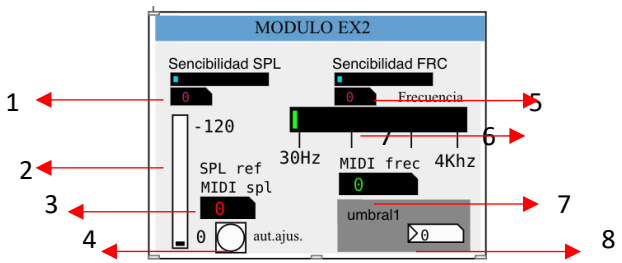
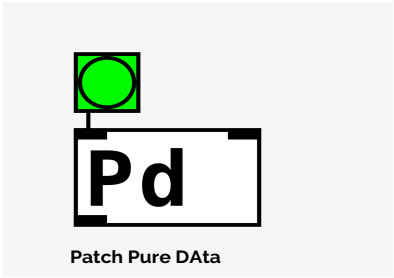
Patch Pure DAta

EX2 (OSCHOOK)
MODULE

Diseño y desarrollo de sistemas MMHCI híbridos con bioseñales y un DMI de smartphones, para obras bio-interactivas mixtas y performáticas

Pure Data Patches for the PhD Thesis: Juan Pablo posada Alvarez





1. **Filter window setting** (moving average) **for sound pressure**: Reduced values in this parameter allow a flow with greater data variation per unit of time, while high values contribute to stability in data variation by decreasing the noise level. It is recommended to adjust this parameter according to the tests carried out with each device with high sound pressure levels.
2. **SPL ref:** This slider allows you to display the sound pressure values received by the microphone with a range of values between 0 and 120 dB of reference. To ensure that these values properly reflect the maximum and minimum amount of the user's context, it is necessary to perform a calibration using the auto-adjust button (4).
3. **MIDI spl:** The sound pressure measurement is displayed in a range of MIDI values from 0 to 127, which are transmitted via the module's outlet.
4. **Aut adjustment:** Allows the module to be adjusted to adapt to the sound conditions of the user's context. The calibration procedure is as follows: when the user is in the final location with the Smartphone, the maximum sound pressure that can be presented in the performance must be exerted. Subsequently, the adjustment button is pressed. With this, the module is calibrated and the system must respond with the range between the floor in dB of the environment, and the exercise generated by the user.
5. **Filter window setting** (moving average) **for frequency**: Reduced values in this parameter allow a flow with greater variation per unit of time in the frequency received by the Smartphone's microphone, while high values contribute to the stability in the variation

of the data by decreasing the noise level. It is recommended to adjust this parameter according to the tests carried out with each device.

6. **Frequency:** This slider allows you to display the frequency values received by the microphone with a range of values between 10hz and 5000hz reference.
7. **MIDI frec:** The measurement of frequency values is displayed in a range of MIDI values from 0 to 127, which are transmitted through the module outlet. A value of 440 Hz (A4) should be equivalent to a value of 64 in MIDI.
8. **Threshold:** By means of this button the module adjusts the threshold at which the binary values that are sent by the outlet are activated. To adjust this threshold, the user has to output the frequency to the microphone to which they want to set the threshold and immediately presses the button.

The module is connected as follows:

- **Left inlet:** Input for OSC module. It is recommended to use a different OSC module if you want to use it with other modules, in addition to having a different number of ports set to receive data in each module.
- **Outlets 1:** Output of a MIDI frequency values.
- **Outlet 2:** MIDI sound pressure output values.

Outlets 3: Output binary values 1 and 0 for the Frequency threshold.