

Write Up

In my generative piece, I set to accomplish number of things.

Cellular Automata, the process of creating rules to model physical and biological systems was of a high interest to me and I had the idea to use this in the context of generative music. My focus was to create an object based on Conway's game of life – simple cellular automata model where cells can either live or die based on their surrounding cells and use it in a musical sense.

To achieve this I first created a game of life emulation in javascript/max and then created a function that could add random cells to the simulation. I was tracking the simulation so that each time a new cell was created, its x and y position where output into max to allow me to manipulate properties. In my piece I used two instances of the game of life – in the first the x and y values where controlling pitch and Frequency modulation index and in the second they were controlling drum sample and pitch.

Rhythm generation techniques where important to me and I used hailstone numbers to create complex rhythms for my fills and A custom built multiple channel Euclidian sequencer to sequence drums.

Other techniques used included probability where I would have gates to affect the chance of a note playing by a set ratio.

The main goal of my piece stylistically was to create complex melodies and sequences based off simple rules which was why I chose to create a Euclidian sequencer and the game of life as they are both governed by simple rules that can lead to complex rhythms and motifs