

Description:

My project creates a scene of a museum, which includes four famous art paintings, one bench, one sculpture and several lights. Firstly, these four paintings I choose to display are all exhibited in The Art Institute of Chicago. Two of them are water lily painted by Monet, one is Nighthawks painted by Edward Hopper, and the other is Two Sisters (On the Terrace) painted by Pierre-Auguste Renoir. Secondly, there is a bench in the center of the museum room which has wood texture for visitors to sit and rest. What's more, there is a sculpture on the right part of the room, which is a round disk with nice patterns rotating all the time in order to fully display itself to visitors. Additionally, there are in total 5 lights and two of them are spotlights. The three lights are located at the left part, the right part and center of the museum room. And one spotlight is on the sculpture to make sure that it has a good view.

INSTRUCTIONS:

1. **Download** the zip file **Xinyi_He_finalproj.zip**
2. Run the executable **Xinyi_He_finalprog.exe** on a PC, with the nine .bmp files in the same directory and the two GLSL files, EduPhong.glsl and MyShaders.glsl. For this, extract the files from the .zip file first. You will see a scene with a floor, a back wall, a left wall, a right wall, a bench, four paintings, a cylinder, a cuboid. The back wall, the floor, the left wall, the right wall, the bench, the cylinder, the cuboid should all show textures (and not just be white). If this is not the case, then there were problems loading the texture maps from the .bmp files.
 - a. Pressing the arrow keys changes the view position.
 - b. Pressing "HOME" and "END" changes the distance of the scene from the viewer (slowly).
 - c. Pressing the "w" key toggles wire frame mode. In non-wireframe mode, you can see the textures.
 - d. Pressing "c" toggles culling back faces.
 - e. The program always uses Phong interpolation, never Gouraud interpolation.
 - f. Pressing the "M" or "m" increases or decreases the mesh resolution on the spheres, the surface of rotation, and the cylinder.
 - g. Pressing the "1", "2", "3", "4" and "5" keys (one at a time) toggles the five lights off and on. The fourth and fifth are spotlights. One is on the center of the museum room and the other is on the sculpture.
 - h. Pressing e, a, d, s toggles the rendering of emissive, ambient, diffuse, and specular light.
 - i. The back, left, right walls all have a white wall texture. The floor has a dark grey cement texture. The bench and the platform have textures of wood.
 - j. The paintings have texture of four famous paintings.
 - k. Press the escape key to exit.



