Short summary of our project direction.

Our idea is now directed towards one of the function of the mindwave. The ‘Attention’ feature where the user focus on a physical object we built and wearing this mindwave, they can ‘control’ their mind to keep it from falling.

This is to promote the understanding of our human mind when we focus on an object and interference cause our brain to tune out of it. Also we would like the user to have the fun experience of ‘Use the Force’, without touching the object and full concentration lets the user control the object.

How this prototype works

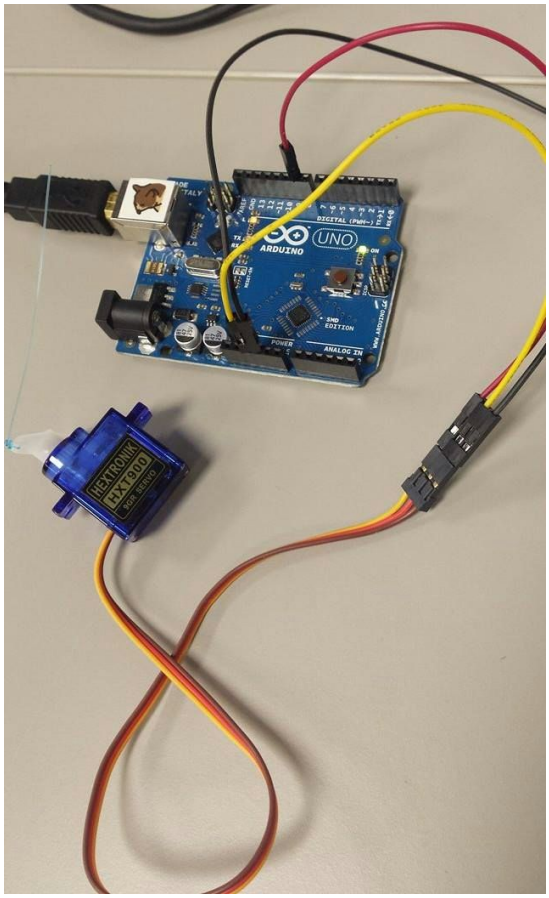
This physical object we have decided on is built using Arduino Uno and will be programmed together with Python code. The mindwave recorded brain signals will be translated from raw data to a fix spectrum wave table where the upper limit (concentration / attention) keeps the object from falling and the lower limit (lost of concentration / meditation) drops the object.

We will be using a Servo - a motorised device that we can connect to the Arduino to control the object like a hammer dropping or raised. This servo will be coded in a table format where the highest frequency will keep the servo at a 90 degree angle and the lowest to a 0 degree angle.

Problem / issue that we faced

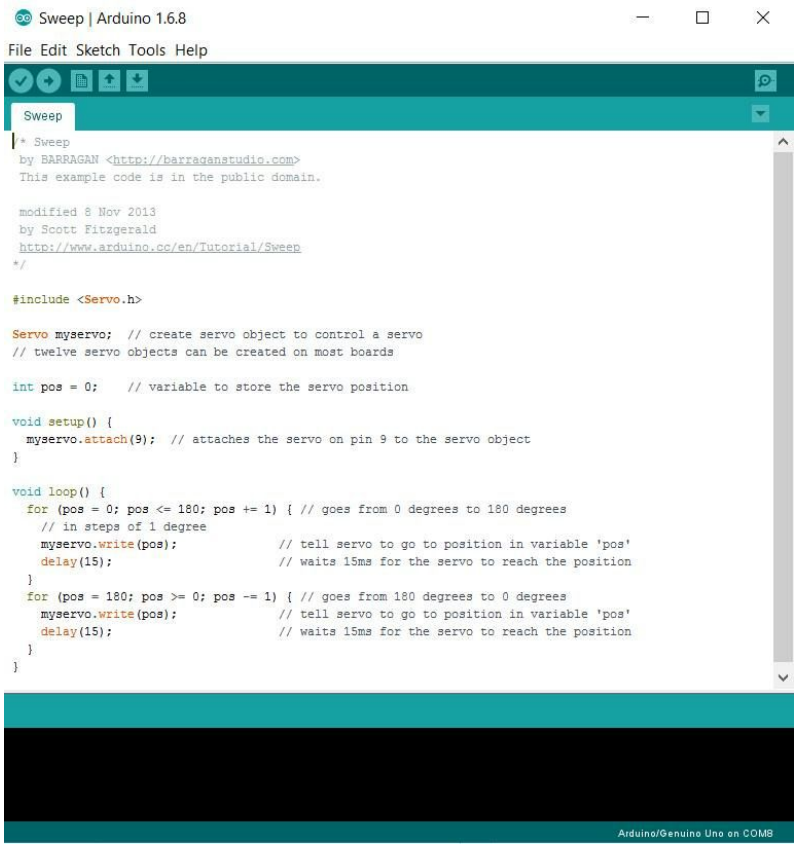
The problem faced by this project is to decipher the mindwave raw data into readable numbers so that we can easily translate it to the servo.

Another issue is that there might be a delay between the mindwave and the Arduino as the medium device has to decipher the raw data and then output into the servo.


ARDUINO
UNO
HEXTRONIK
HXT900


NeuroSky


mindwave
MOBILE


Sweep | Arduino 1.6.8
File Edit Sketch Tools Help
Sweep
/* Sweep
by BARRAGAN <http://barraganstudio.com>
This example code is in the public domain.
modified 8 Nov 2013
by Scott Fitzgerald
http://www.arduino.cc/en/Tutorial/Sweep
*/
#include <Servo.h>
Servo myservo; // create servo object to control a servo
// twelve servo objects can be created on most boards
int pos = 0; // variable to store the servo position
void setup() {
myservo.attach(9); // attaches the servo on pin 9 to the servo object
}
void loop() {
for (pos = 0; pos <= 180; pos += 1) { // goes from 0 degrees to 180 degrees
// in steps of 1 degree
myservo.write(pos); // tell servo to go to position in variable 'pos'
delay(15); // waits 15ms for the servo to reach the position
}
for (pos = 180; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees
myservo.write(pos); // tell servo to go to position in variable 'pos'
delay(15); // waits 15ms for the servo to reach the position
}
}
Arduino/Genuino Uno on COM8