

Final Project: Dawn to Dusk Animation

Reason

I want to improve and challenge my skills by creating an animated light source that effects the shading and coloring of a scene. Also, I have always enjoyed the many different colors that can be seen in the sky and would truly enjoy recreating it.

Summery

This project will feature a sun as the main light source traveling along a curved path in the sky where the shading and coloring of the scene is influenced by the sun's position. I will be using a combination of libraries GL, GLFW, GLM, and chrono.

Tasks

Step 1: Main Light Source

Create a scene with a distinct floor to represent land and ceiling to represent the sky. Create the main light source for the scene, a sphere that is to represent the sun. The scene should use the Phong lighting model.

Step 2: Animating the Sun

Create a function that will alter the position of the sun relative to its barycenter based on a set timer. The path should appear to curve through the sky with the sun starting and ending at the horizon.

Step 3: Atmosphere Shader

Create a shader that applies the effects of the sun's light on the rest of the scene. It should make the scene darker or lighter based on how close the sun is to the horizon at any given time. The shader should also be able to adjust the intensity of different colors in the sky based off the sun's relativity to the horizon.