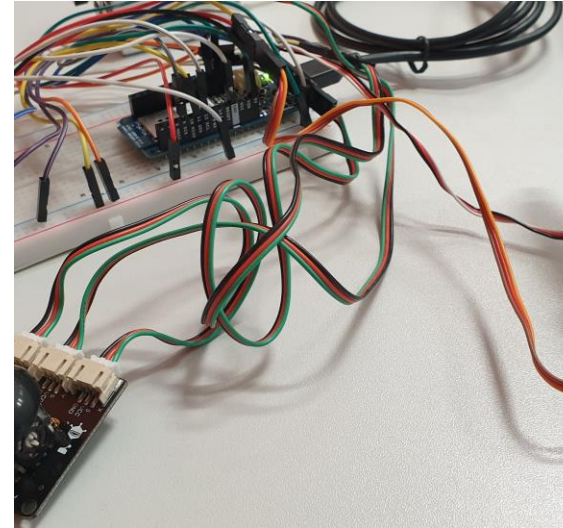
Mini_kuglana | Arduino 1.8.11
Datoteka Uredi Škica Alati Pomoć
Mini_kuglana $
#include <Servo.h>
Servo motor1;           // servo motori 1 i 2
Servo motor2;

int servo1 = 11;        // servo 1 na pinu 11
int servo2 = 12;        // servo 2 na pinu 12
int X_joystick = 0;     // X od joystick-a na analognom pinu 0
int Y_joystick = 1;     // Y od joystick-a na analognom pinu 1

void setup(){
  motor1.attach(servo1); // motori 1 i 2 kao servo
  motor2.attach(servo2);
}

void loop(){
  int X_vrijednost = analogRead(X_joystick); // očitavanje vrijednosti X
  int Y_vrijednost = analogRead(Y_joystick); // očitavanje vrijednosti Y (0-1023)
  Y_vrijednost = map(Y_vrijednost, 0, 1023, 25, 180); // pomak joysticka prema koordinati Y
}

```



SPOJILI SMO 1 I KASNIJE 2 SERVO MOTORA I UPRAVLJALIE SA JOYSTICK KOMPONENTOM

```
sketch_oct12a
UPGRADE

-- Select Board or Port --

sketch_oct12a.ino  README.adoc

1 #define NOTE_C4 262
2 #define NOTE_G3 196
3 #define NOTE_A3 220
4 #define NOTE_B3 247
5 int melodija() = {
6   NOTE_C4, NOTE_G3, NOTE_G3, NOTE_A3, NOTE_G3, NOTE_B3
7 };
8
9 int notaTrajanjaSve() = {
10  4, 8, 8, 4, 4, 4, 4
11 };
12
13
14 void setup(){
15
16   for( int nota = 0; nota < 7; nota++){
17     int notaTrajanja = 1000 / notaTrajanjaSve(nota);
18     tone(8, melodija(nota), notaTrajanja);
19     int pauza = notaTrajanja * 1.30;
20     delay(pauza);
21     noTone(8);
22   }
23 }
24
25 void loop(){
26
27 }
```

```
213b71-ae1b-4f42-83ec-97762ab4218e
sketch_oct12a

-- Select Board or Port --

sketch_oct12a.ino  README.adoc

1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(0, 1, 2, 3, 4, 5);
3
4 void setup() {
5   lcd.begin(16, 2);
6 }
7
8 void loop() {
9   lcd.setCursor(0,0);
10  lcd.print("STEM GRUPA");
11  lcd.setCursor(0,1);
12  lcd.print("2021./2022.");
13 }
```

```
-- Select Board or Port --

sketch_oct12a.ino  README.adoc

1 #include <Servo.h>
2 Servo motor1;
3 Servo motor2;
4
5
6 int servo1 = 11;
7 int servo2 = 12;
8 int X_joystick = 0;
9 int Y_joystick = 1;
10
11 void setup () {
12   motor1.attach(servo1);
13   motor2.attach(servo2);
14 }
15
16 void loop() {
17   int X_vrijednost = analogRead(X_joystick);
18   int Y_vrijednost = analogRead(Y_joystick);
19
20   X_vrijednost = map(X_vrijednost, 0, 1023,
21   Y_vrijednost = map(Y_vrijednost, 0, 1023,
22
23   motor1.write(X_vrijednost);
24   motor2.write(Y_vrijednost);
25   delay(10);
26 }
```




TEČAJEVI

EDUKACIJSKI
MATERIJALI

PROJEKTI

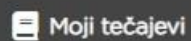
NATJEČAJI



Željko Vučković



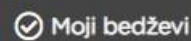
O meni



Moji tečajevi



Moji certifikati



Moji bedževi



Moj rang

OSVOJENI CERTIFIKATI

MICRO:BIT

ARDUINO

MBOT

MICRO:MAQUEEN

BOSON

AQ:BIT

NAPREDNI ARDUINO

ARDUINO IOT

LED OSVJETLJENJE

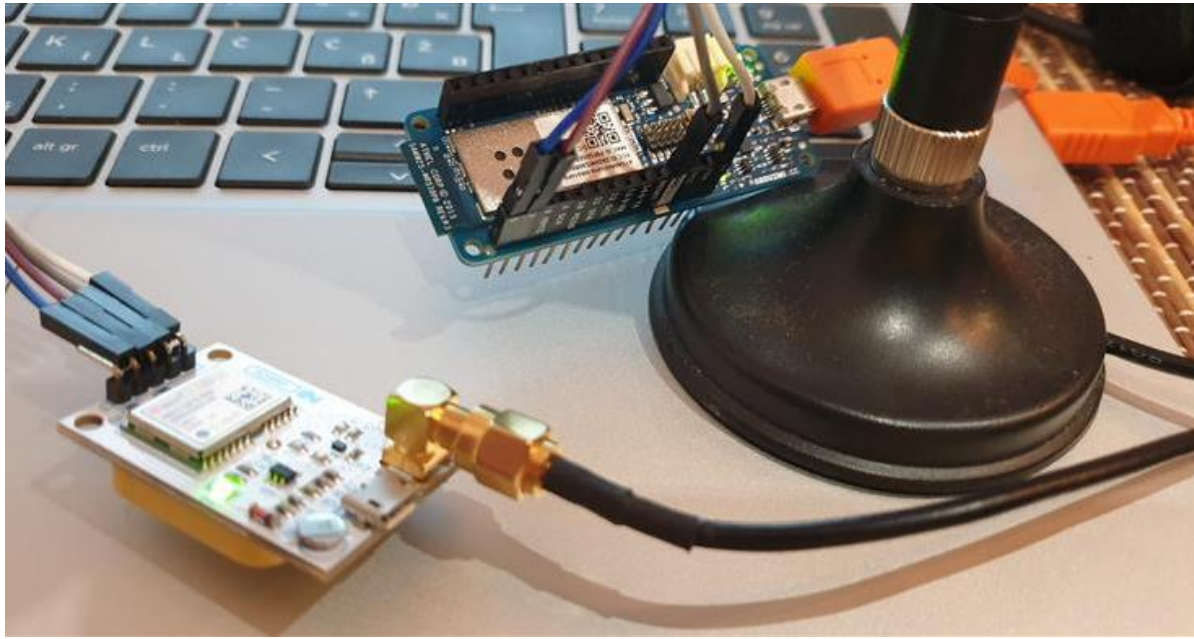
- <https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EfGae5eKZV5Luj1aL5ZIIYMBmv9xZvXgwk2Klv4EVqaQWQ?e=QxktFG>

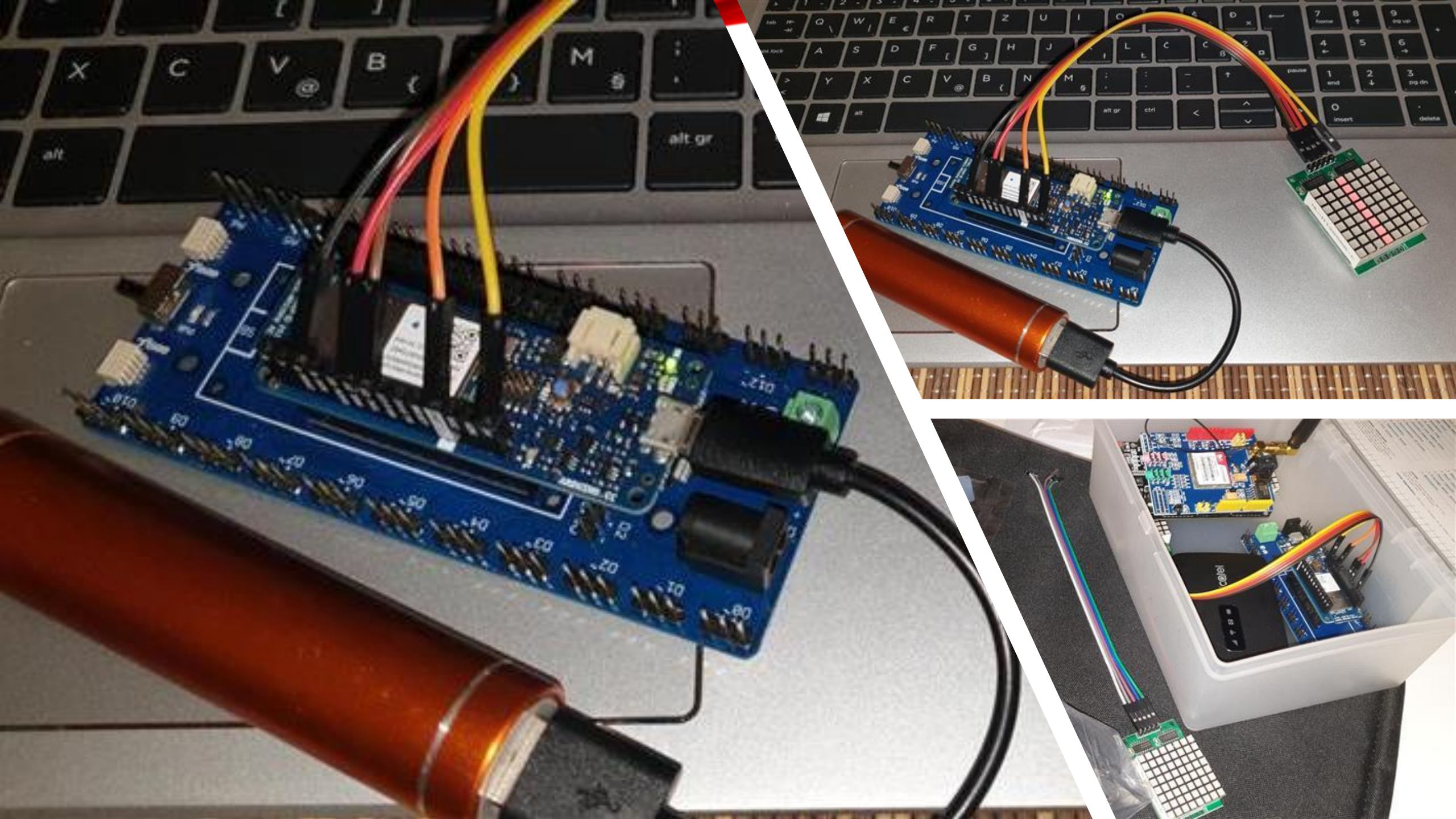
MEGA 2560 I SIM 900 ZA GSM

- <https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EbL2IUB0AbpNtbEIDUUCk0UB8irjuPBU3trFmN7icPwgGA?e=Tcosha>

GPS SATELITI

- <https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EXBHGMCWYM1Bi3kl6VykyBgBDSGjAJXLSdzPMxEKqiT82Q?e=c8JTyE>





- Školski odbor
- Natječaji
- Javna nabava
- Pristup informacijama
- Dokumenti
- Školski list
- Područna škola Poznanovec
- literarni natječaj
- Učiteljsko vijeće
- Jelovnik
- Projekti
 - Težimo izvrsnosti
 - Erasmus+ KA 1 "Kroz različitost u izvrsnosti"
 - Uredimo školsko dvorište - učimo i igramo se na otvorenom
 - Generacija Next - Digitalne inovacije uz IoT
 - Erasmus+ KA 1 "Škola je fora - zaIGRAJMO se i učimo!"
 - Generacija now - IoT



GPS sateliti Arduino from [Željka Vučković](#) on [vimeo](#).



2. Erasmus+ KA1 "Algoritmi i mreže"
 3. Erasmus+ KA2 "Budi vjerna - mobilni"
- [Uredi tiskat](#)
[Dodaj dokument](#)
- UČIONICE**
- LEYTE vs TEAMS (pdf)
- Naše učionice u Teams virtualnim učionicama, 2021./2022. nastavna godina - ako je cijela SD učionice najava samostalno:
- Virtualne učionice, 2021./2022. - predavanja**
- 1.a - virtualna učionica
 - 1.b - virtualna učionica
 - 1.c - virtualna učionica
 - 1.d - virtualna učionica
 - 1.e - virtualna učionica
 - 1.f - virtualna učionica
 - 1.g - virtualna učionica
 - 1.h - virtualna učionica
 - 1.i - virtualna učionica
 - 1.j - virtualna učionica

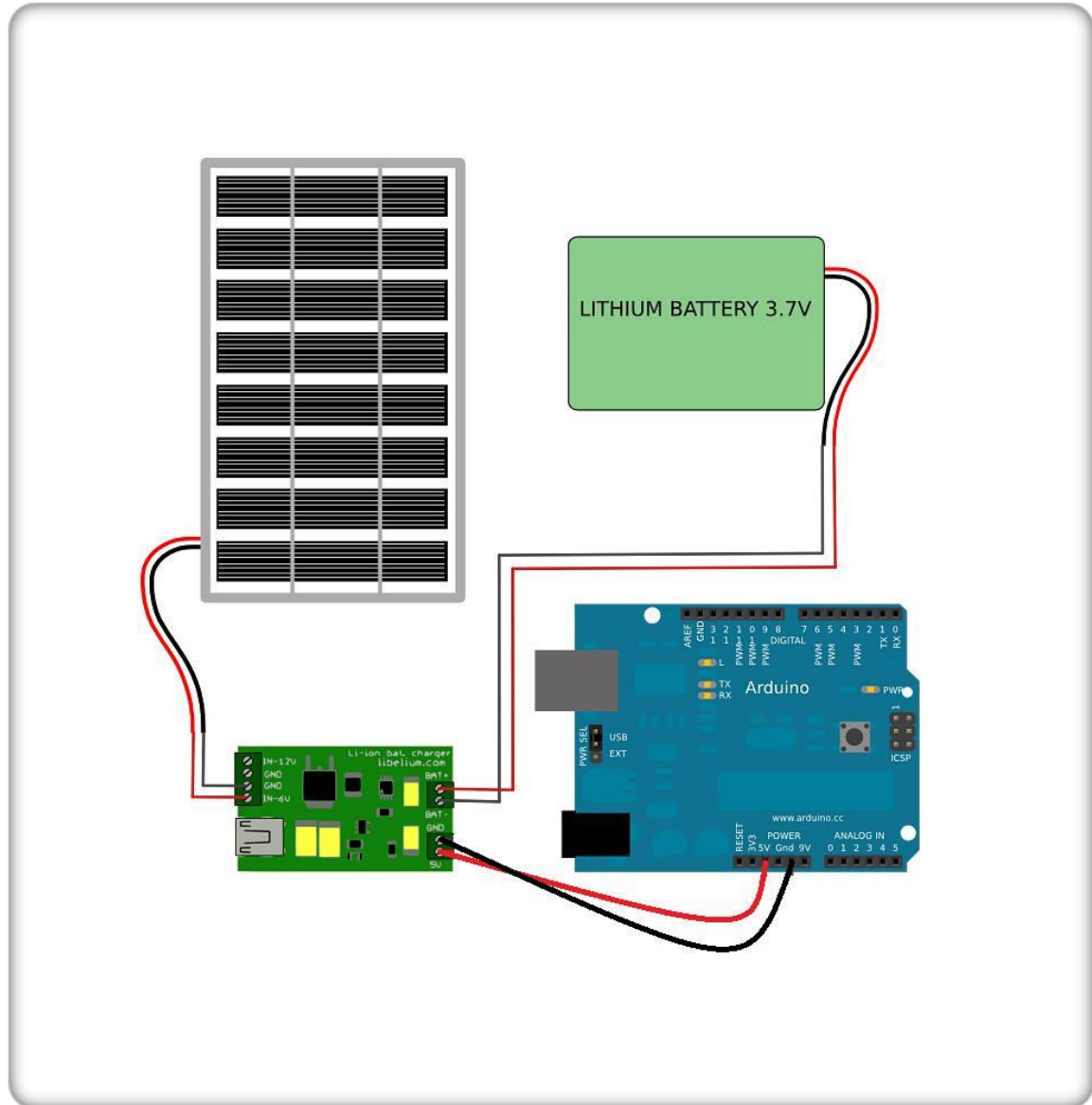
[HTTP://OS-BEDEKOVGINA.SKOLE.HR/SKOLA/PROJEKTI/GENERACIJA NOW IOT 2022](http://os-bedekovcina.skole.hr/skola/projekti/generacija_now_iot_2022)



https://carnet.sharepoint.com/:t:/s/STEMGRUPAOS-BEDEKOVcina20212022/ESRDOMAAIV5HHcETMTYBJSKB6_IANTGMDYO2_VFV96X9TG?E=QOEEG1



IZVOR NAPAJANJA ZA NEKO PRIJEVOZNO SREDSTVO: SOLARNI MODU



PRIKAZ SATELITA: NAŠA ŠKOLA I POZICIJA

The screenshot displays the u-center 2 software interface, which is used for monitoring and configuring GPS devices. The interface is divided into several sections:

- Devices:** A sidebar on the left contains an "Add device" button and a "Device configuration" link. Below this, a device named "Device - COM7" is shown with a status of "COM7: Receiving data" and a green checkmark. There are "Restart" and "Debug" buttons.
- Views:** A central panel shows a circular diagram of the GNSS constellation with several satellites highlighted in orange. A legend below indicates that blue circles represent satellites "not used in navigation" and orange circles represent satellites "Not tracked".
- GNSS constellation:** A panel on the right shows the "GNSS constellation" settings, including a checked box for "GPS (G)" and a "Filter satellites" section with a checked box for "Show not tracked". A "Zoom in/out" slider is set to 15.
- Map:** A satellite map view on the right shows an aerial view of a residential area with a school building. The map is powered by Mapbox.
- Satellite Signal View:** A bar chart at the bottom left shows the signal strength of the tracked satellites, with the y-axis ranging from 20dB-Hz to 50dB-Hz.
- Data View:** A panel on the bottom right displays the following data:
 - Fix mode: 2D-fix
 - TTFP: TTFP
 - Longitude: 15.9936762°
 - Latitude: 46.0453202°
 - Altitude: 172.700 m
 - Velocity: 1.004 m/s
 - UTC time: 09-11-22

The Windows taskbar at the bottom shows the system tray with the time 11:31 and date 13.4.2022.

PRECIZNOST



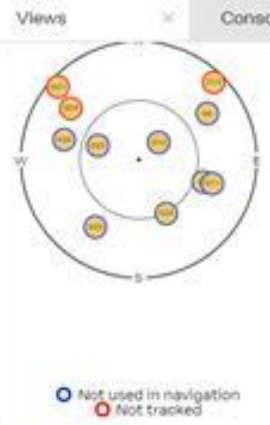
Devices

Add device

Device configuration

Device - COM7
COM7: Receiving data

Restart Debug



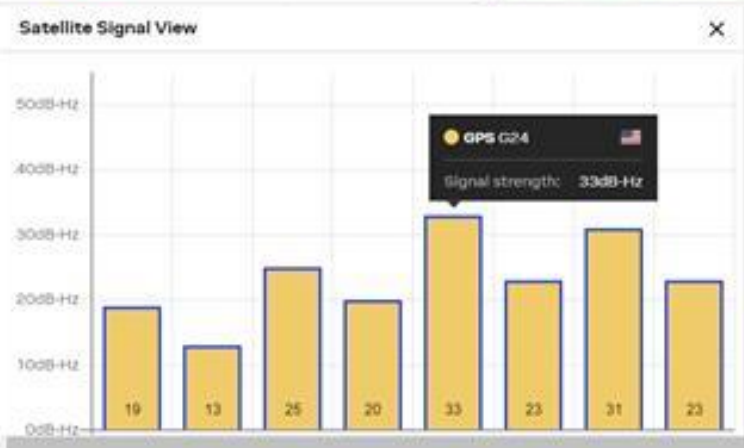
Consoles

Show not tracked

Zoom in/out

18

min max



Data View

Fix mode: 2D-fix

TTFF

Longitude: 15.9936258°

Latitude: 46.0455225°

Altitude: 169.400 m

Velocity: 0.043 m/s

UTC time: 09:32:43

3D acc. (0-50)

2D acc. (0-50)

PDOP (0-10)

HDOP (0-10): 1.650

VIDEO SATELITA

- https://carnet.sharepoint.com/:v:/s/STEM_grupaos-bedekovcina20212022/EVXTDsf6OCNlrXqB9ctzapMBR9oMRVIQaE4mJZvIYWg0vw?e=OF37L1

OPIS PROJEKTA

- https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/Ee0-LaQuQX9JmYsLOYfD3moBkh2h_v-c2nodFyJDv6J2GQ?e=iO1clv



OPREMA
I TIM



DOKUMENTACIJA

- https://carnet.sharepoint.com/:w:/s/STEMgrupaoebedekovcina20212022/EVGKbSuBrBJBvQFYqBR_w-oBrzQyh1BSVMwp2Xn10A_GJg?e=aHMk90



UPOZNALI SMO
RAVNATELJA, PEDAGOGA,
DJELATNIKE I UČENIKE O
PROJEKTU...



A group of five students (one male and four females) are standing outdoors in front of a modern, multi-story building. They are gathered around a long, light-colored wooden table. On the table, there are several laptops and other electronic devices. The students appear to be engaged in a collaborative activity, possibly a project or a workshop. The building in the background has large windows and a balcony with a metal railing. The overall scene is bright and sunny, suggesting an outdoor setting. The image is overlaid with decorative, semi-transparent wavy bands in shades of red, orange, and yellow, particularly prominent in the top and bottom corners.

STEM GRUPA 2021 / 2022