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Final Processing Sketch Statement

For this final, I was interested in making a novel approach to synthesis. In all forms of audio, there is some source of oscillation that produces the tones with make music or sonic experiences with. For example this maybe the vibrations of a guitar string, of a drum head, or the air inside a trumpet. In electronic instruments the medium of oscillation is that of the voltage. As the voltage oscillates up and down, a corresponding speaker cone is shuttled forward and back. In the electronic/analog synthesis world we call the source of sound a voltage controlled oscillator. Most electronics are best suited to flip between one voltage to another, often creating sound in the shape of a square wave, while most other instruments would closer to sine waves(or rather a multitude of sinusoidal waves). The shape of the wave plays a large role in the timbre, or the character, of a tone; square waves tend to be perceived as harsh, sine waves tend to be perceived as a mellower sound. But beyond a fundamental shape of a wave, the complexity of a wave dramatically characterizes sounds. For example, a plucked guitar string is made up a fundamental tone, in addition to harmonic tones (tones that are certain fractional component of the fundamental frequency).

It's these ideas of oscillation, wave shape, timbre, and harmonics that I wanted to explore. Inspired by modular synthesis, I knew I wanted to use video as the source. From there, I then had to decide what the video would modulate. In this, I looked towards wavetable synthesis. Wavetable synthesis is a form of synthesis where as a user plays the synth, the wave is modulated over time. Thus I used video as the wave generation method. Understanding that video is just an three dimensional array, I had the basics of a polyphonic wavetable synth.

The final piece splits the video into four lines. These four lines represent the four tones to be played. As for the wave generation, each brightness value at each pixel corresponding with the height of the nodes/peaks of the wave; this creates a highly complex waveform. As the video plays the waveform of the tone changes and undulates subtly, and sometimes not so subtly, changing the timbre of the tone.

The four tones are played using a non-traditional scale, instead focusing on microtonal qualities. Since each tone has a slightly different wave form and played at different frequencies, this produces rich audio textures throughout the piece.

The source of the video comes from the Prelinger Library and is a video that explains the benefits of the police. As the piece plays, the audio creates a dialogue with

the content of the archival footage. It is presented using a no-carrier's Text Mode engine. Integrating the engine plays the video as a series of text, where the brightness of the source maps to a certain character that has with a corresponding density. Presenting the source video in this ASCII style of rendering, further enforces deconstructing video as a two dimensional array over time.