CS 557 Assignment One : Step- and Blended-edged Elliptical Dots

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Project Description:

The code is a fragment shader for OpenGL, compatible with version 330, designed to render a textured surface with an ellipse-based pattern and dynamic lighting effects. It utilizes various uniform variables for controlling the lighting (ambient, diffuse, specular) and the properties of the ellipse pattern. The ellipses are formed using a mathematical equation, with their positions dependent on texture coordinates (vST) and dynamically-set variables (uAd, uBd). The shader incorporates per-fragment lighting, where the color of each fragment (pixel) is determined by the light's interaction with the surface, considering the normal vector (vN), the vector to the light source (vL), and the vector to the eye (vE), along with material properties like shininess. The final color of each fragment results from a blend of the ellipse pattern color and the lighting effects, producing a visually dynamic surface that changes in response to variations in light and pattern properties.

Project Screenshot: