

CSCI4229 project
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This is a scene about traffic lights and cars on the road because my initial idea was to make a variation of the traffic lights, and then keep adding suitable objects. Such as houses, letter boxes, moving minions in front of houses, obstacles, cars, and complex trees, colorful fireworks in the sky, and finally skybox.

Keys to press:

- 1.f -toggle firework
- 2."0" - front of scene
- 3."9" - View of the scene including all objects
4. b - remove skybox if needed

Pay attention to some objects:

1. The little yellow man with hands and feet with movement
2. Color change of traffic lights with time
3. Random playback of colorful fireworks with vertex shader
4. Complex acorn tree, each leaf and acorn uses lighting effect and texture

Why I deserve a 'A':

First of all, I worked very hard and expended energy to build this scene. I used the things and ideas from 6 previous assignments, plus the knowledge in the class to complete, and improved the objects every day, which took about 50 hours.

The scene has some highlights. For example, for acorn tree, I first design a single triangle, splicing, the effect of near lights, coloring, and the use of texture, and then design the trunk in the same way. Repeat the steps to make more acorns and trunks, then take the time to change their positions to accentuate the staggering and overlapping effects. You will see the bright lighting effects of each leaf, very vivid.

There is also the effect of fireworks, I use the vertex shader to improve it, and it can be clearly seen under the skybox, and the fireworks are colorful, and they are displayed in the form of a cube with lights. I use the random equation to make each fireworks Different positions appear, different z-buffer positions. As well as the movements of the arms and feet of the little yellow man over time, the change of traffic lights, and the equation involving time, I think it is also a challenging task, but also a bright spot.

All in all, this scene involves the above challenging tasks, and I also solved many problems in the process of making other objects such as cars and houses. I think this interesting scene, with many equations behind it such as movement, randomness, shaders, lighting, allowed me to get a good score.

Update from project review:

1. Do fireworks using a vertex shader
2. Make other traffic signs object

Note:

Modify from hw6_texture/lighting, gather concept of all hw. Some functions like lighting, skybox, vertex shader from class example, write my comment with understanding why use these gl functions. Operation and key function is modify from hw6, change most values and remove some useless keys.

Time to complete: 50 hours