

MIDI.CITI.VR

DESIGNED BY KUNWOO KIIM



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Software and Tools:
Unity, Chuck, Chunity,
Blender, SteamVR,
and HTC Vive

MIDI.CITI.VR is an audiovisual software in virtual reality that maps visual cityscape to audio parameters. Elements within the city control complexities of audio loop lines, volume, and granular synthesis parameters. As the music develops, the city becomes more vibrant. Cars, trucks, trains, and even UFOs join the city vibe. Audio elements are coded using Chunity, and the 3D objects were designed in Blender. The environment has been reconstructed and remapped from MIDI.CITI. (non-VR) (2019) to optimize the virtual reality experience.

AUDIOVISUAL MAPPING - CITY

The user can control the amount of light on the windows of each building with the VR controller.

This is translated to audio parameters such as density of a drum loop, number of chords played per measure, overall gain boost, and tempo.

By editing the Chuck code in Unity, the user can customize timbre, probabilities of onset, loop lines, and chords.

Lighthouse - to Moon



Calls a boat that takes you to the moon for granular synth. control

Overall Volume Boost

Controls amount of gain boost to volume

User Melody Input

Plays Rhodey Ugen single note as User clicks on each UFO

Do Re Me Fa Sol Le Te/Ti Do

Pitched Plucks



Controls density of Stifkarp Ugen chords and notes

Tempo

Rotate Clockwise for faster tempo

Rotate Counter-clockwise for slower tempo

Bass



Controls density of Rhodey Ugen bass line notes generation

Drum Kit



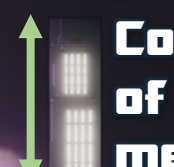
Controls density of kick, clap, hat and percussions

Chord Comping



Controls density of Rhodey Ugen comping chords

Melody

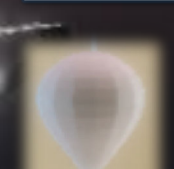


Controls density of Modal Bar Ugen melody generation

AUDIOVISUAL MAPPING - MOON

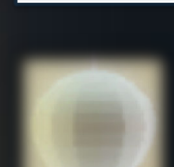
The user can add a wall of granular synthesis harmonies to the music sequence created from the city. By changing the position of grains, the timbre can cross fade between string sounds to vocal sounds. By feeding a sound sample with multiple instruments within the Chuck code, the user can customize both the quantity and quality of timbres.

Grain Gain



Controls the gain of synthesized grains of sound

Grain Position



Controls the position of the grain, where the bottom has a normalized parameter Of 0, and the top has 1 of a sound sample.

MIDI.CITI. (NON-VR)



MIDI.CITI. (non-VR) can be played with keyboards and mouse. More info (kunwookimm.com).