Project C: Colorful Lighting World

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User's Guide

1) Goal

This project demonstrates a scene about a house, a tree, a snowman, and a sphere. Basically, I use cubes and tetrahedrons, and spheres to design. Each object has a different color.

Here is the overview of project C:

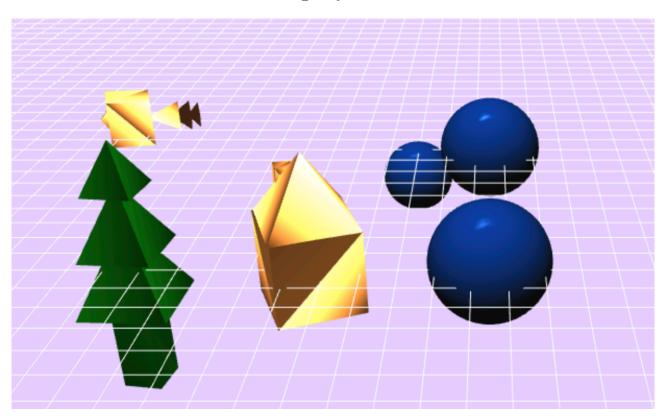


Fig1. The whole project

2) Function 1

Users can switch the light on/off, and set separate R, G, B values for each of the ambient, diffuse, and specular light amount. Users can also switch between four lighting/shading methods.

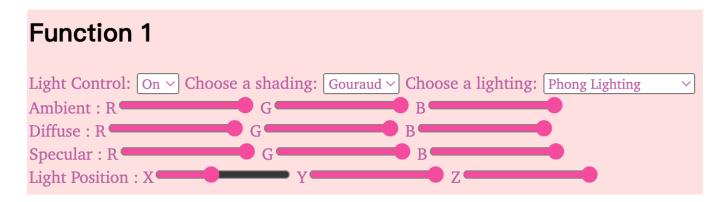


Fig2.Function 1

3) Function 2

Users could press arrow keys to move forward, backward, left, and right.

4)Function 3

Users are able to use the keyboard to move them. For example, users can use WASD navigation to control the direction of the camera. 'W' is like zooming in, and 's' is like zooming out with respect to the left side-perspective view. 'A' means left 'd' means right for both two sides.

To be more specific, there is some details figure.

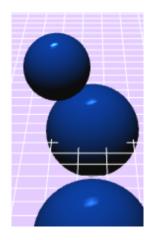


Fig3. Gouraud/Phong lighting

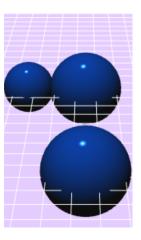


Fig4. Phong/Phong lighting

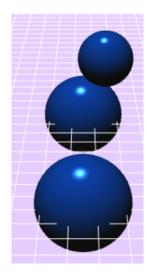


Fig5. Phong/Blinn-Phong lighting

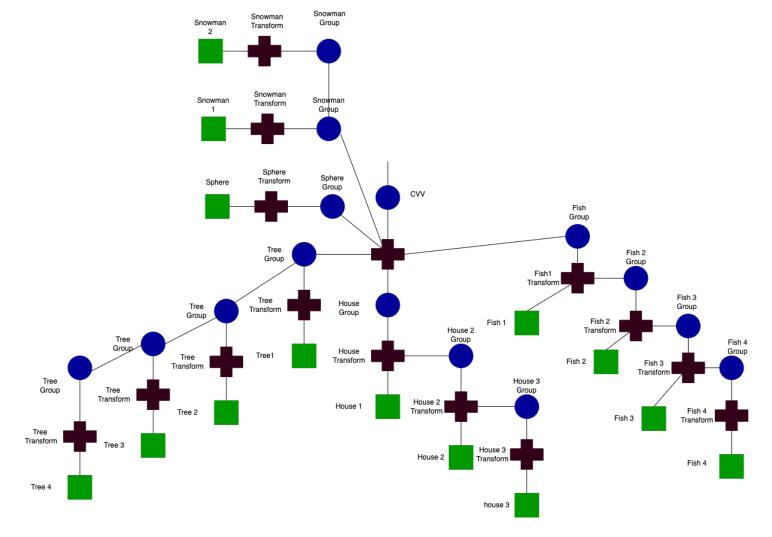


Fig6. Scene graph