I am calling this game Collision Harmony because it plays with the ironics of the words collision, which sounds destructive but harmony, that sounds constructive. The main point of this game is that you can create blobs specific notes that you want and you can push them around to cause collision amongst themselves. The collisions convert into a dyadic harmony, some sounding good, some sounding dissonant. In addition to the notes, I am also sending collision speed (rate of change of pixels after collision), consonance score, and x,y position of the moments when the collisions are happening.

I made this game as a way to collaborate with one of my ambient patches that I had been working on in VCV rack. In ambient generative patches, the whole system just runs itself based on some parameters that you have set and also on some probabilities. While the patch performs itself, you can of course move some knobs around but I find it very unproductive especially when the patch is carrying the heavy load of modifying and evolving itself. So I wanted to create something fun to do while you have an ambient generative patch working in the background, but the goal being  that the game also adds to the music!

The philosophy and the purpose of the game makes it fall under the ‘Explorative’ category because the user is just playing around, exploring what kind of sounds will be produced when the blobs collide while also having some influence over the environment.

HOW TO PLAY THE GAME:

1) With W and S you can change the note of the blob that you want to spawn. By clicking on the screen, you can spawn a blob.
2) There is a bar on the screen that you can use to push around the blobs. The length of the bar can be controlled with A and D and it can be moved around with the arrow keys. The V key can be used to change the orientation of the bar (horizontal or vertical).
3) The position of the mouse can influence the deletion of blobs when you press the delete button. The blob which is closest to the mouse is deleted to give certain kind of randomness to the system but also it can be controlled by moving your mouse around.
4) The C button can be used to clear all the blobs that are present on the screen.
5) You can also delete blobs of a particular pitch by first selecting the pitch using the W and S keys and then pressing the X button.

MAPPINGS AND HOW THEY WORK:

1) Consonance Score - Some collisions cause consonance (based on western music theory) and they are rated high on a scale of 0 to 1. I have translated this score into filter opening — more the dissonance, less open in the filter.
2) Speed - I have translated the speed into three different things -
    a) Attack - The faster the speed of collision, the smaller is the attack, hence creating more transient sounds.
    b) Note Duration - Faster the speed of the collision, smaller is the note duration.
    c) Vibrato - Faster speeds give more vibrato, making the dyad sound more dissonant and out of tune.

3) Pitches - The collisions create sound, the pitches are used to synthesise sound using one saw wave and one sine wave. The collisions also trigger a bang which is used to trigger an ADSR envelope.