Group #60

Team Members(netID):
Maaz Ahmed (mahmed76)
Hasan Ali (hali32)
Ammar Idrees (aidree3)
Umer Qazi (uqazi2)

Name of Project: Addiction Prevention Safe

Abstract: Our project is to implement a safe-like device that is designed to keep the user away from wasting their time on certain tasks (e.g. phone usage, etc). The safe will use some security features such as the requirement of a password as well as a timer which will make the safe unable to open until the timer is complete. For example, if a user wants to stay away from their phone for an hour, they can place their phone into the container, and they will not be able to use their phone until the safe unlocks an hour later.
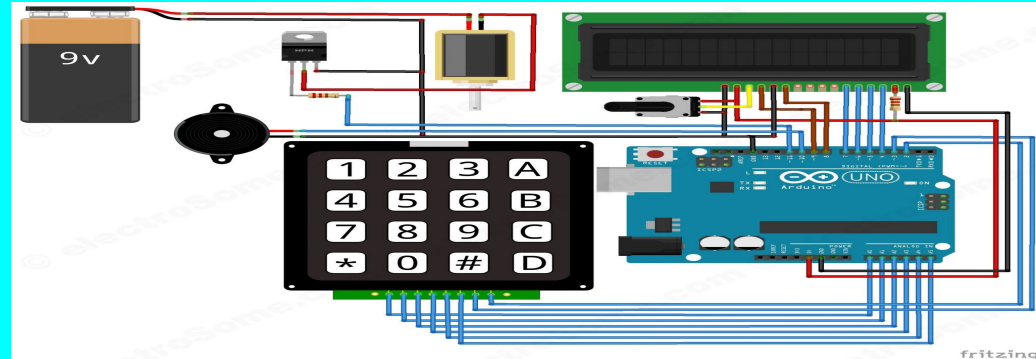
Project Idea

Implementing a safe using shoebox

Security so box can't be accessed easily. Two servo motors and fingerprint/pin to access
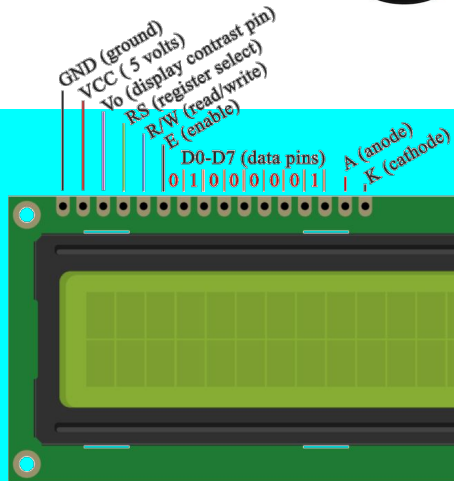
Prevent Phone Addiction

Ability to enter 4 digit unique pin using buttons
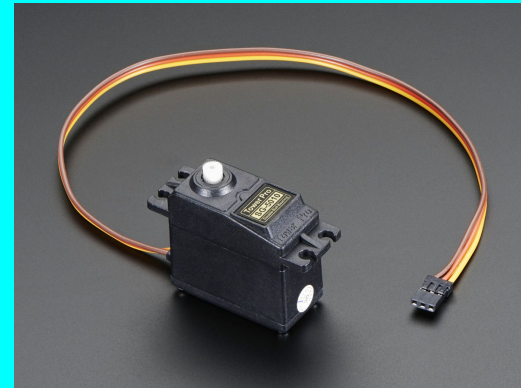
Project Design - I/O Design

4 buttons

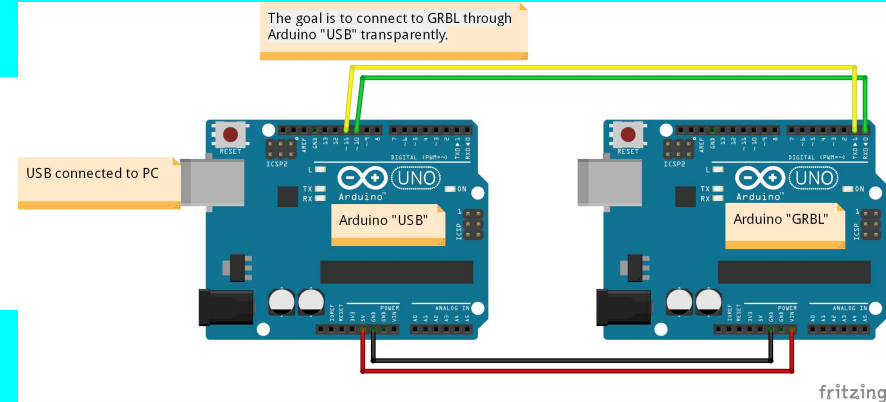Fingerprint scanner

2 16X2 LCD Screens

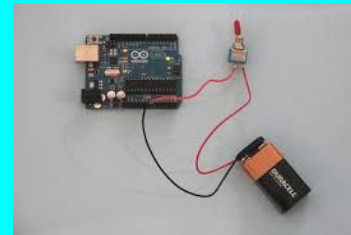2 Servo Motors

Project Design - COMMUNICATION USED

```
if (Serial.available() > 0) {
//read what the serial.write data bytes are
if (Serial.read()=='A') {
```

```
Serial.write('A');
```

Used serial.write and serial.available within the IDE to communicate between the boards
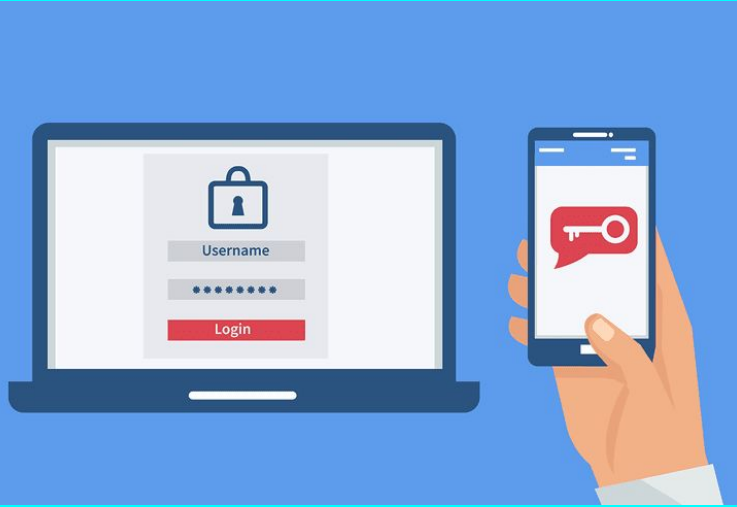
The goal is to connect to GRBL through Arduino "USB" transparently.

USB connected to PC

Arduino "USB"

Arduino "GRBL"

fritzing

Serial Communication between two arduinos at a time. Used Port 0 (RX) and Port 1 (TX)

Used blue USB cable and battery to run both arduinos

PROJECT DESIGN - ORIGINAL WORK

Fingerprint scanner

Two factor authentication
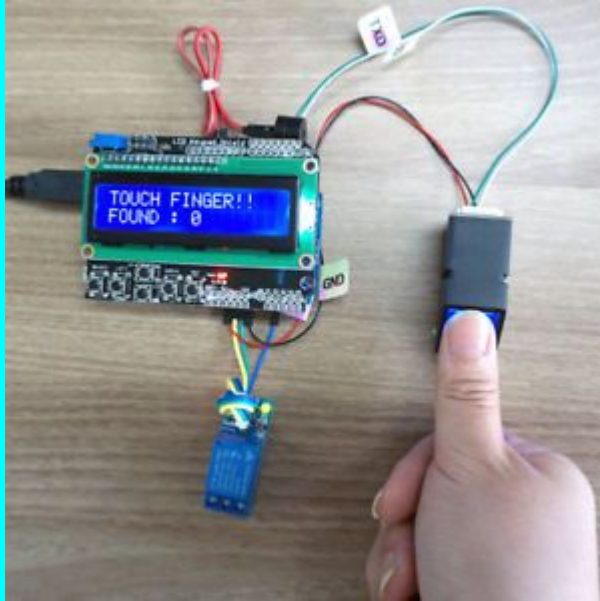

Timer

What worked

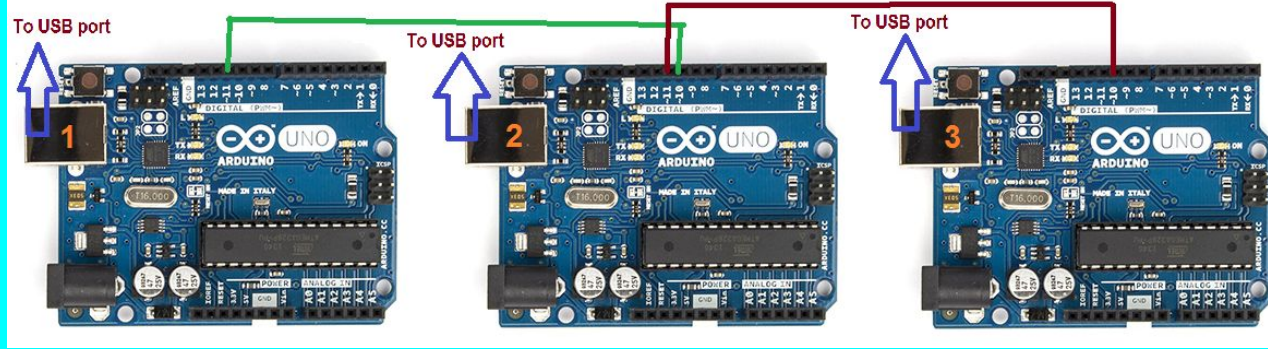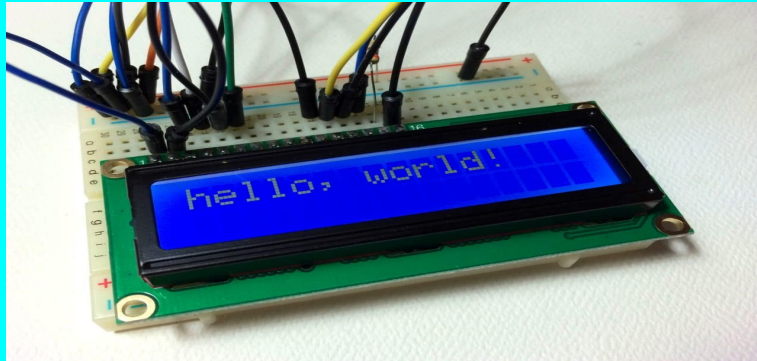Fingerprint
scanner

Group communication

```
if (correct) {
  //Serial.println("Password Correct");
  lcd.clear();
  lcd.print("Password Correct");
  Serial.write('A');
  delay(1000);
  for (int i = 0; i < 4; ++i) {
    code[i] = 0;
  }
}
```

Arduino code

What doesn't work

Serial communication with 4 arduinos

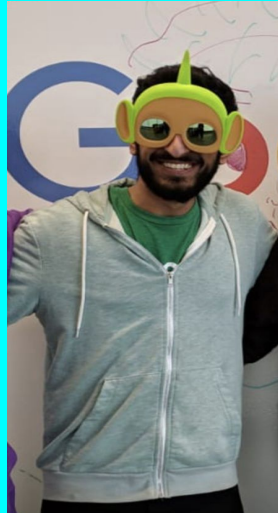Making the LCD Screen Look visually appealing

Highlight process / team related roles

Umer Qazi: Motivator of the group and, helped with wiring and worked on the servo motor.

Hasan Ali: Worked on arduino wiring for the buttons/LCD screen and communication between the two.

Ammar Idrees: Got the fingerprint sensor to work and contributed to the Arduino code

Maaz Ahmed: Worked on Arduino wiring for the lcd and second servo motor. Main contributor to the presentation.

Process: Met up at a house on the weekends. Staying late night on campus working together. Created a group chat for easy communication