Visual Communication with haptic gloves

Packages you need to install:

- Express: https://expressjs.com/en/starter/installing.html

```
$ npm install express --save
```

- Socket.io

```
$ npm install --save socket.io
```

- Yarn: https://yarnpkg.com/lang/en/docs/install/#mac-stable

```
$ brew install yarn
```

Other prerequisite:

- Python 3: https://www.python.org/downloads/

```
$ sudo apt-get install python3.6
```

- pip v.18

```
$ pip install --upgrade pip
```

- install requirements

```
$ pip install -r requirements.txt
```

- install our wrapper

```
$ pip install sensoglove
```

Calibrate the Sensogloves

Steps	Instruction
1	plug your bluetooth dongle
2	connect the glove to the dongle: (SENSO_BLE_SERVER.exe)
3	start the UI: (SENSO_UI.exe)
4	clic on ‘Connect to server’
5	select your glove in the list
6	clic on ‘Connect to glove’
7	clic on ‘calibrate’, follow instructions on the images
8	test vibration ‘Test vibro’ to make sure the glove is connect. Futhermore you should see the data refreshing every ~10ms

How to start the project:

1. Start server
start the server (node app.js) and listen on the port 8080 for any data

the glove send us

```
$ yarn start 3000
```

2. Open Website
open the website in your browser

```
$ firefox index.html
```

3. Start software
start the software in order to receive the signs and dislpay them on the website

```
$ python3 sign_matching.py [server_address] [listener_port] [
website_address] [port_on_which_yarn_listen]
```

Description:

Here we use a Virtual Machine.

Our [server_address] can be found as follow:

open a terminal:

- cmd (windows)
- ipconfig
- this is your IPv4 address

Other Arguments:

- The [listener_port] can be found on the SensoUI, by default it is: 53450.
- The [website_address] is usually localhost since you're going to open the website on your computer.
- The [port_on_which_yarn_listen] corresponds to the first command you did above (1.), here 3000.

> *Your command should look like this (with your own server_address/ip):*
> *python3 sign_matching.py 192.168.56.101 53450 localhost 3000*

4. Start software

if you want to calibrate a sign or create a new sign you need to start our sign_recording.py as follow:

```
$ python3 sign_recording.py [server_address] [listener_port]
<file_name>.dat
```

> *The <file_name>.dat is of your choosing. by default please leave signDataBank.dat as it >is called by our software.*
> *But you could change the name of the file that is called in sign_matching.py, ligne 18*

In the end you should get this command:

```
$ python3 sign_recording.py 192.168.56.101 53450 signDataBank
.dat
```

> *Once the script executed, make your sign then press r to record the position and name it >(follow instructions). Repeat the process as long as you want to insert signs into our >signDataBank.*
> *When you are done can press q to quit.*

> *Restart the the software (3.), go on the website and have fun !*

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