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CS557 - Computer Graphics Shaders

Project #3A: Displacement Mapping and Lighting

Description:

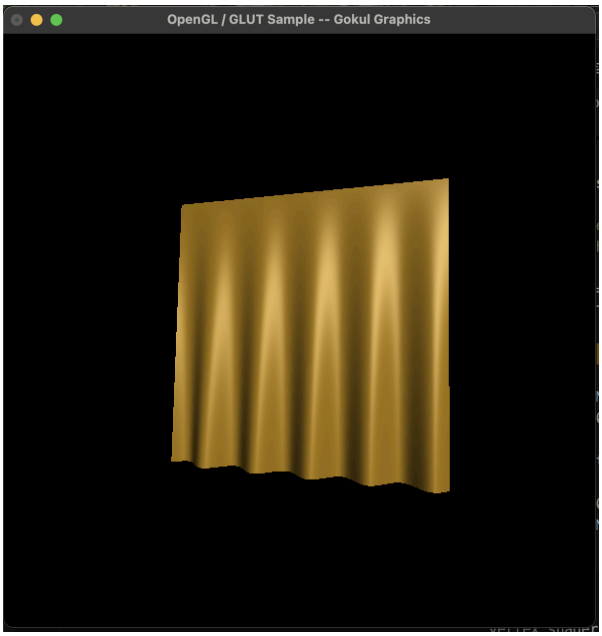
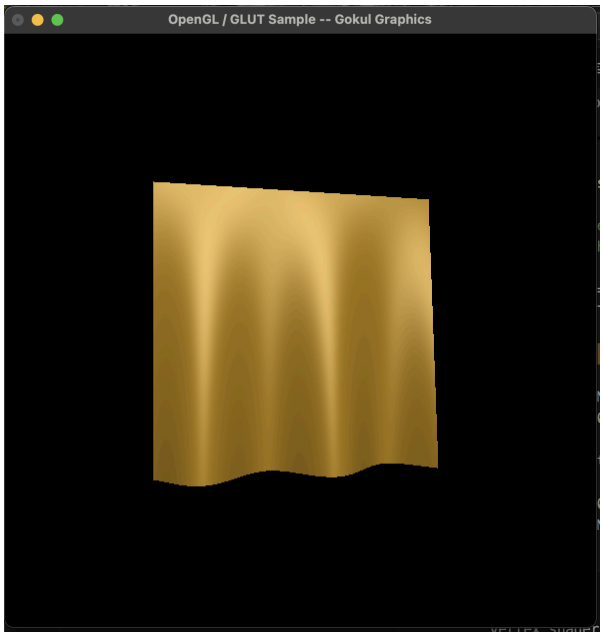
For this project, I began by modifying the `sample.cpp` file to include all relevant uniform variables and set their values accordingly. Next, I worked on the vertex shader to compute vertex positions and normal vectors, creating the effect of pleats. The fragment shader implementation is straightforward, applying per-fragment lighting to enhance the visual effect as the object moves.

To demonstrate the impact of the uniform variables `uA` (Amplitude) and `uP` (Sine Period), I implemented keyframe animation with keyboard controls. Pressing the 'T' or 't' key toggles through three states: initially animating `uA`, then modifying `uP` on the second press, and stopping the animation on the third press. All project requirements have been met.

All the following project requirements have been fulfilled:

- **Correctly show the effect of changing uA:** Seen during first press of key ‘t’
- **Correctly show the effect of changing uP:** Seen during second press of key ‘t’
- **Use per-fragment lighting to show that you have computed the displaced normals correctly:** Bright spots seen when the scene is moved.

Screenshot:

uA	uP
	

Video Link: https://media.oregonstate.edu/media/t/1_63qxvy7k