Programming Assignment

Our group is made up of 4 members, who are;

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All of our group members worked on this code, implementing peoples different ideas and into one cohesive project. The biggest idea we agreed with and thought was interesting, was trying to implement “Conway’s Game Of Life” into our project.

Conway’s Game Of Life is a cellular automaton devised by the British mathematician John Horton Conway. It is a zero player game meaning that its evolution is determined by its initial state.

We kept Conway’s 4 rules of life:

1. Any live cell with fewer than two live neighbours dies.
2. Any live cell with two or three live neighbours lives on to the next generation.
3. Any live cell with more than three neighbours dies.
4. Any dead cell with exactly three live neighbours becomes a live cell.

A cell is one block on the grid, in which the game lies. Each cell can be one of two states, either alive or dead. And as stated above in the rules, these cells can be brought to life or killed.

The change we implemented to this game of life is, that a line of cells (horizontally, vertically or diagonally) will be turned true (alive) if the frequency of the music rises above a certain level

We also change the colour of the background based on significant changes in the frequency at certain timestamps, giving our project another level of intensity and vibrancy. This columinates in the game of life having masses of energy and essence.

For the other main component of the code, the circle and the rings that go around if, they basically follow the same rules as the lines of cells on the game of life that come alive at a certain frequency.

Firstly we have the circle itself that grows and shrinks in size depending on the frequency put out by the music.

The rings are not so much rings but are cubes that are in rotation around the circle in the centre, and follow each other and create a ring-like effect. They also get larger and further away from the circle as time goes on which gives you the sense it is evolving as so does the game of life, which by the end of the song is teeming with life.

There are also cuboids that follow similar to the cubes, but are larger and longer. The cubes, in similar fashion to the circle, grow and shrink with the frequency of the music played. There are some rings that spiral and create new shapes that we put in there to make them less formulaic and give it their own character.

We are most proud of how we gave it a sense of character, how it evolves over time not just with the game of life evolving but the rings around the circle getting bigger as time goes on making the scene come to life.