Final project
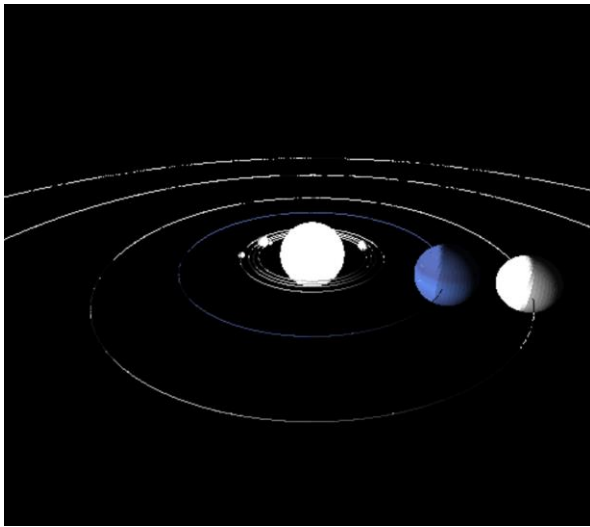
Rui Gao

gaorui@oregonstate.edu

Kaltura Capture recording - December 7th 2021, 11:54:56 pm - OSU MediaSpace (oregonstate.edu)

Orange words are the words in my proposal

Here is it, only one bmp file worked well.

1st The fixed star is the point light and can be turned off by pressing "L" or "l".

I don't know, I copied some of codes form previous projects, but codes didn't work well, even it's just a point light or a "case".

```
// fix
SetPointLight(GL_LIGHT0, 0.5, 0, 0, 1, 1, 1);
glPushMatrix();
glRotatef((GLfloat)360. * Time * 100, 0., 1., 0.);
glTexImage2D(GL_TEXTURE_2D, 0, 3, Width_fix, Height_fix, 0, GL_RGB, GL_UNSIGNED_BYTE, Texture_fix);
OsuSphere(2.1, 50, 50);
glDisable(GL_LIGHTING);
glEnd();
glEnable(GL_LIGHTING);
glPopMatrix();

//trial of light
SetSpotLight(GL_LIGHT1, 10. * cos(2 * M_PI * Time), 0., 10. * sin(2 * M_PI * Time), -cos(2 * M_PI * Time), 0., -sin(2 * M_PI * Time), 1., 1., 0.);
glPushMatrix();
glDisable(GL_LIGHTING);
glColor3f(1., 1., 0.);
glTranslatef(10. * cos(2 * M_PI * Time), 0., 10. * sin(2 * M_PI * Time));
glutSolidSphere(0.1, 50, 50);
glEnd();
```

```
        break;

    case '0':
        Light0On = !Light0On;
        break;
    case '1':
        Light1On = !Light1On;
        break;

    case 'e':
    case 'E':
        ViewFrom = 2;
        break;
    case 'F':
        FragmentShader = !FragmentShader;
        VertexShader = false;
```
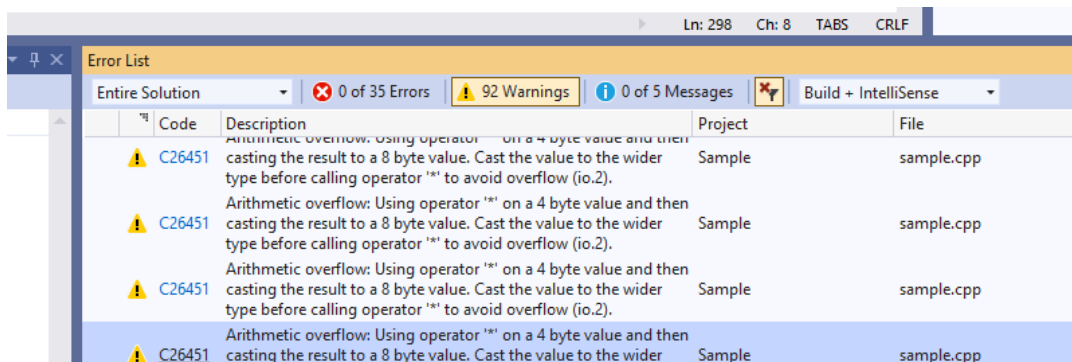
2nd Because they are celestial bodies, so the student should find some textures pictures.

The errors were because of the size of bmp files. But one of them is fine.


Or use one color but put shaders effect on it and says the plant is a pure water ball or diamond ball, who knows.

Then I wanted to use shaders instead of the fixed star's texture, but it says VS cannot open the glsl file. But I putted the codes into it.
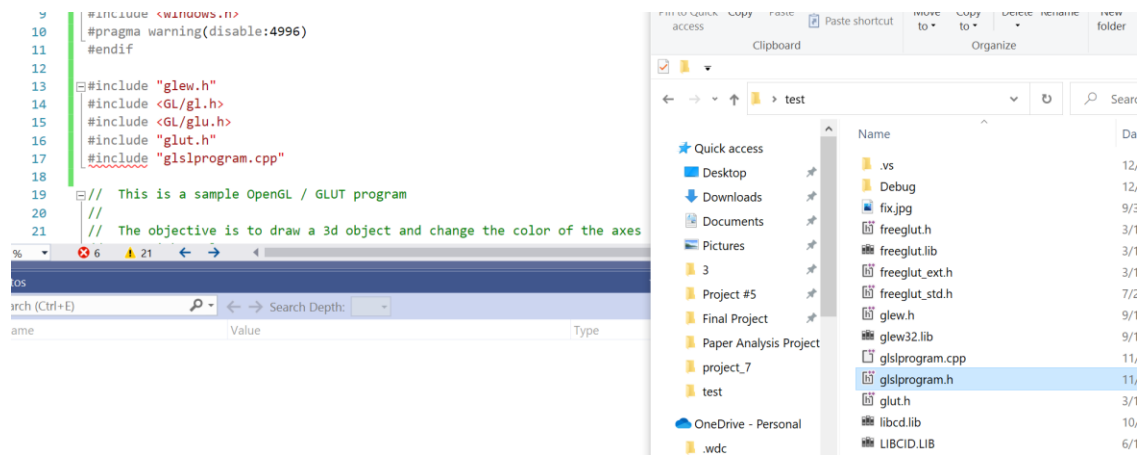
3rd. Due to it's a toy, there has a transparent glass contains them all. We also have a spaceship (we'll use the helicopter instead) fly inside. We could implement some shaders on both.

There is no helicopter sightseeing because I spent my time on the problems above. So, I set different viewpoint instead. You can do that by "e" and stop the animation by "f".
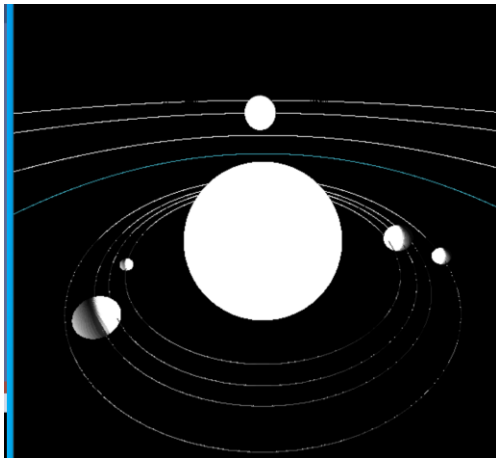
4th. There also need white stars, which are spotlights (with a tiny intensity of light), hanging on the background and maybe other celestial bodies, like a black hole or what.

I tried set loop for spotlights in the first time. Of course, it failed. So, I put a bmp instead. But it is unable to be loaded.

What did I learn from this project? I should say, "Damn."

But sure, it's good to know something unexpected happened. But still, the computer sometimes just has some unknown problems even your codes are okay. I really don't understand why the light cannot be turn on/off, I set many copies and tried different possible thoughts on them. I mean, I literally copy a light point's codes but the system didn't recognize my input which is used to turn the light on/off.

But happily, comparing with the last time, my texture binding has problems. This time, the texture works well if the size is right.