2025-1-RO01-KA121-VET-000319082

4IT Erasmus+Project, 2025-1-RO01-KA121-VET-000319082

Beneficiary: "Gheorghe Vranceanu" National College, Bacau

Sending organization: "Ferdinand I" National College, Bacau

MOBILITY PORTFOLIO

Paphos, Cyprus

Mobility period: 28.10.2025- 10.11.2025

Practice period: 29.10.2025-08.11.2025

RECEIVING COMPANY: LAZAROU ICT PROFESSIONALS

Practice tutor: Lazaros Lazarou

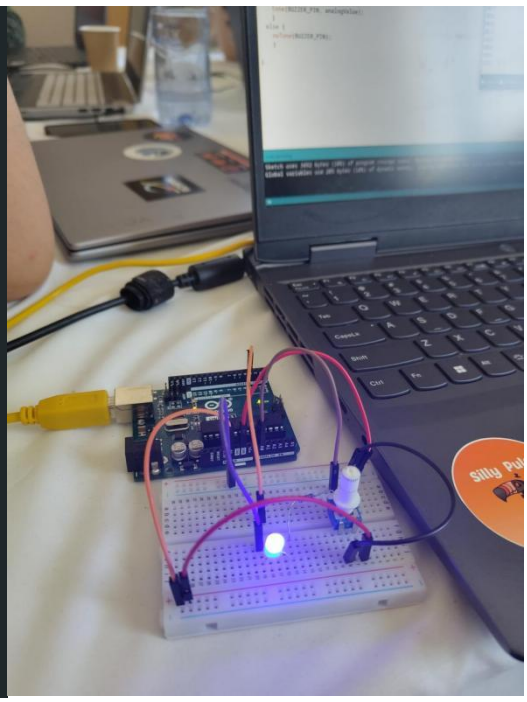
Participant: Nita-Dominte Alexandru

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Arduino

```
void loop() {
  for(int i = 1; i<=3; i++)
  {
  digitalWrite(LED_BUILTIN, HIGH);
  delay(333);
  digitalWrite(LED_BUILTIN, LOW);
  delay(333);
  }
  for(int i = 1; i<=3; i++)
  {
  digitalWrite(LED_BUILTIN, HIGH);
  delay(1000);
  digitalWrite(LED_BUILTIN, LOW);
  delay(1000);
  }
  for(int i = 1; i<=3; i++)
  {
  digitalWrite(LED_BUILTIN, HIGH);
  delay(333);
  digitalWrite(LED_BUILTIN, LOW);
  delay(333);
  }
```



SOS cu lumini

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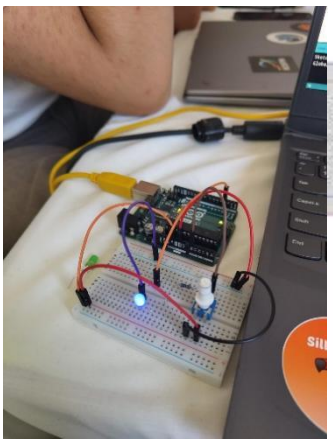
```
void setup() {
  pinMode(trigPin,
  pinMode(echoPin,
  pinMode(LedPin1, OUTPUT);
  pinMode(LedPin2, OUTPUT);
  pinMode(LedPin3, OUTPUT);
  Serial.begin(9600);
}

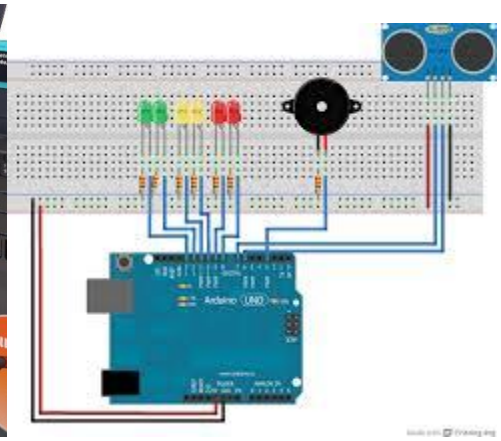
void loop() {
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  duration = pulseIn(echoPin, HIGH);
  distance = (duration*.0343)/2;
  Serial.print("Distance: ");
  Serial.println(distance);
  if( distance >= 0.0 && distance <= 100.0 )
  {
    digitalWrite(LedPin1, HIGH);
  }    digitalWrite(LedPin1, LOW);
  else if( distance >= 100.0 && distance <= 200.0 )
  {
```

macro OUTPUT

```
#define OUTPUT 0x1
```





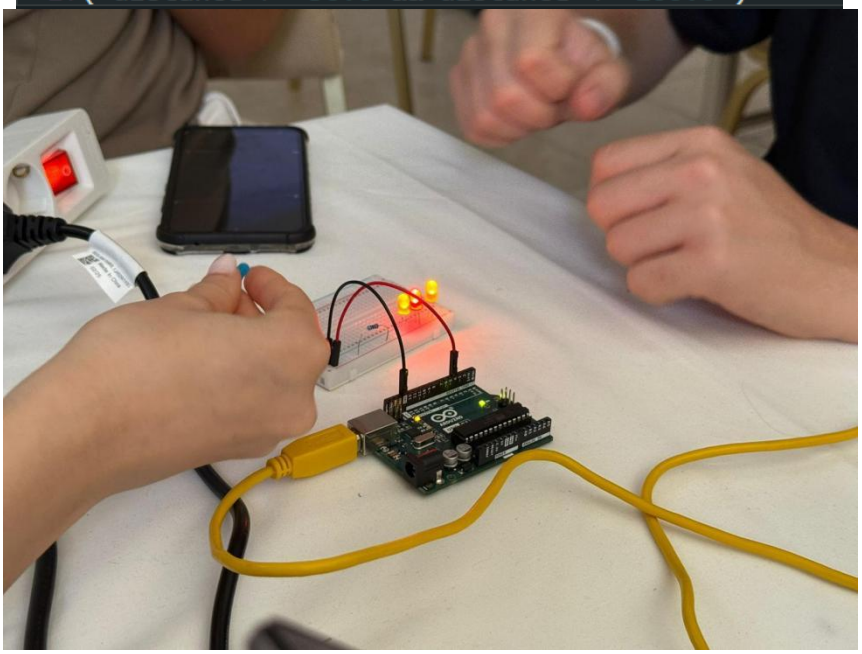
Senzor de distanță cu lumini

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```
void loop() {
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  duration = pulseIn(echoPin, HIGH);
  distance = (duration*.0343)/2;
  Serial.print("Distance: ");
  Serial.println(distance);
  if( distance >= 0.0 && distance <= 50.0 )
  {
    digitalWrite(LedPin, HIGH);
    delay(100);
    digitalWrite(LedPin, LOW);
    delay(100);
  }
  if( distance >= 50.0 && distance <= 100.0 )
```



Joc de lumini

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```ino
// Sensor pins
#define sensorPower 5
#define sensorPin A1

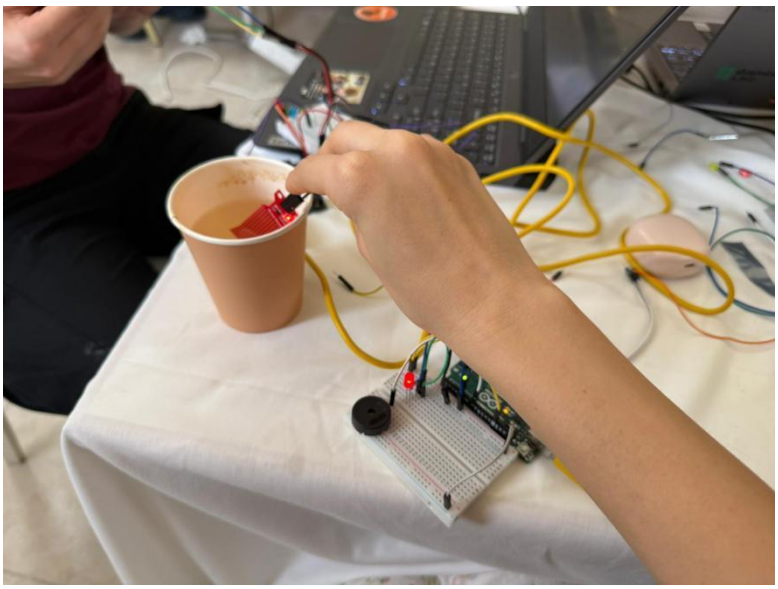
// Value for storing water level
int val = 0;

void setup() {
  // Set D7 as an OUTPUT
  pinMode(sensorPower, OUTPUT);
  // Set to LOW so no power flows through the sensor
  digitalWrite(sensorPower, LOW);
  Serial.begin(9600);
}

void loop() {
  //get the reading from the function below and print it
  int level = readSensor();

  Serial.print("Water level: ");
  Serial.println(level);

  delay(1000);
}
```



Senzor nivel apă

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C++

```
80      while (userChoice >0){
81          //print the menu for the user
82          cout<<"1. Add a new user"<<endl;
83          cout<<"2. Edit a User"<<endl;
84          cout<<"3. Delete a User"<<endl;
85          cout<<"4. Search by Name"<<endl;
86          cout<<"5. Search by Medicine"<<endl;
87          cout<<"6. Print The Array"<<endl;
88          cout<<"0. Exit"<<endl;
89          cout<<"What would you like to do? ";
90          cin>>userChoice;
91          cout<<"--------------------------------"<<endl;
92
93          if (userChoice == 1){
94              cout<<"Add a new Patient"<<endl<<"-----------------"<<endl;
95              if (index>=ArraySize){
96                  ArraySize=ArraySize+1;//grow the array by 1 position
97                  clinic=growArray(clinic,ArraySize,index); //call function to grow array
98              }
99              addPatient(clinic,index);//call the function to add a patient
100             index++;//after we added a patient we must increment the index
101         }else if(userChoice==2){
102             cout<<"Edit a Patient"<<endl<<"-----------------"<<endl;
103         }else if(userChoice==3){
104             cout<<"Delete a Patient"<<endl<<"-----------------"<<endl;
105         else if (userChoice == 4) {
106             cout << "Search by Name\n-----------------\n";
107             searchByName(clinic, index);
108 }
109         else if (userChoice == 5) {
110             cout << "Search by Medicine\n-----------------\n";
111             searchByMedicine(clinic, index);
112 }
113         }else if(userChoice==6){
114             printArray(clinic,index);
115
116         }else if (userChoice==0){
117             cout<<"Thank you For using the program!"<<endl<<"-----------------"<<endl;
118         }else{
119             cout<<"Wrong Choice! Try again"<<endl;
120             userChoice=10;
121         }
122     }
123     return 0;
124 }
```

Bază de date pentru pacienții unei clinici

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```
15  */
16  class cars
17      {
18      private:
19          string brand;
20          string model;
21          int year;
22          int hp;
23      public:
24          void setbrand(string n){brand=n;}
25          void setmodel(string a){model=a;}
26          void setyear(int y){year=y;}
27          void sethp(int h){hp=h;}
28
29          string getbrand(){return brand;}
30          string getmodel(){return model;}
31          int getyear(){return year;}
32          int gethp(){return hp;}
33      };
34  int main()
35  {
36      cars carfleet[3];
37      string brand;
38      string model;
39      int year;
40      int hp;
41      for(int i=0; i<3; i++)
42      {
43          cout<<"Car "<<i+1<<":"<<endl;
44          cout<<"Brand: ";
45          cin>>brand;
46          carfleet[i].setbrand(brand);
47          cout<<"Model: ";
48          cin>>model;
49          carfleet[i].setmodel(model);
50          cout<<"Year: ";
51          cin>>year;
52          carfleet[i].setyear(year);
53          cout<<"Hp: ";
54          cin>>hp;
55          carfleet[i].sethp(hp);
56          cout<<endl;
57      }
58      cout<<endl<<endl<<endl;
59      for(int i=0; i<3; i++)
60      {
61          cout<<"------------------------------"<<endl;
62          cout<<"Car "<<i+1<<":"<<endl;
63          cout<<"Brand: "<<carfleet[i].getbrand()<<endl;
64          cout<<"Model: "<<carfleet[i].getmodel()<<endl;
65          cout<<"Year: "<<carfleet[i].getyear()<<endl;
66          cout<<"Hp: "<<carfleet[i].gethp()<<endl;
67      }
68
69      return 0;
70  }
71
```

Alocare dinamică a memoriei cu ajutorul obiectelor

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```cpp
#include <bits/stdc++.h>
using namespace std;

int main() {
    int nrofexams;
    int *exam1;
    int int* main::exam1
    int *temp1;
    int *temp2;
    float *avrgexams;
    int n = 0, tmpn = 0;

    cout << "How many students would you like to enter: ";
    cin >> nrofexams;

    exam1 = new int[nrofexams];
    exam2 = new int[nrofexams];

    while (n < nrofexams) {
        cout << "Student " << n + 1 << ":" << endl;
        cout << "Exam 1: ";
        cin >> exam1[n];
        cout << "Exam 2: ";
        cin >> exam2[n];
        n++;

        if (n >= nrofexams) {
            cout << "Out of space! Would you like to enter more students? "
                 << "Please enter how many or press 0 to exit: ";
            cin >> tmpn;

            if (tmpn > 0) {
                int newSize = nrofexams + tmpn;
                temp1 = new int[newSize];
                temp2 = new int[newSize];

                for (int i = 0; i < nrofexams; i++) {
                    temp1[i] = exam1[i];
                    temp2[i] = exam2[i];
                }

                delete[] exam1;
                delete[] exam2;

                exam1 = temp1;
                exam2 = temp2;

                nrofexams = newSize;
            }
        }
    }

    avrgexams = new float[n];

    cout << "\nNow printing the grades you inputted and the averages:\n";
    for (int i = 0; i < n; i++) {
        avrgexams[i] = (exam1[i] + exam2[i]) / 2.0;
        cout << "-------------------------------------------------" << endl;
        cout << "Student " << i + 1 << ":" << endl;
        cout << "Exam 1: " << exam1[i] << endl;
        cout << "Exam 2: " << exam2[i] << endl;
        cout << "Average grade: " << avrgexams[i] << endl;
```

Alocare dinamică a memoriei

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```cpp
#include <bits/stdc++.h>

using namespace std;

int main(int argc, char** argv)
{
    int side1=0, side2=0;

    cout<<"You have entered "<<argc<<" arguments:"<<endl;

    for(int i = 0; i < argc; ++i)
    {
        cout<<argv[i]<<endl;
    }

    if(argc<3)
    {
        cout<<"Invalid Input! Please input again:"<<endl;
        cout<<"Side 1: ";
        cin>>side1;
        cout<<"Side 2: ";
        cin>>side2;
        cout<<"Perimeter: "<<2*(side1+side2);
    }
    else {
        side1 = stoi(argv[1]);
        side2 = stoi(argv[2]);
        cout<<"Perimeter: "<<2*side1+2*side2;
    }

    return 0;
}
```

Program cu argumente din linia de comandă

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```cpp
#include <iostream>
#include <string>
using namespace std;

class Car {
private:
    string brand;
    string model;
    int year;
    int hp;

public:
    void setBrand(const string &n) { brand = n; }
    void setModel(const string &a) { model = a; }
    void setYear(int y) { year = y; }
    void setHp(int h) { hp = h; }

    string getBrand() const { return brand; }
    string getModel() const { return model; }
    int getYear() const { return year; }
    int getHp() const { return hp; }
};

int main() {
    int numCars;
    cout << "How many cars would you like to enter: ";
    if (!(cin >> numCars) || numCars <= 0) {
        cerr << "Invalid number of cars. Exiting.\n";
        return 1;
    }

    // Allocate an array of cars dynamically
    Car* carFleet = new Car[numCars];
    int count = 0;

    while (true) {
        // Fill the current available space
        for (; count < numCars; ++count) {
            string brand, model;
            int year, hp;

            cout << "\nCar " << (count + 1) << ":\n";
            cout << "Brand: ";
            cin >> brand;
            carFleet[count].setBrand(brand);

            cout << "Model: ";
            cin >> model;
            carFleet[count].setModel(model);

            cout << "Year: ";
            cin >> year;
            carFleet[count].setYear(year);

            cout << "HP: ";
            cin >> hp;
            carFleet[count].setHp(hp);
        }

        int extra;
        cout << "\nWould you like to enter more cars? (Enter number or 0 to stop): ";
```

Bază de date cu informațiile unor mașini

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```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    int *exam1;
    int *exam2;
    int *exam3;
    float *avg;
    int maxexams = 4;

    exam1 = new int[maxexams];
    exam2 = new int[maxexams];
    exam3 = new int[maxexams];
    avg = new float[maxexams];
    float avgmax = 0;
    float avgmin = 10;
    float exam1max = 0;
    float exam1min = 10;
    float exam2max = 0;
    float exam2min = 10;
    float exam3max = 0;
    float exam3min = 10;
    float avgexam1 = 0;
    float avgexam2 = 0;
    float avgexam3 = 0;

    for (int i = 0; i < maxexams; i++)
    {
        cout << "Student " << i + 1 << ":" << endl;
        cout << "exam 1: ";
        cin >> exam1[i];
        cout << "exam 2: ";
        cin >> exam2[i];
        cout << "exam 3: ";
        cin >> exam3[i];

        avg[i] = (exam1[i] + exam2[i] + exam3[i]) / 3.0;

        if (avg[i] > avgmax)
            avgmax = avg[i];
        if (avg[i] < avgmin)
            avgmin = avg[i];

        if (exam1[i] > exam1max)
            exam1max = exam1[i];
        if (exam1[i] < exam1min)
            exam1min = exam1[i];
```

Alocare dinamică a memoriei pentru rezultatele la un examen

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Site-ul Personal



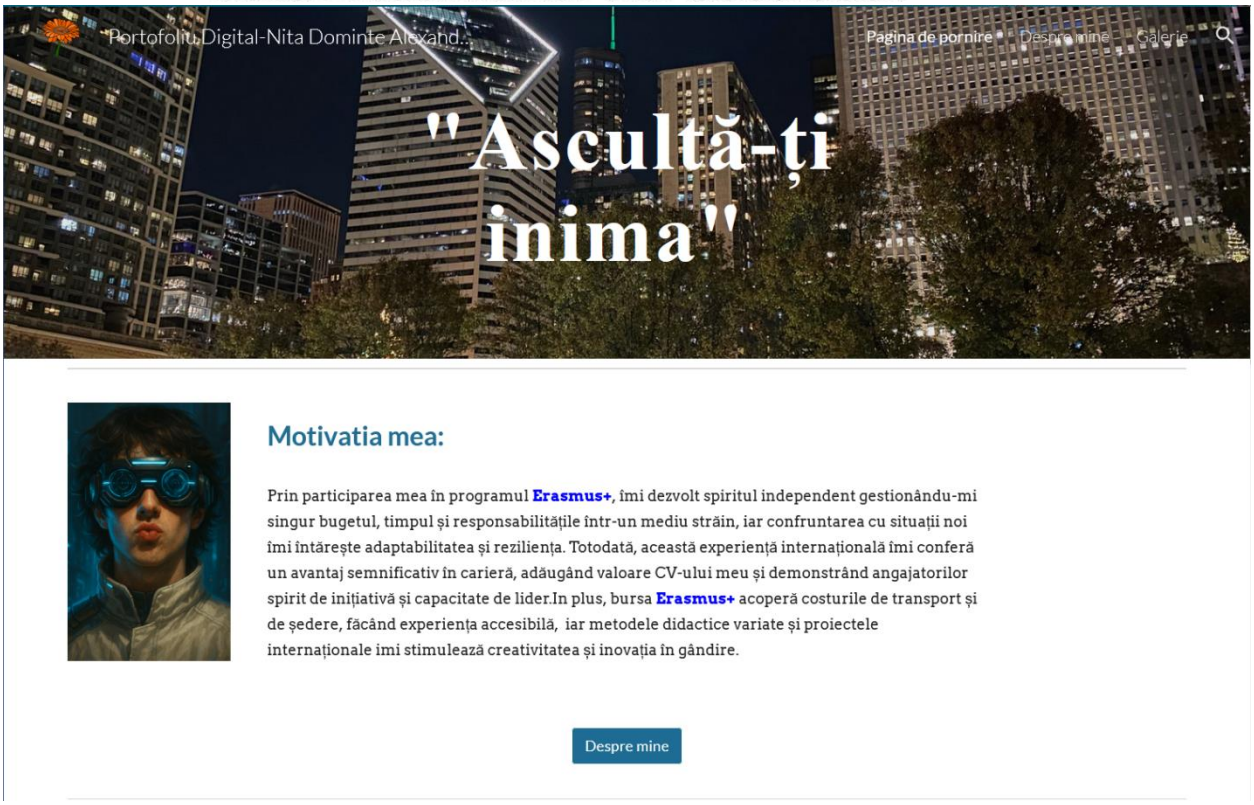
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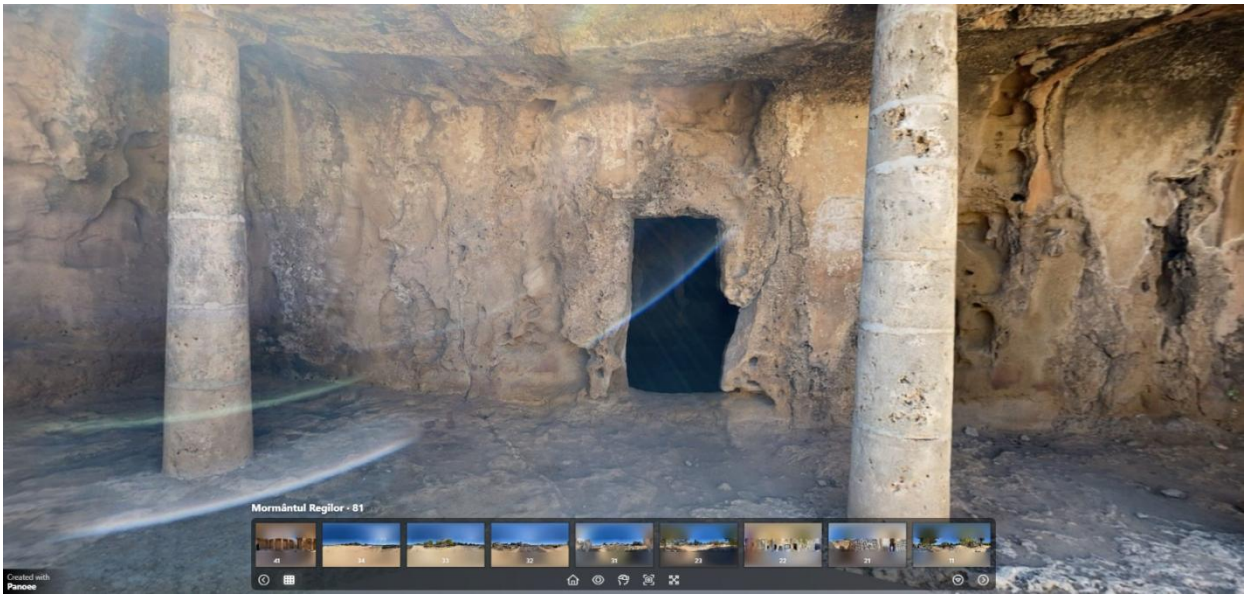


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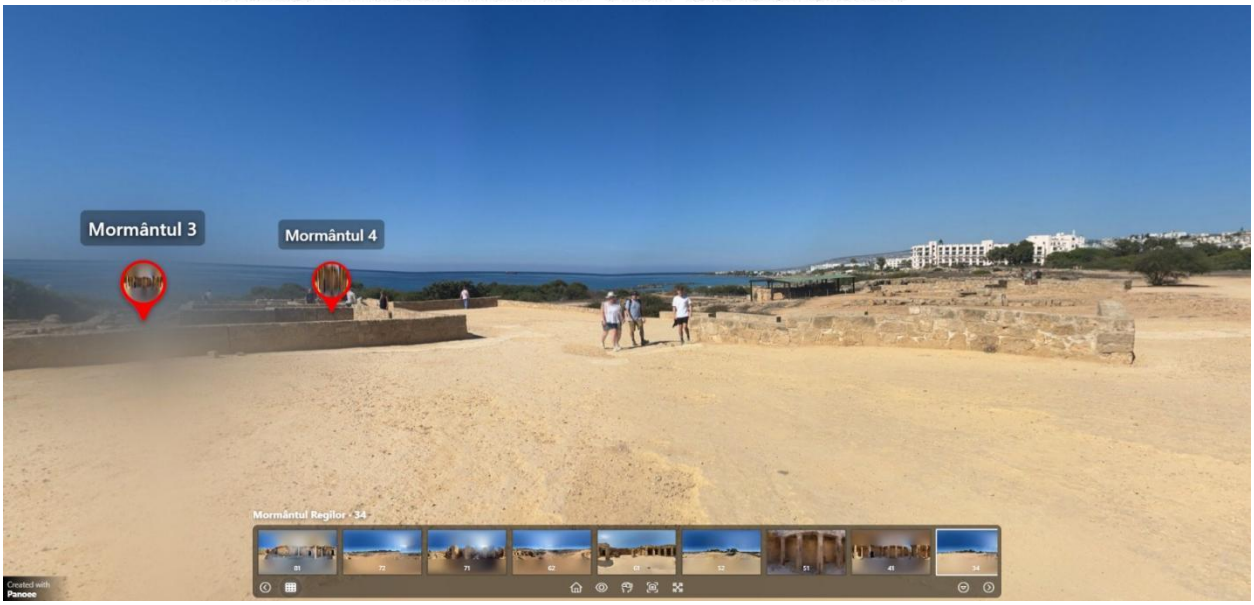


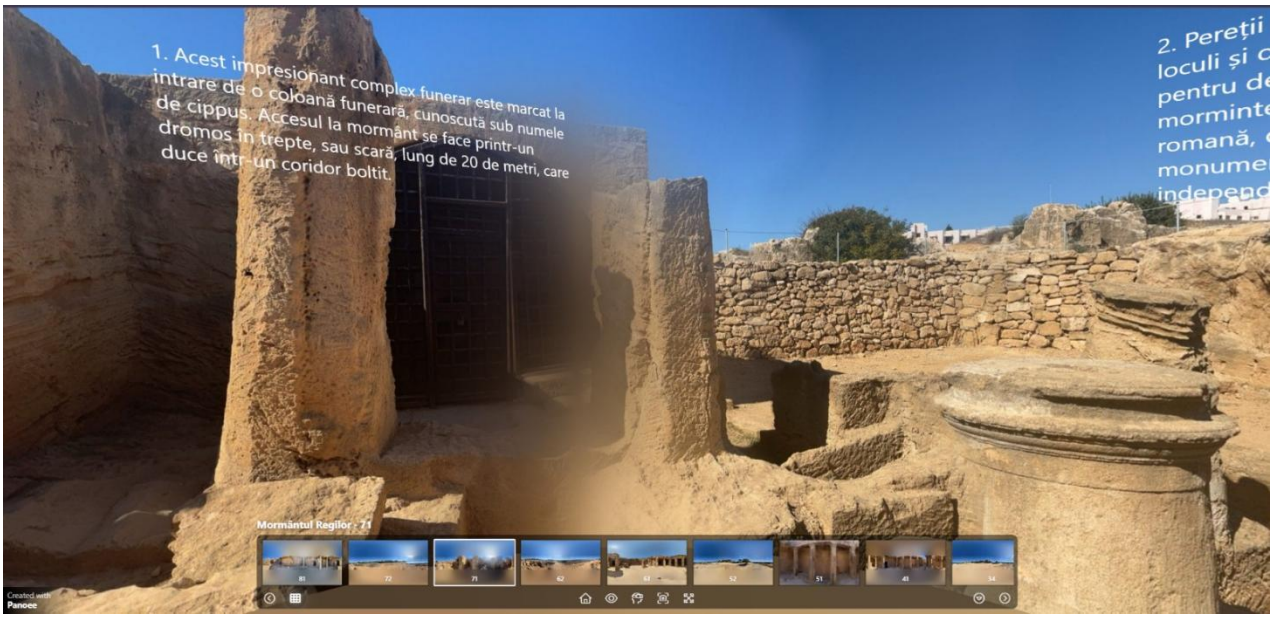
Proiect



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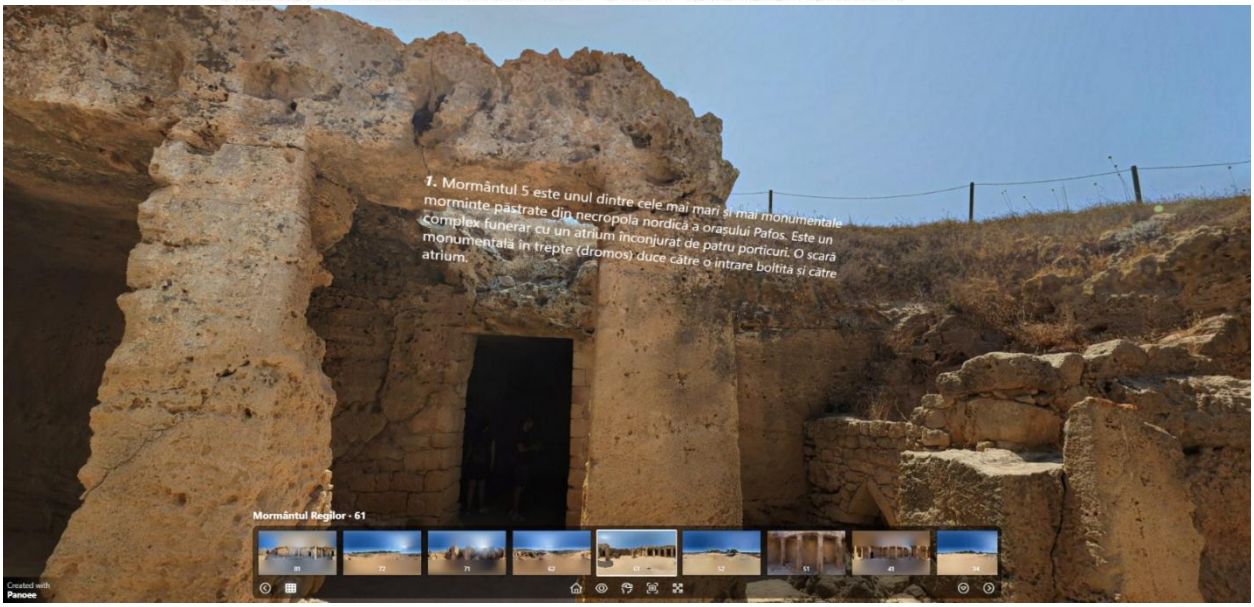
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Explorare virtuală a sitului arheologic “Mormintele Regilor”

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