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Particle System Project

My project uses a sound file of Illenium's remix of the song, "Gold Dust". I chose the song not only because I've enjoyed it but also because I had the opportunity to work with gold colored particles in a particle system. The song itself has a rich spectrum of different sounds and frequencies so I thought it would be particularly good for the audio-reactive piece in mind.

I initially wanted to create a visual that involved a moving center of focus that revolved in a circle. Because the project involved many particles I opted for circular motion to represent characteristics of the audio as opposed to linear motion.

This circular motion was created by rotating a center of attraction that would be scaled (in terms of radius length) by the amplitude of a given frequency specified by the zsa freqpeak object. I set a metronome to allow for fast revolution of this center of attraction such that the particles would never quite fall into the center, as they followed the very quickly moving singularity. I had to experiment for a while to find a song with a rich distribution of frequencies to help improve cohesiveness of the piece.

Throughout my experimentation, I couldn't get a patch with two centers of attraction to provide more clarity in terms of visuals without contributing too much noise, the speed at which I wanted the centers to rotate got in the way of this. I also initially explored changing the colors of the particles according to the freqpeak object but decided to focus the audio-reactive nature of the piece to circular movement (as well as the coincidental song name).

The patch in presentation mode allows for the modulation of some parameters that, with personal tuning, are currently set to what I believed optimal. I have exposed the dt value, attraction parameter, metro (controlling speed of revolution), and X/Y scaling for radius of rotation. The ability to re-center the particles is also exposed, as moving too far from the chosen parameters could break the particle system. I feel as if multiple of the parameters could have been changed in such a way that the visual was appreciably different, yet audio-reactive and not prone to breaking the particle system.

I'm happy with the audio system as it is, but wish I could have found a way to integrate two separate, rotating points of attraction without generating too much visual noise. Perhaps with different parameter tweaking I could have found a way to better support a multiple singularity system. My song is 4:25 long, but the first three minutes, I feel, do a good job of demonstrating the patch's capabilities.