2025-1-RO01-KA121-VET-000319082

4IT Erasmus+Project, 2024-1-RO01-KA121-VET-000214264

Beneficiary: "Gheorghe Vranceanu" National College, Bacau

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MOBILITY PORTFOLIO

Paphos, Cyprus

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RECEIVING COMPANY: LAZAROU ICT PROFESSIONALS

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exercise 1.cpp | expandingarray.cpp ●

expandingarray.cpp > ...

```cpp

int main() {
    cout << "Choose a number of students to grade: ";
    cin >> StudentNumber;
    exam1 = new float[StudentNumber];
    exam2 = new float[StudentNumber];
    avrg = new float[StudentNumber];

    do {
        cout << "Student " << n + 1 << ":" << endl;
        cout << "----------" << endl;
        cout << "Exam 1 grade: ";
        cin >> exam1[n];
        cout << "Exam 2 grade: ";
        cin >> exam2[n];
        avrg[n] = (exam1[n] + exam2[n]) / 2;

        n++;

        if (n >= StudentNumber) {
            cout << "Out of Space! Would you like to enter more? Enter how many (0 to Exit): ";
            cin >> tempNum;

            if (tempNum > 0) {
                StudentNumber = StudentNumber + tempNum;
                temp1 = new float[StudentNumber];
                temp2 = new float[StudentNumber];
                for (int i = 0; i < n; i++) {
                    temp1[i] = exam1[i];
                    temp2[i] = exam2[i];
                }
                delete[] exam1;
                delete[] exam2;
                exam1 = temp1;
                exam2 = temp2;
            }
        }
    } while (n < StudentNumber);

    cout << "\n\n\n\n";
    cout << "-----------RESULTS-----------\n\n";
    for (int n = 0; n < StudentNumber; n++) {
        cout << "Student " << n + 1 << endl;
        cout << "----------" << endl;
        cout << "Exam 1 grade: " << exam1[n] << endl;
        cout << "Exam 2 grade: " << exam2[n] << endl;
        cout << "Average grade: " << avrg[n] << endl << endl;
    }

```

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exercise 1.cpp × expandingarray.cpp ●

exercise 1.cpp > main()

```cpp
int max1 = 0, max2 = 0, max3 = 0;




//declare arrays

exam1 = new float[MAXSIZE];
exam2 = new float[MAXSIZE];
exam3 = new float[MAXSIZE];
students = new int[MAXSIZE];
avrg = new float[MAXSIZE];

//populate exams

for (int i = 0; i< MAXSIZE; i++){
    cout << "student: " << i+1 << endl;
    cout << "exam 1: ";
    cin >> exam1[i];
    cout << "exam 2: ";
    cin >> exam2[i];
    cout << "exam 3: ";
    cin >> exam3[i];
}
 // populate average across all exams
 int temp = 0;
 for (int i = 0; i< MAXSIZE; i++){
    temp += exam1[i] + exam2[i] + exam3[i];
    cout << temp << endl;
 }
cout << "Average across all exams is: "<<(float) temp / (MAXSIZE*3)  << endl;
cout << "\n\n\n";

//get minimum and maximum
for (int i = 0; i< MAXSIZE; i++){
    if(exam1[i] < min1) min1 = exam1[i];
    if(exam2[i] < min2) min2 = exam2[i];
    if(exam3[i] < min3) min3 = exam3[i];
    if(exam1[i] > max1) max1 = exam1[i];
    if(exam2[i] > max2) max2 = exam2[i];
    if(exam3[i] > max3) max3 = exam3[i];
}
cout << "exam 1 highest: " << max1 << endl;
cout << "exam 2 highest: " << max2 << endl;
cout << "exam 3 highest: " << max3 << endl;
cout << "exam 1 lowest: " << min1 << endl;
cout << "exam 2 lowest: " << min2 << endl;
cout << "exam 3 lowest: " << min3 << endl;
}
```

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exercise 1.cpp | expandingarray.cpp | exercise 2.cpp | homework2.cpp

homework2.cpp > main()

```cpp
class Car {
private:
    string Model;
    string Brand;
    int HP;
    int YOF;//anul fabricatiei

public:
    void setModel(string n) {
        Model = n;
    }
    void setBrand(string n) {
        Brand = n;
    }
    void setHP(int n) {
        HP = n;
    }
    void setYOF(int n) {
        YOF = n;
    }
    string getModel() { return Model; }
    string getBrand() { return Brand; }
    int getHP() { return HP; }
    int getYOF() { return YOF; }

};

Car* cars;
Car* temp;
int n = 0, tmpN = 0;

int main() {
    int Cars;
    cout << "How many cars would you like to enter?" << endl;
    cin >> Cars;
    cars = new Car[Cars];
    string brand, model;
```

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```
    n++;
    if (n >= Cars) {
        cout << "Out of Space! Would you like to enter more? Please enter how many (0 to Exit): ";
        cin >> tmpN;
        if (tmpN > 0) {
            Cars = Cars + tmpN;
            temp = new Car[Cars];
            for (int i = 0; i < n; i++) {
                temp[i].setBrand(cars->getBrand());
                temp[i].setModel(cars->getModel());
                temp[i].setHP(cars->getHP());
                temp[i].setYOF(cars->getYOF());


            }
            delete[] cars;

            cars = temp;
        }

    }

} while (n < Cars);

cout << "\n\n\n\tNow printing results\n\n";

for (int i = 0; i < Cars;i++) {
    cout << "Car number " << i + 1 << ":" << endl;
    cout << "-----------------" << endl;
    cout << "Brand: " << cars[i].getBrand() << endl;
    cout << "Model: " << cars[i].getModel() << endl;
    cout << "Horse power: " << cars[i].getHP() << endl;
    cout << "Year of fabrication: " << cars[i].getYOF() << endl << endl;
}
```

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commandlinearguments.cpp > ...

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

int main(int argc, char** argv){

    int side1 = 0;
    int side2 = 0;
    int side3 = 0;
    int side4 = 0;

    if(argc < 5){
        cout << "You have not entered enough arguments. Please try again.\n";
        return 2;
    }

    side1 = stoi(str: argv[1]);
    side2 = stoi(str: argv[2]);
    side3 = stoi(str: argv[3]);
    side4 = stoi(str: argv[4]);

    cout << "--------Results--------\n";
    cout << "Perimeter is: " << side1+side2+side3+side4 << endl;
    cout << "Your arguments were: \n";
    for (int i = 0; i < argc; i++){
        if (i==0){i++;}
        cout << argv[i] << endl;
    }
}
```

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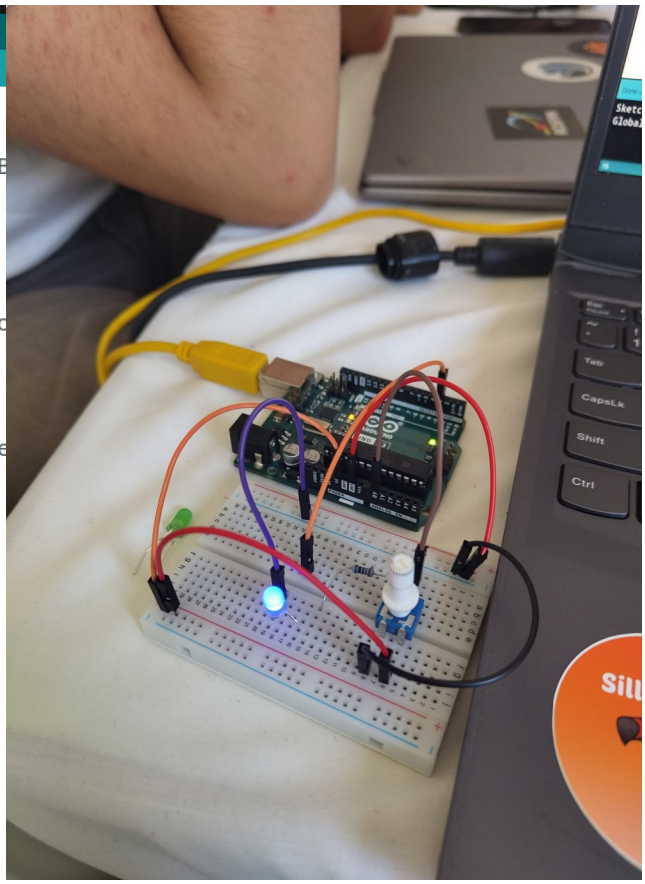
buzzerLedButton §

```
const int POTENTIOMETER_PIN = A0; // Arduino pin connected to
const int BUZZER_PIN        = 3; // Arduino pin connected to B
const int ANALOG_THRESHOLD  = 500;

void setup() {
  Serial.begin(9600);
  pinMode(BUZZER_PIN, OUTPUT); // set arduino pin to output mo
}

void loop() {
  int analogValue = analogRead(POTENTIOMETER_PIN); // read the
    Serial.println(analogValue);
  if(analogValue > 30){
    tone(BUZZER_PIN, analogValue);
    }
  else {
    noTone(BUZZER_PIN);
    }

}
```



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sketch_nov05a

```
  // put your setup code here, to run once:

}

void handleButton(){
  if (currentState == 0)
    {tone(buzzer,150);}
  else {noTone(buzzer);}
  }
void handleSensor(){
   digitalWrite(trg, LOW);
  delayMicroseconds(2);
  digitalWrite(trg, HIGH);
  delayMicroseconds(10);
  digitalWrite(trg, LOW);

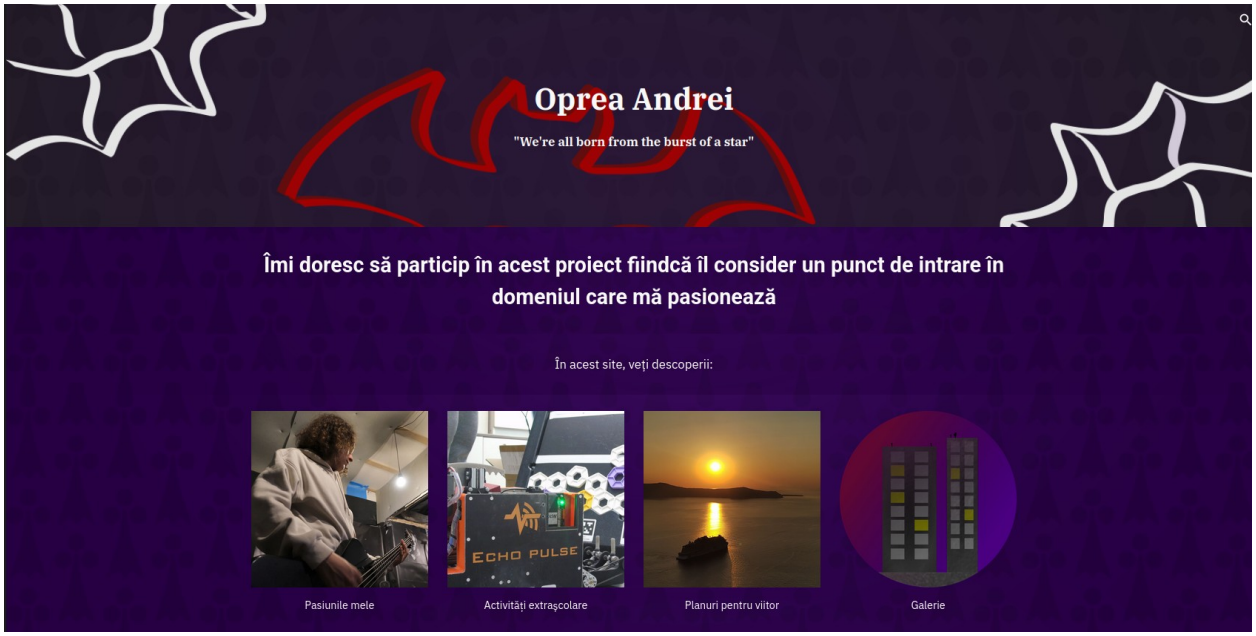
  duration = pulseIn(echo, HIGH);
  distance = (duration*.0343)/2;
  if(distance<90)
  time = distance*10;
  else time = distance;
  digitalWrite(PIN1,HIGH);
  delay(time);
  digitalWrite(PIN1,LOW);
  delay(time);
  }
void loop() {
  currentState = digitalRead(button);
  handleButton();
  handleSensor();
    Serial.println(currentState);
}
```

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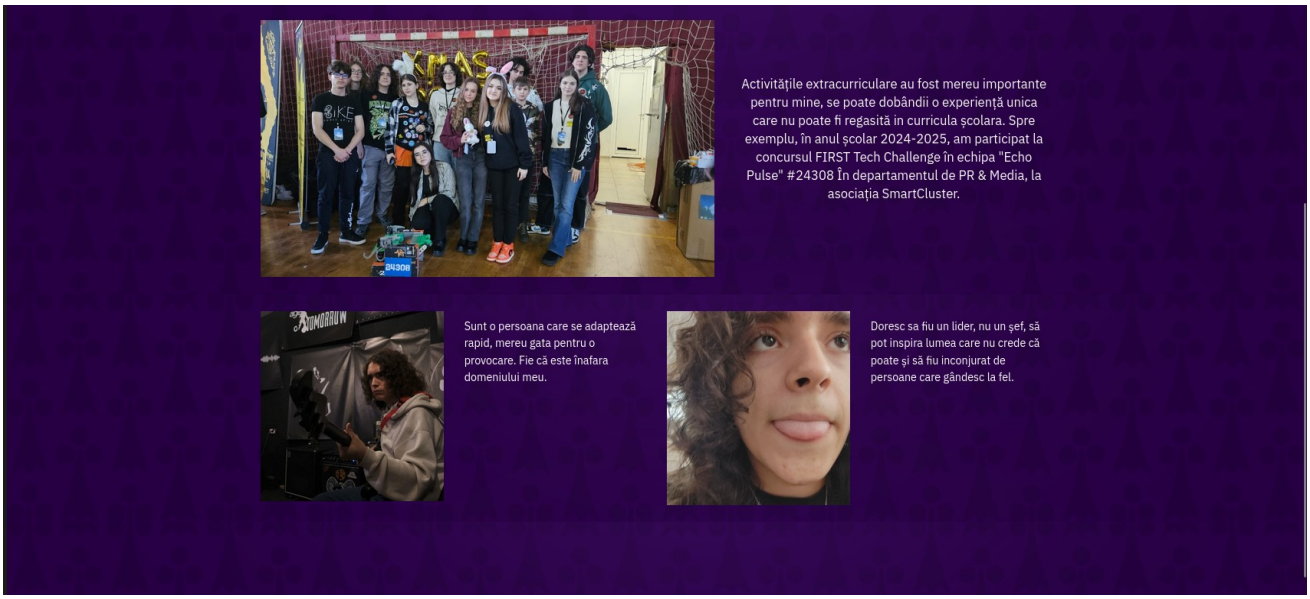


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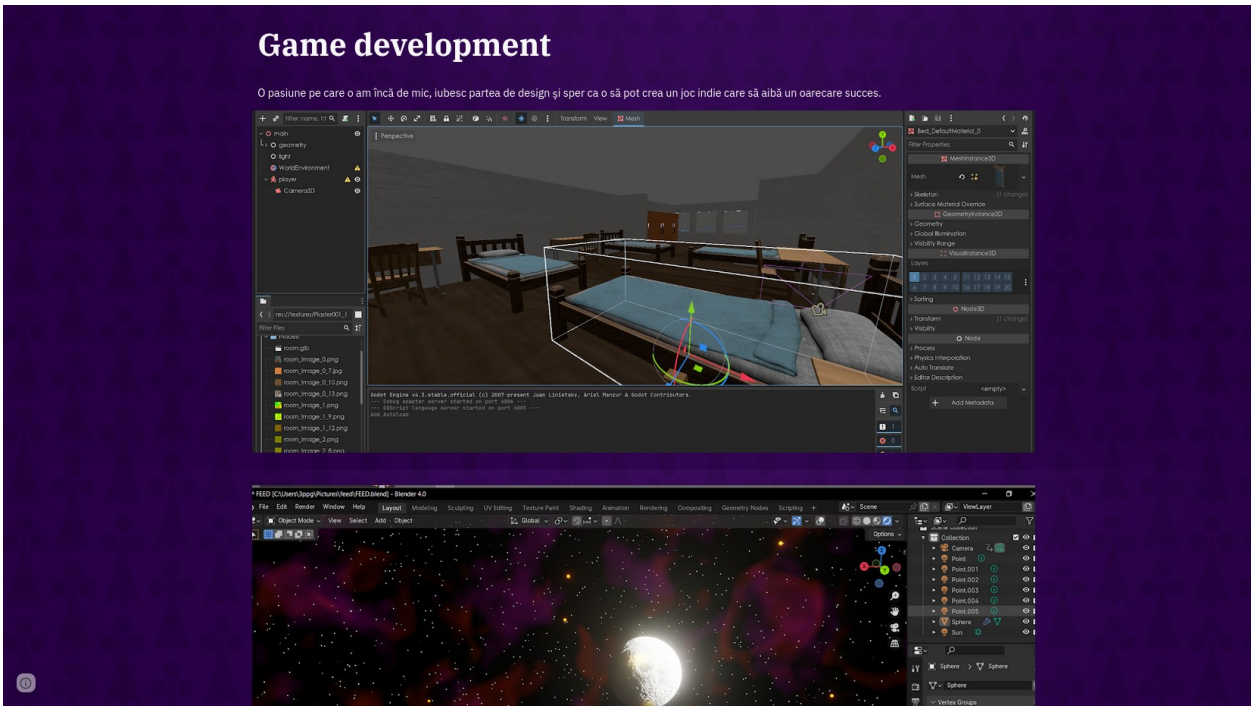


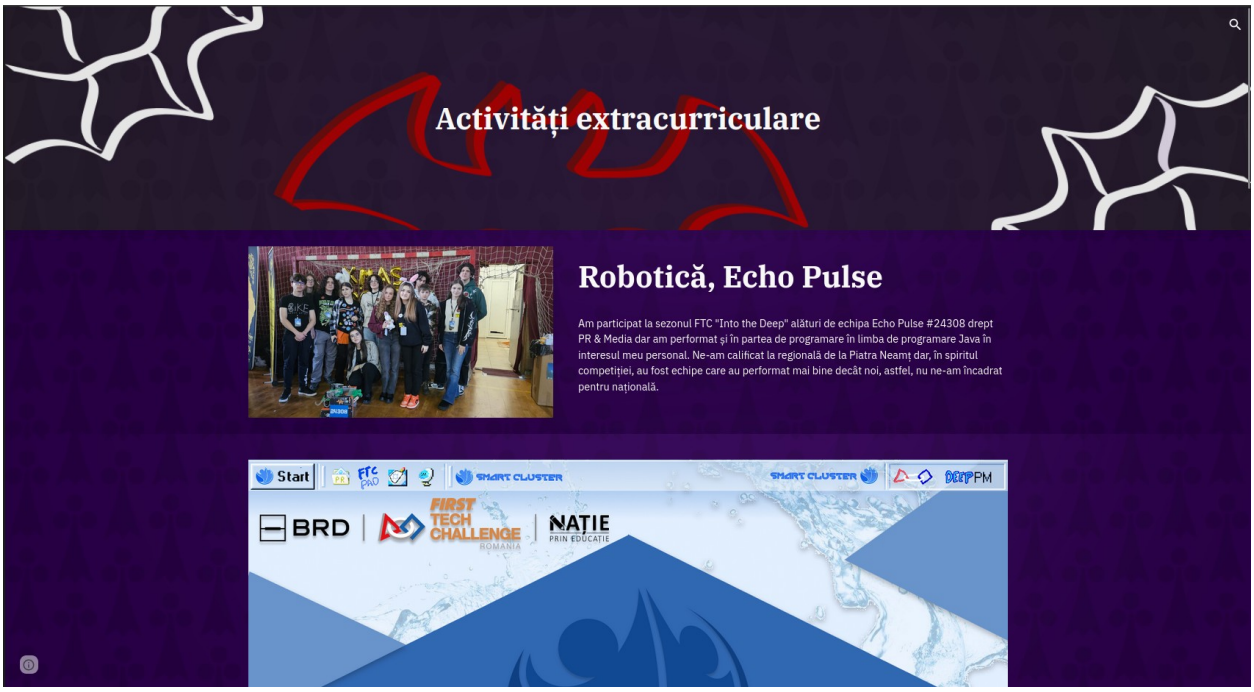
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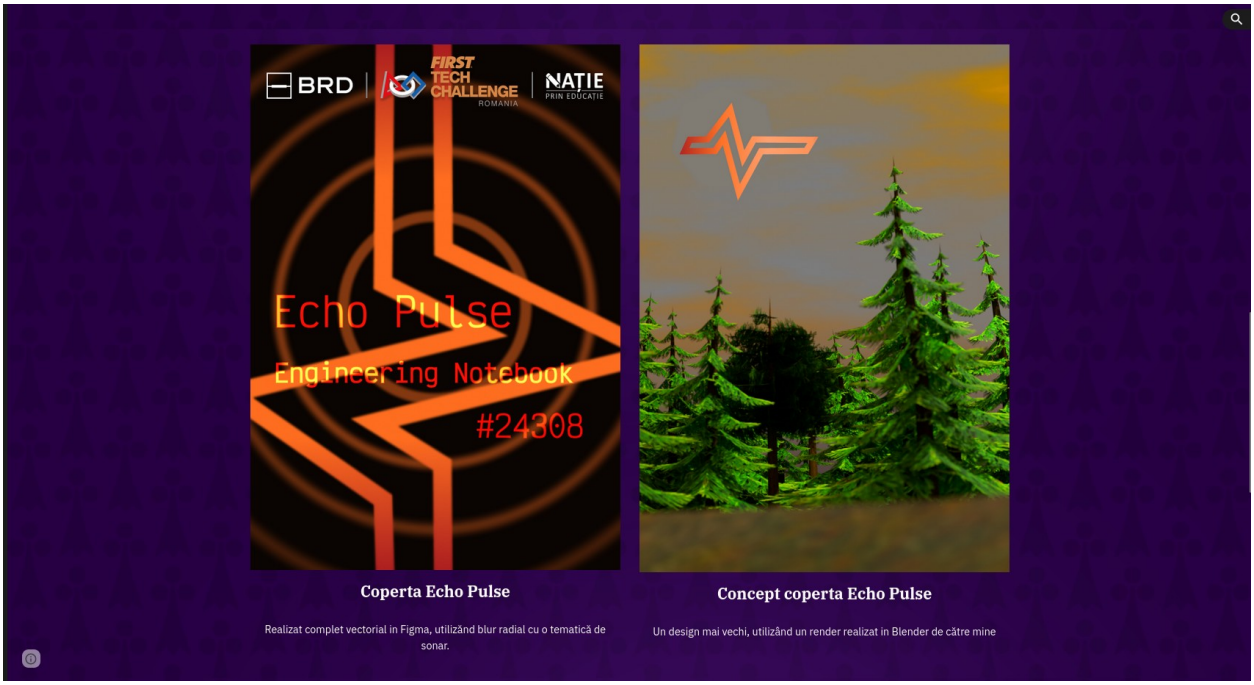


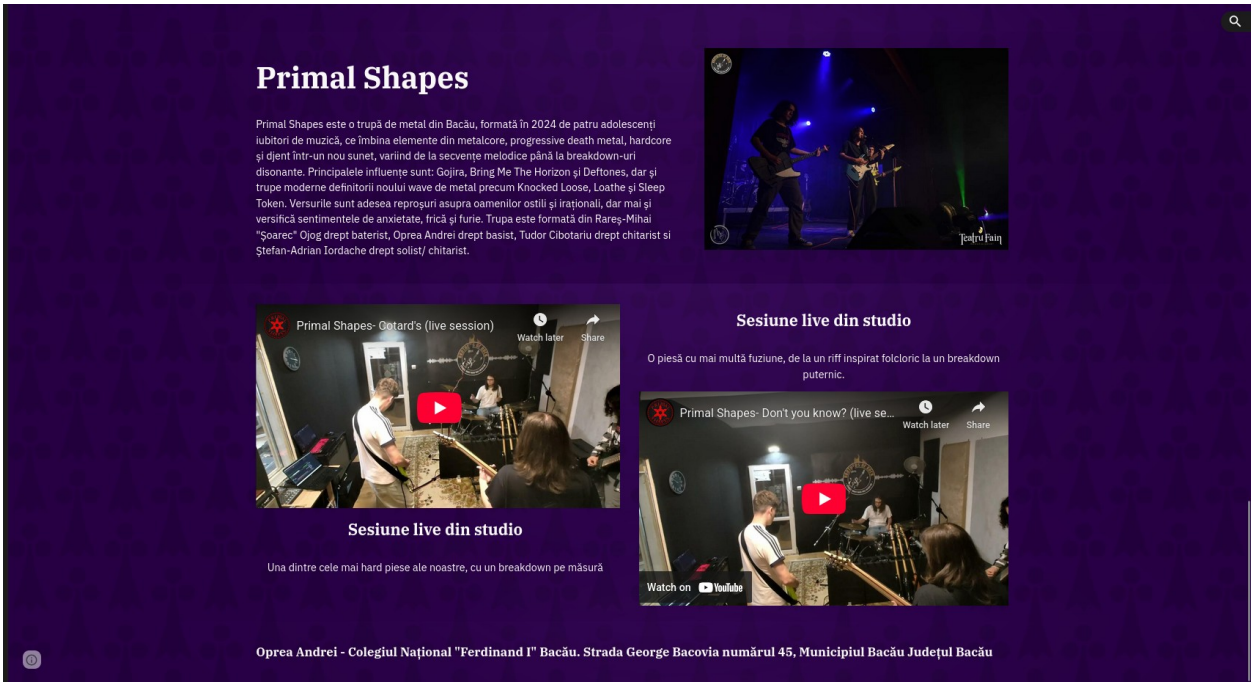
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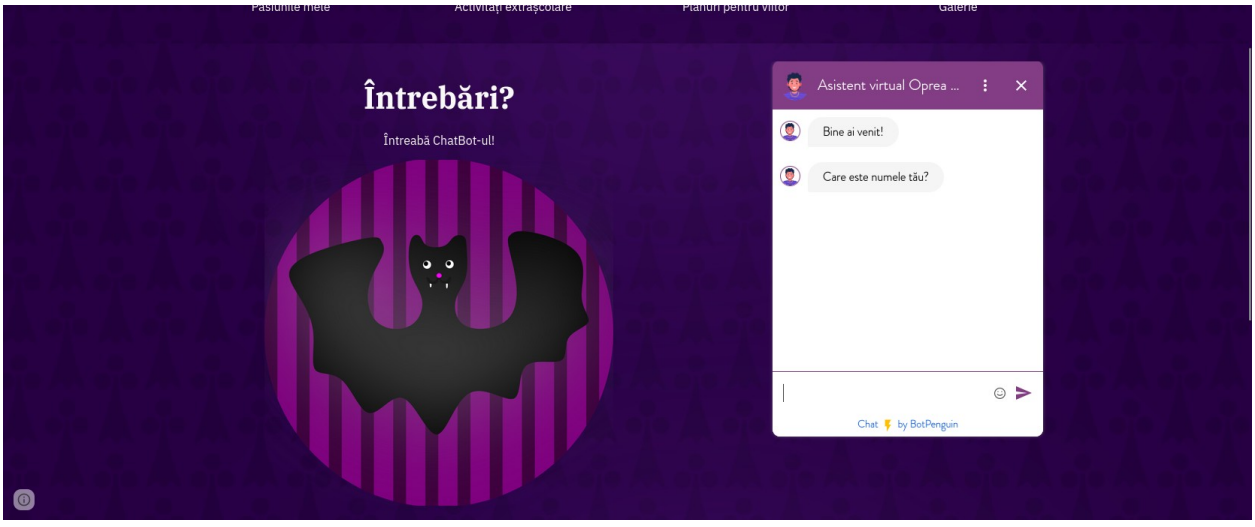
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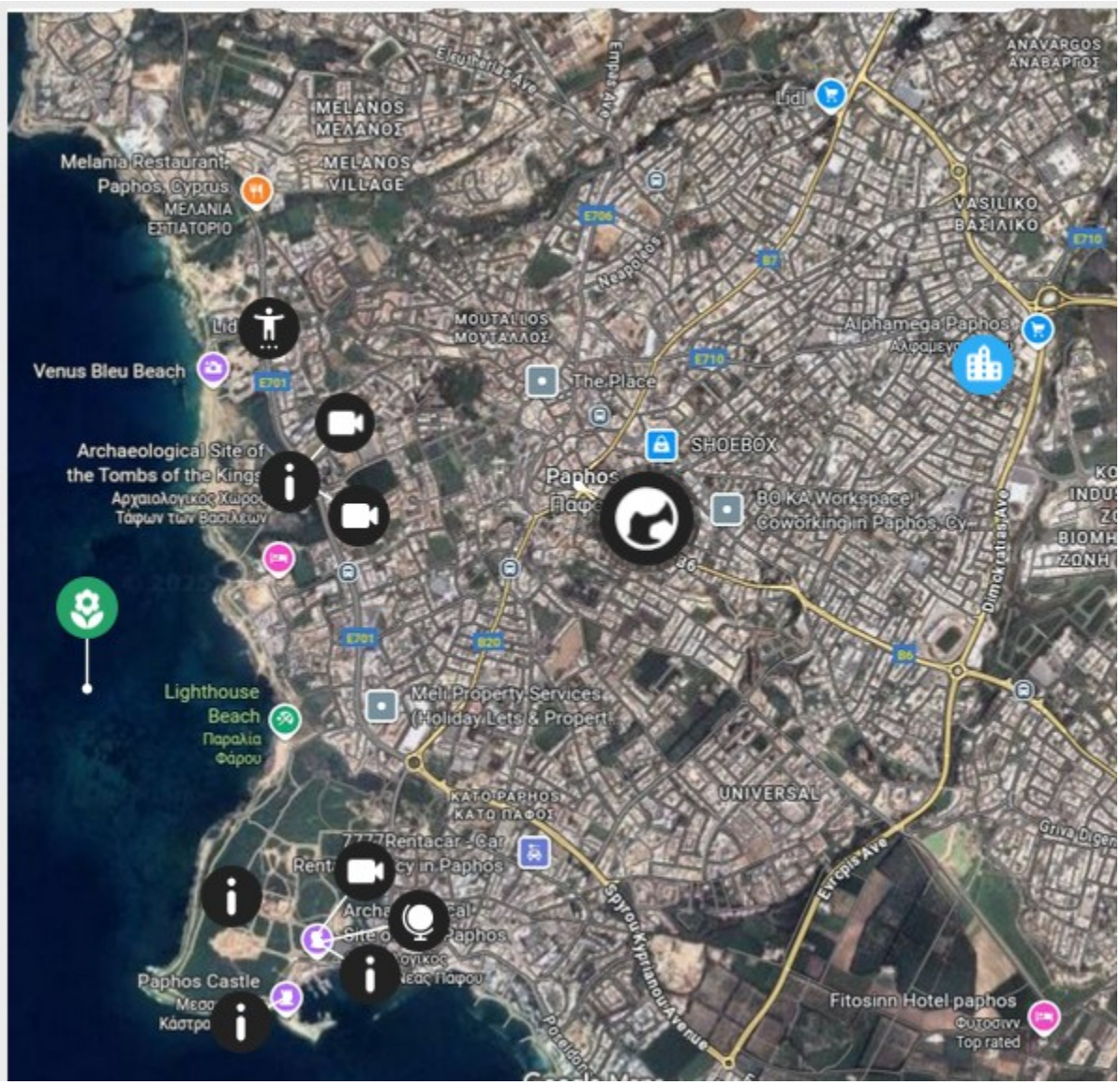
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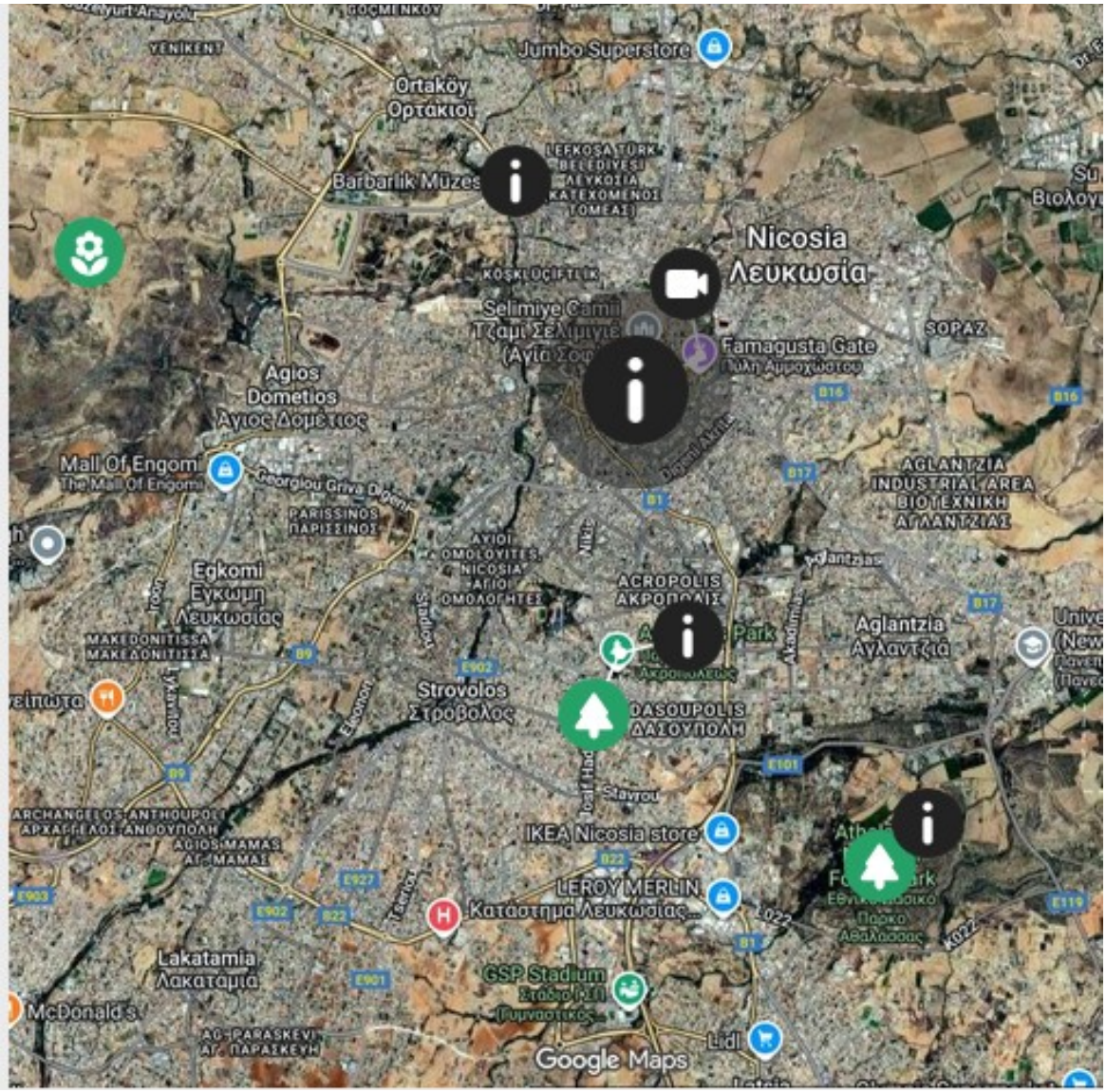


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