

Loading and Rendering 2D Meshes in \mathbb{R}^3 *Supervisor: Abel Gomes**Scribe: Abel Gomes*

The goal of this assignment is loading and rendering 2D meshes in \mathbb{R}^3 using modern OpenGL. These 2D meshes (format .OBJ files) constitute the input data for the graphics program. After loading the OBJ mesh into RAM, you must be able to rotate and translate in \mathbb{R}^3 using the GLFW resources concerning mouse and keyboard.

1 Reference Code

A similar example is described at: <http://www.opengl-tutorial.org/beginners-tutorials/tutorial-7-model-loading/>.

2 Who does what?

The first digit (the one furthest to the right) of the student number identifies the work. See next section to make sure about your assignment.

3 Exercises

0. UFO (<https://www.cgtrader.com/free-3d-models/space/spaceship/free-flying-saucer>).
1. Deers (<https://www.cgtrader.com/free-3d-models/animals/mammal/origami-deer>).
2. Bar stool (<https://www.cgtrader.com/free-3d-models/furniture/chair/simple-barstool>).
3. Boat (<http://surl.li/mqjru>).
4. Cat (<https://www.cgtrader.com/free-3d-models/animals/mammal/base-mesh-cat>).
5. Table (<http://surl.li/mqjsc>).
6. House (<http://surl.li/mqjsi>).
7. Apple (<http://surl.li/mqjsl>).
8. Coca-Cola (<http://surl.li/mqjsr>).
9. Wall clock (<https://www.cgtrader.com/free-3d-models/furniture/other/p-c-n>).

References

- [1] OBJ format wiki: https://en.wikipedia.org/wiki/Wavefront_.obj_file
- [2] More notes about OBJ format: <https://www.marxentlabs.com/obj-files/>

- [3] The OpenGL Shading Language <https://www.opengl.org/registry/doc/GLSLangSpec.4.40.pdf>, last access on 08/04/2015.
- [4] Dave Shreiner, Graham Sellers, John Kessenich, and Bill Licea-Kane. OpenGL Programming Guide, 8th edition, version 4.3. Addison-Wesley, Upper Saddle River, 2013.