Warped - Live Improvisation for 8 Speaker

There are three sound sources which are manipulated with three effect racks by four performers. Every sound has its own manipulation rack. All the process is made in Max/MSP with Ircam Tools effects.

Sounds are,

- A water sound. I recorded one side of the garden hose while the other side was hitting on the surface of the swimming pool. It is recorded by Zoom H6 and is 1 minute long.
- A pizzicato on prepared viola. On one string, I clipped a crocodile clip and plugged the string. The recordings took six seconds long and captured with AKG C1000.
- A bass synthesizer sound, made with Synthmaster One which is 30 seconds long.

Figure 1: Bass sound settings

Performers,

- Performer 1 controls Granular Synthesizer and Azimuth
- Performer 2 controls Multi Stretch and Azimuth
- Performer 3 controls Multi Stretch, Tremolo and Azimuth
- Performer 4 controls Spectral Filter II

The first effect rack which manipulates the water sound,

Figure 2: The first effect rack

Water sound first encounters with granular synthesis. In granular synthesis patch, performer 1 can choose the specific area of the sound that he might want to manipulate. The direction of the reading can be chosen as left to right, right to left or both in the cycle. Lastly, performer 1 can determine the rates of stretch, grain size, onset variation, transposition and pitch variation. I mapped these parameters to "*Quneo*" controller. With the help of the controller, only one button is enough to change the values of three parameters according to x/y and z (pressure). Hence, I only mapped 6 buttons on "*Quneo*" to change these parameters. Also, for all mappings, it is important to be possible to control all parameters by one performer. To achieve this, I mapped the related parameters together. After granular synthesis, the sound source goes to "*Spectral Filter II* " effect. There two "*Spectral Filter II"* one is at *Figure 2* and other is at *Figure 4,* both are performed by

performer 4. This is basically a note-base filter. Sound is analyzed as FFT and with the selection of the notes that are visible on the keyboard at *Figure 2* determines the timbre of the sound. After selecting the pitches, performer 4 can decide the density of the overtone series with Harmonics knob, variety of the overtone series with Variance knob, amplitude with Envelope, transposition with Shift and time with Stretch. I mapped harmonics, variance, shift and stretch to four faders, so performer 4 uses eight faders to control "*Spectral Filter II"* both in *Figure 2* and *Figure 4.* Lastly, the signals coming out from "*Spectral Filter II*" goes to hoa (high order ambisonics). I worked with third-order ambisonics which well fits with eight speakers. With the help of hoa, sound source can travel 360 degrees according to the location of the listener which is considered as sweet spot. Azimuth is the value to change the location of the sound in terms of 360 degrees. The knob at *Figure 2* changes the value of Azimuth. If the value if positive, sound source travels clock wise, if the value is negative, sound source travels counterclockwise. Performer 1, 2 and 3 control the azimuth of their sound sources.

The second effect rack that manipulates the pizzicato sound,

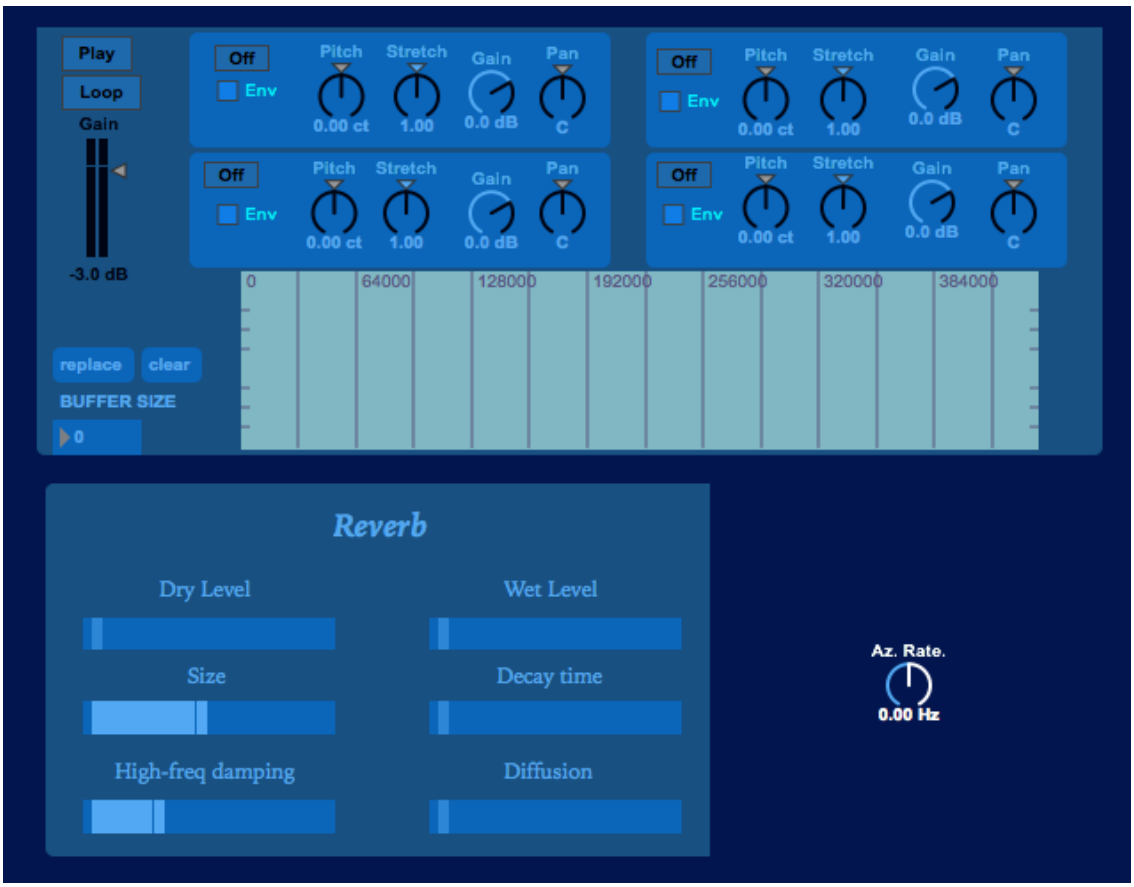

Figure 3

Performer 2 controls the "*Multi-Stretch*" by IRCAM. It works like harmonizer aside from stretch feature. Stretch starts the sound source to play late or early. Performer 2 has 16 knobs on the midi controller that are mapped to pitch, stretch, gain, and pan. Owing to the fact that pizzicato is a short percussive sound, the stretch feature worked really well. The reverb is adjusted before the performance and it is fixed. It helps to remove the dryness of the pizzicato sound which helps to melt the sound with the other sound sources. After that, the performer decides the value of the azimuth for spatialization.

The third effect rack that manipulates the bass synth sound,

Figure 4

In this rack, performer 3 controls multi stretch, tremolo and azimuth and performer 4 controls "*Spectral Filter II*". On account of the fact that performer 3 controls more parameters, I mapped related parameters together. Firstly, I did not use and assign the stretch to any controller in this rack because bass synth sound is not a percussive sound and the morphology of the sound does not vary. It is a drone sound. Because of that, I only mapped the pitch, gain and pan parameter. Secondly, I mapped the azimuth value and the tremolo rate to gather. With one knob rate of tremolo and azimuth increase together which sounds like a helicopter.

The Complete Patch,

Figure 5

General Settings,

In this music, I used three controllers that are Quneo (Keith Mcmillen), SL Mk II (Novation) and VS-XS. I put an initialize button which sets up the starting values of all the parameters and also chooses the correct controller for each effect rack.