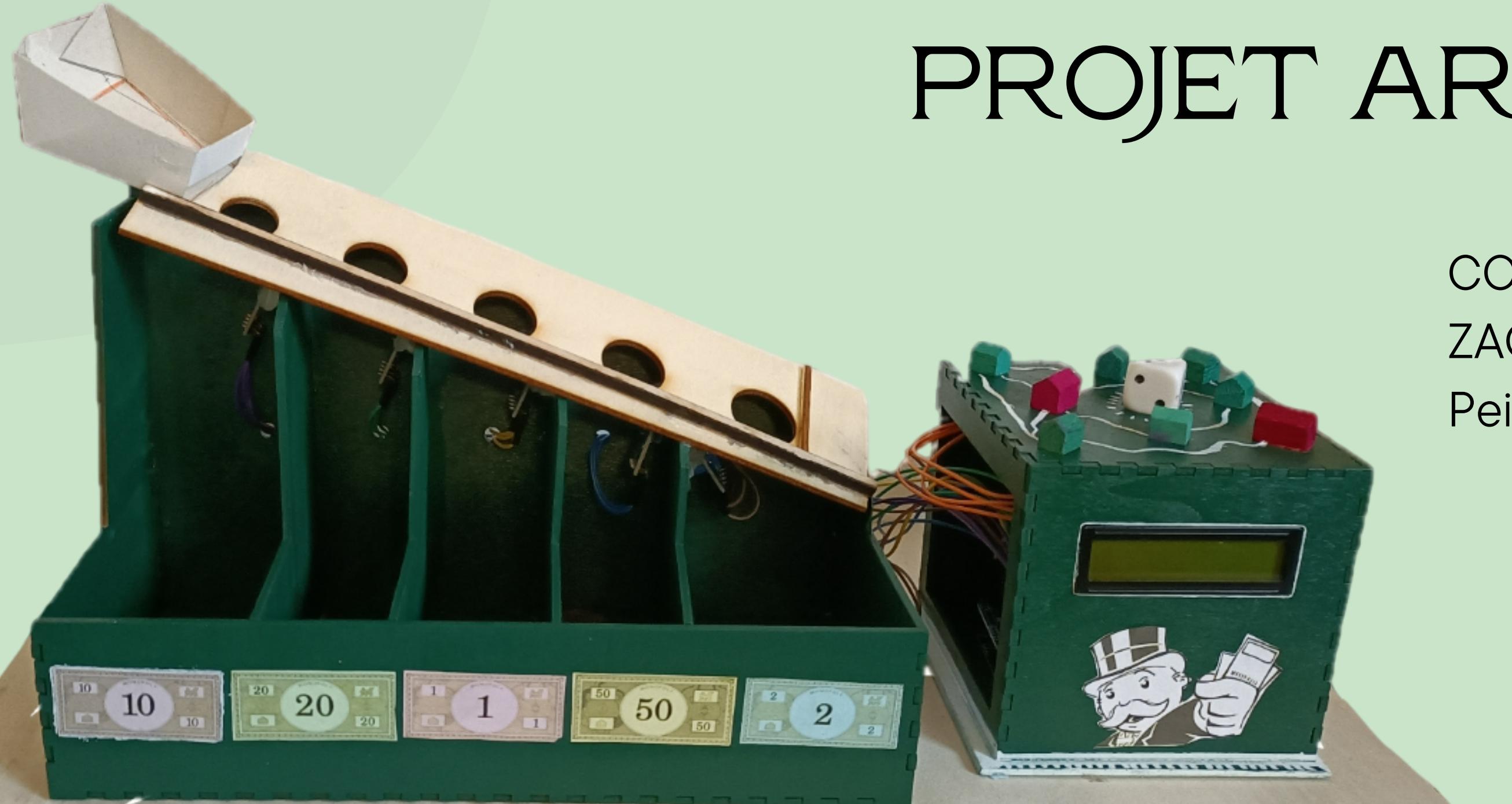


# The€ Coin \$orting Machin€

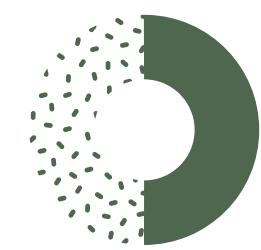
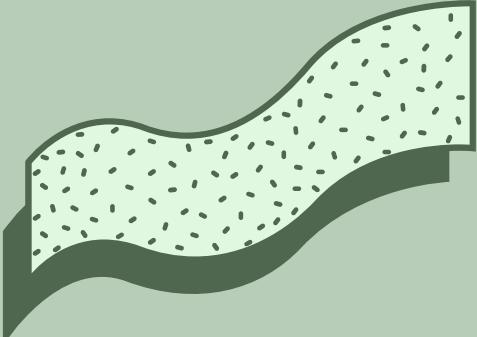
## PROJET ARDUINO



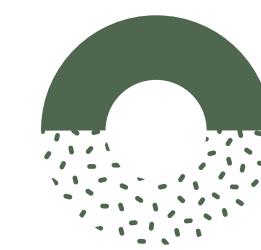
COSTANTIN Perline  
ZAOUN Eya  
PeiP2 G2



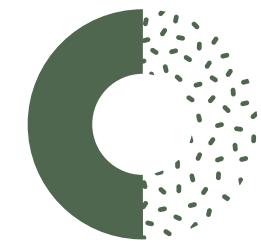
# Sommaire



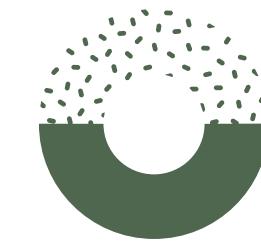
I/ Présentation générale



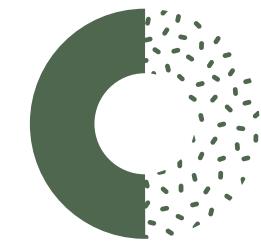
II/ Répartition du travail



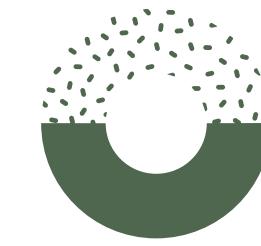
III/ Fonctionnement



IV/ Démonstration

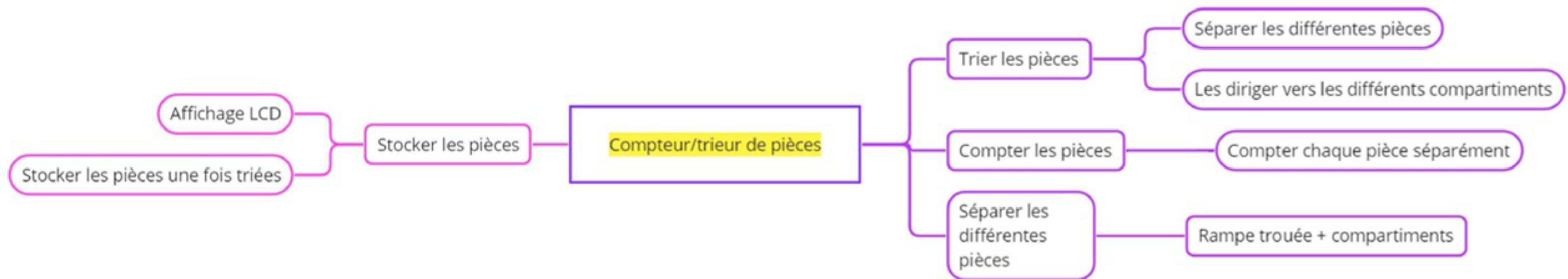


V/ Limites du projet



VI/ Conclusion

# Présentation générale



# Répartition du travail

PERLINE

Conception de la structure  
Choix des dimensions  
Modélisation 3D structure  
Prototype en carton  
Code capteurs  
Découpe laser des faces

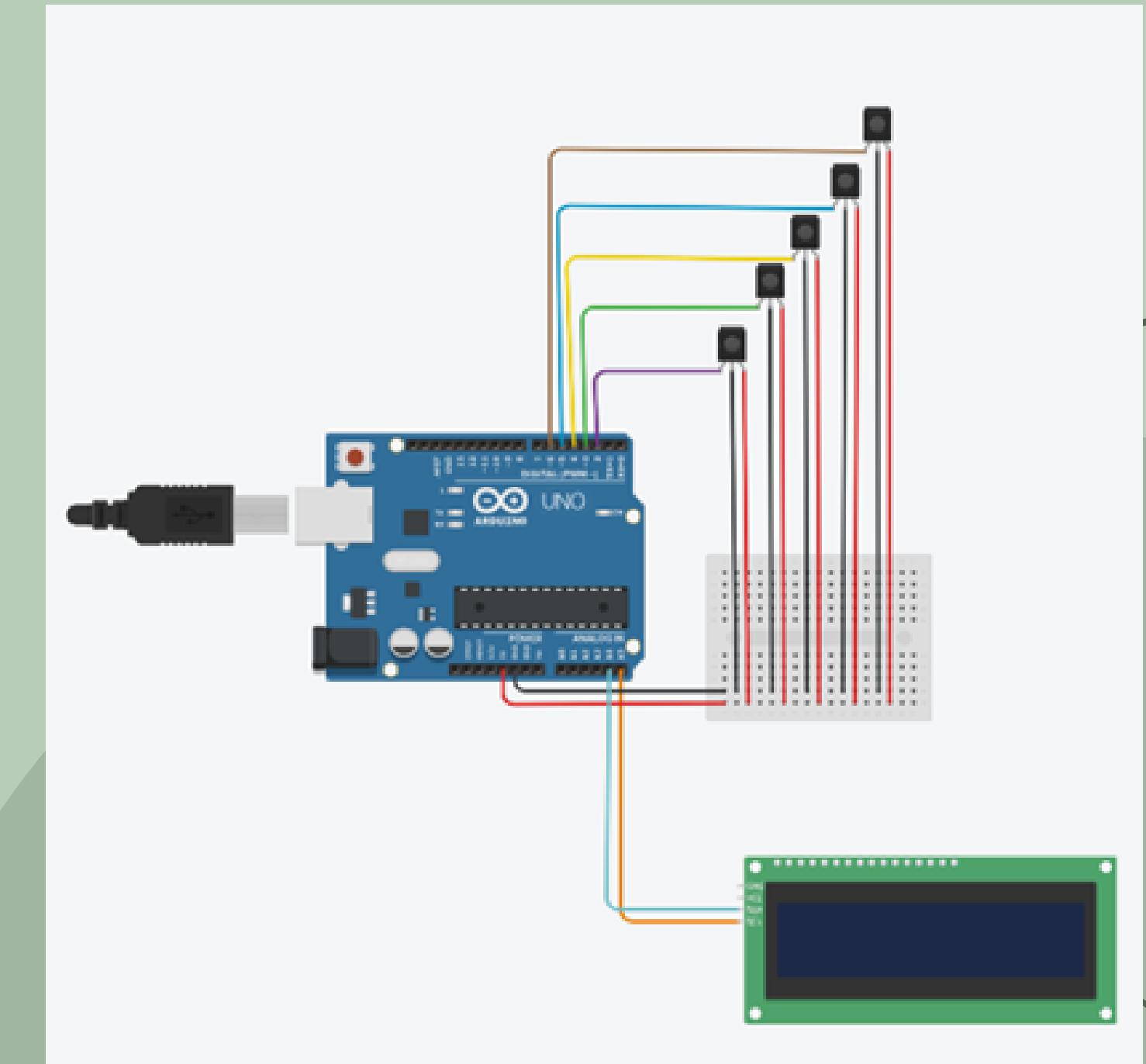
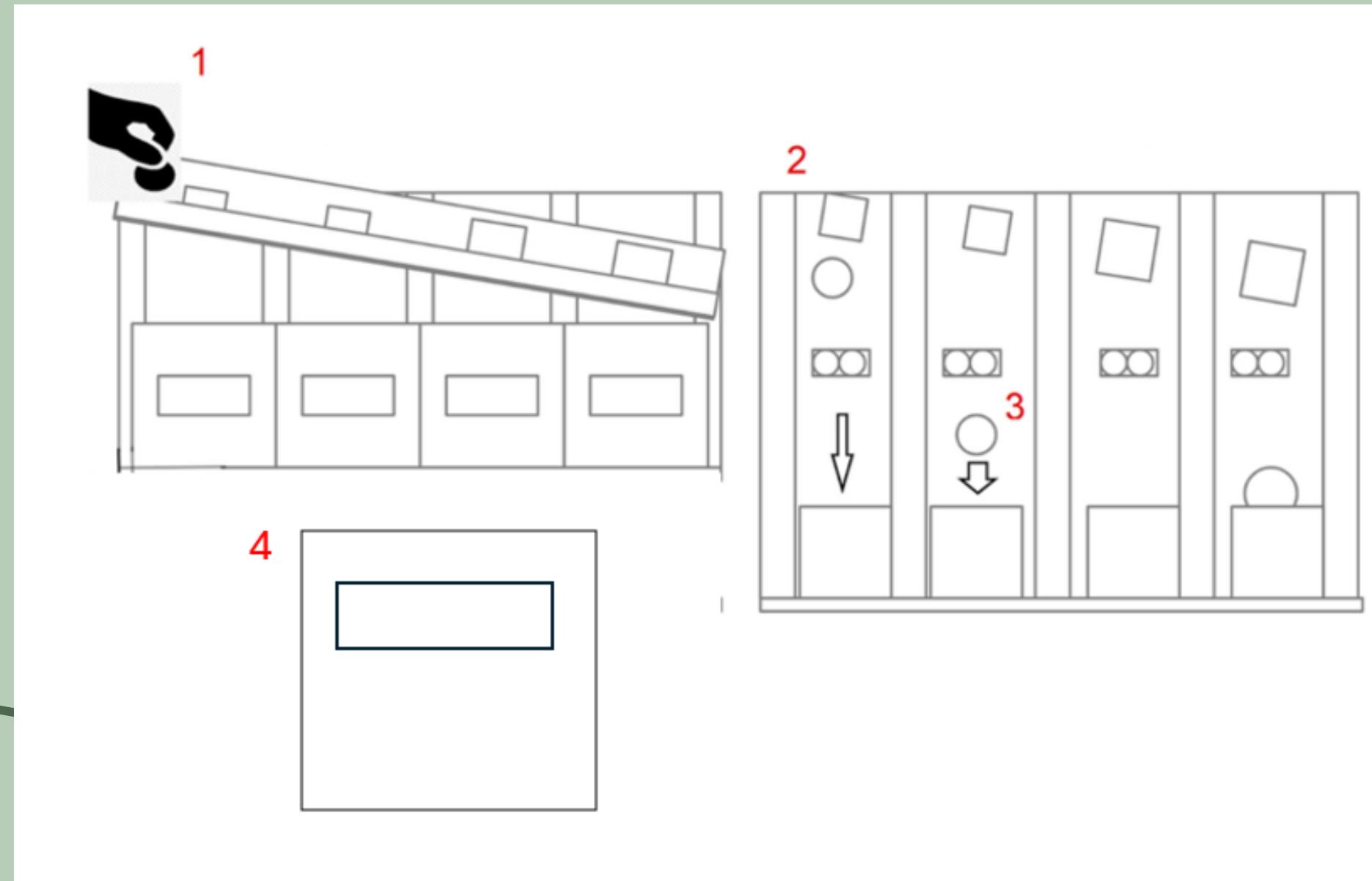
ENSEMBLE

Montage  
Branchements  
Tests  
Décoration

EYA

Modélisation 3D petit boitier  
Découpe des faces  
Code écran LCD  
Amélioration du code  
Mise en commun des 2 programmes

# Fonctionnement général



# Fonctionnement du code

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>

LiquidCrystal_I2C lcd(0x27, 20, 4);

const int capteur10c = 2;
const int capteur20c = 3;
const int capteur1e = 4;
const int capteur50c = 5;
const int capteur2e = 6;

int coinCount = 0;
float Total = 0;

void setup() {
    Serial.begin(19200);
    lcd.init();
    lcd.backlight();
    welcomeMessage();
    initializeSensors();
}

void loop() {
    displayAmount();
    checkCoinDetection(capteur10c, 0.1, "10c");
    checkCoinDetection(capteur20c, 0.2, "20c");
    checkCoinDetection(capteur1e, 1, "1e ");
    checkCoinDetection(capteur50c, 0.5, "50c");
    checkCoinDetection(capteur2e, 2, "2e ");
}
```

```
1. void welcomeMessage() {
    lcd.setCursor(3, 0);
    lcd.print("Welcome Back to");
    lcd.setCursor(4, 1);
    lcd.print("the Coin S/C!");
    delay(500);
    for (int positionCounter = 0; positionCounter < 20; positionCounter++) {
        lcd.scrollDisplayLeft();
        delay(500);
    }
    delay(1000);
    lcd.clear();
}

void initializeSensors() {
    pinMode(capteur10c, INPUT);
    pinMode(capteur20c, INPUT);
    pinMode(capteur1e, INPUT);
    pinMode(capteur50c, INPUT);
    pinMode(capteur2e, INPUT);
}

void checkCoinDetection(int sensorPin, float coinValue, String coinName) {
    int sensorValue = digitalRead(sensorPin);
    if (sensorValue == 0) {
        Serial.println("Coin detected: " + coinName);
        delay(200);
        lcd.setCursor(10, 0);
        lcd.print(coinName);
        lcd.setCursor(0, 1);
        Total += coinValue;
        coinDetected();
        displayAmountSerial();
    }
}
```

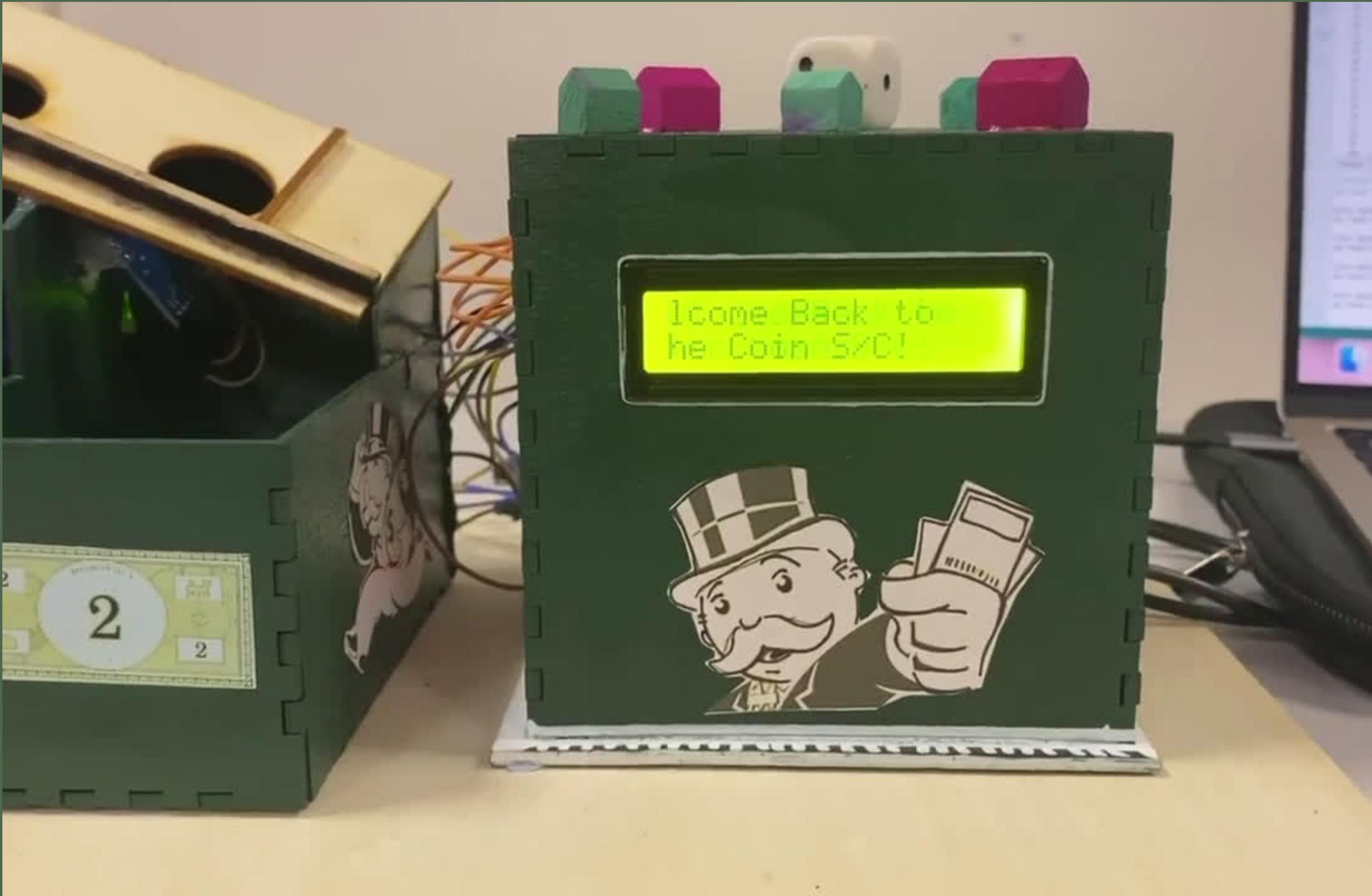
```
2. void display(int cursorPos1, int cursorPos2, int cursorPos3 = -1) {
    lcd.setCursor(0, 0);
    lcd.print("Coin :");
    lcd.setCursor(0, 1);
    lcd.print("Total :");
    lcd.setCursor(cursorPos1, 1);
    lcd.print(Total);
    if (cursorPos3 != -1) {
        lcd.setCursor(cursorPos3, 1);
    }
    lcd.print("e");
}

void displayAmount() {
    lcd.setCursor(0, 0);
    lcd.display();
    if (Total >= 0.00 && Total < 10.0) {
        display(9, 14);
    } else if (Total >= 10.0 && Total < 100.0) {
        display(9, 14, 14);
    } else if (Total >= 100.0 && Total < 1000.0) {
        display(8, 14, 14);
    } else if (Total >= 1000.0 && Total < 10000.0) {
        display(8, 14, 15);
    }
    lcd.noBlink();
}
```

```
3. void coinDetected() {
    coinCount++;
}

void displayAmountSerial() {
    Serial.print("So that's ");
    Serial.print(coinCount);
    Serial.print(" coins now and the total value counted is ");
    Serial.print(Total);
    Serial.println("e");
    Serial.println();
}
```

```
4.
```



copy\_D761A4F7-A548-449B-9A53-D7D5374A216D.mov

# Problèmes rencontrés



# Améliorations possibles

## Fonction de retrait

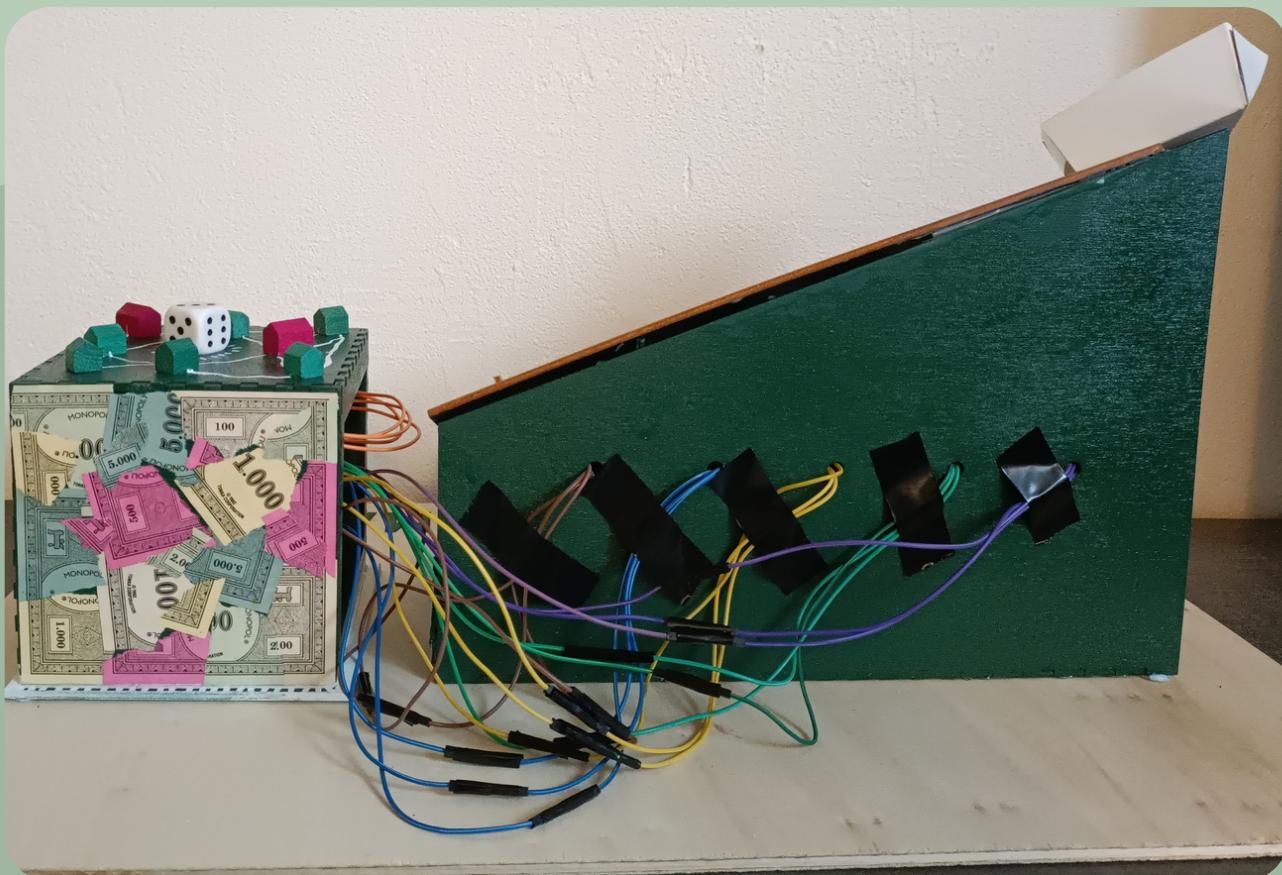
Permet aux utilisateurs de sélectionner une somme spécifique à retirer.

## Connexion à une application mobile

Permet de surveiller à distance le montant total collecté et les dernières transactions.

## Identification pièces étrangères/fausses pièces

Permet de détecter et rejeter les pièces qui ne sont pas en € ou les contrefaçons



# Conclusion

- Projet ludique = motivation et implication
- Travail en binôme bénéfique
- Mise en commun et développement de nos compétences

