

Hint:

Model loading can take up to 30 seconds - the blackscreen at the start is normal (the application is not crashing). The application was built in Release, the .obj is about 100mb...

F1 to toggle between animation and debugCam.

ImGui window to change ambient intensity of directionalLight.

Implementation:

We are using OpenGL 4.6 and C++, as of now nothing has changed from our proposal.

Additional Libraries currently in use:

- Model-Loading: Assimp (<https://github.com/assimp/assimp>)
- Texture-Loading: stb (<https://github.com/nothings/stb>)
- Maths: GLM (<https://github.com/icaven/glm>)
- Window-Manager: GLFW(<https://www.glfw.org/>)
- Extension-Wrangler: GLEW (<https://glew.sourceforge.net/>)
- Multimedia Library (Audio): SFML (<https://www.sfml-dev.org/index.php>)
- GUI Library: ImGui (<https://github.com/ocornut/imgui>)

Tested on GPU:

- NVIDIA RTX 4070 Laptop

Where in your scene can which effects be observed?

- Omnidirectional Shadowmapping outside and inside the museum being casted from two pointlights, one $t + 0.2f$ in front of the camera and the other $t - 0.2f$ behind the camera, casting individual omnidirectional shadows calculated via geometry shader.
- Directional Shadowmapping on the ground outside the museum being cast from the moon which is behind the camera when walking through the forest.
- Skybox for atmospheric purposes.
- Phong Model (Best seen inside the museum on the statues)