

Created with Unity • Csound • Meta XR SDK

Project Google Drive Link

Echovail is a hand-tracked VR musical instrument where sound is generated, shaped, and spatialized through your hands.

Features

- VR hand-tracking musical interaction
- Csound-based real-time synthesis
- Unity + CsoundUnity integration
- Spatialized 3D audio
- Walkable environment designed for sonic exploration



[Demonstration Link](#)

 Meta Quest
 All-in-One



Csound Unity



- parameter mapping

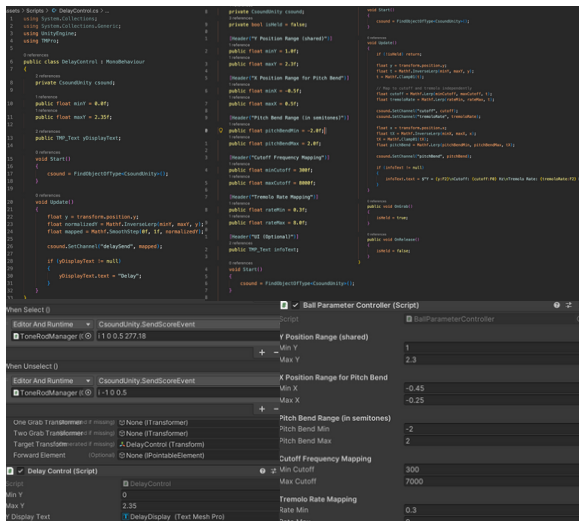
- Pinch to trigger notes
- Slide up/down a glowing sphere to change cutoff & tremolo rate
- Move left/right to pitch bend
- Grab objects to control parameters like reverb, delay, grain size, tremolo depth

Echoveil is a custom synthesizer I built entirely in Csound.

All sound is generated in real time through my own synthesis modules and signal-routing design.

[illegible]

Unity scripts send gesture data, mapped to Csound channels, trigger real-time synthesis.



In Unity, I designed and built a 3D environment.

All sound sources are spatialized using Unity's 3D audio system, enabling the player to move through the space and hear the sound shift, fade, and transform based on distance and orientation.

The environment becomes part of the instrument that invites exploration and discovery.

In the future, I will continue expanding Echoveil by developing more expressive gesture-based controllers and creating a multi-instrument environment that supports collaborative, multi-performer interaction in VR.