

Assignment 2: Transmittance Effects

-Links:

Video 1 link: <https://youtu.be/vvusb46oj6M>

Video 2 link: <https://youtu.be/Sq2LoHXRdpk>

Video 3 link: <https://youtu.be/9wwallAK8jQ>

-Description:

Video 1 description:

Simple reflection. Skybox with the internal of a museum as texture. As ball rotates, the glass surface of the ball reflects the inside of the museum.

Video 2 description:

Simple refraction of light. Skybox with the internal of a museum as texture. As ball rotates, the glass surface of the ball refracts the inside of the museum.

Video 3 description:

Skybox with the internal of a museum as texture. As ball rotates, the glass surface of the ball reflects and refracts light, with chromatic dispersion effect and fresnel weighted on.

-Library used:

Anton's Maths_functions

Assimp for loading mesh

stb_image.h for loading image

-Codes following:

https://github.com/capnramses/antons_opengl_tutorials_book/tree/master/09_texture_mapping

https://github.com/capnramses/antons_opengl_tutorials_book/tree/master/21_cube_mapping

<https://github.com/GuillaumeBouchetEpitech/GLSL-reflection-and-refraction/tree/master/res/shaders>

<https://github.com/GuillaumeBouchetEpitech/GLSL-reflection-and-refraction/blob/master/res/shaders/glass.vert.glsl.c>

<https://github.com/GuillaumeBouchetEpitech/GLSL-reflection-and-refraction/blob/master/res/shaders/glass.frag.glsl.c>

<https://blog.demofox.org/2017/01/09/raytracing-reflection-refraction-fresnel-total-internal-reflection-and-beers-law/>

<https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-shading/reflection-refraction-fresnel>

<https://taylorpetrick.com/blog/post/dispersion-opengl>

-Codes are (mostly) in:

TEXTURE_FUNCTIONS

SKYBOX

vertex shader

fragment shader

- fresnelVS.glsl, fresnelFS.glsl are the shaders for all four effect
- reflectVS.glsl, reflectFS.glsl are the shaders for simple reflection
- refractionVS.glsl, refractionFS.glsl are the shaders for simple refraction
- skyboxVS.glsl, skyboxFS.glsl are the shaders for skybox