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Project #5: Spotty the Blob

The fifth CS450 graphics assignment is all about shaders. The objectives included:

- Experimenting with both vertex and fragment shaders
- Using shaders to dynamically manipulate vertex positions
- Use shaders to draw a dynamic surface pattern
- Incorporate lighting with shaders

The original object is a sphere. In the vertex shader, I manipulated the sphere by enveloping the xyz coordinates along with a value that varied with time in sine/cosine functions. Then, I set an in/out variable, vColor, to change based on st coordinates and passed it along. In the fragment shader, I took care of lighting as well as the dynamic pattern. If the st coordinate was within a certain radius of points I designated which varied with time, that fragment would be discarded. Freezing and playing the animation are controlled with keystrokes. Here are screenshots of my little blob:
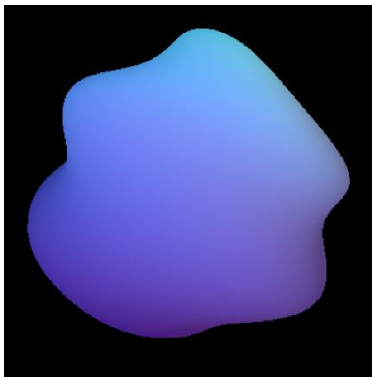

Figure 1: Completely Frozen
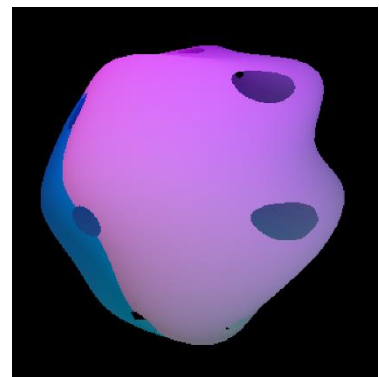

Figure 2: There Goes Vertex Shader!

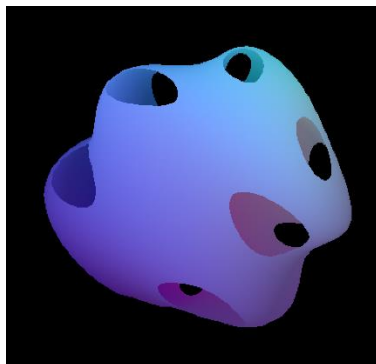*Figure 3: Backside View, Awkward Seam*
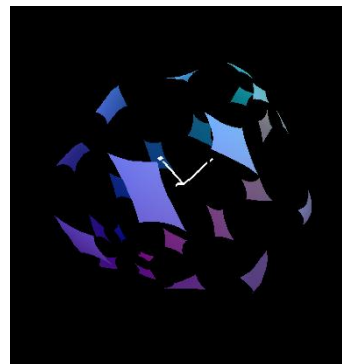

Figure 4: Ooh Look At That Fragment Shader Go!

Figure 5: Fragment Shader Partway Through Animation Cycle

Here is a link to the project video: https://youtu.be/PVyNQ2KHrjM

Thank you!