OpenGL Projects Readme (macOS)

Note: to be able to do any meaningful work on macOS with either Objective-C, C or C++ you must first install the Apple Development toolchain. To do so, log in to the Apple App Store and install Xcode. You will be guided through the rest of the setup (incl. the command line tools).

Furthermore, you need to install CMake. Download it from here: https://cmake.org/download/ and install it accordingly. Then follow the instructions given in class.

Please be aware the we officially only support Xcode. So, your mileage may vary with other IDEs (Eclipse CDT, CLion etc.).

OpenGL

Either Core OpenGL up to 4.1 or (legacy compatible) OpenGL 2.1 is supported! Eliminate everything in the code which uses features > 4.1.

GLEW

Not needed on macOS. To be consistent with the other platforms, the library is there anyway. Therefore, checks are made easier and no preprocessor hacks are needed.

The header file `<GL/glew.h>` needs to be included before any OpenGL/GLUT specific headers and `glewExperimental = GL_TRUE;` needs to be set before `glewInit();`.

There might be some `OpenGL Get Error Code: 1280 (invalid enumerant)` error messages during rendering. This is due to GLEW according to: https://www.opengl.org/wiki/OpenGL_Loading_Library (GLEW section).

FLTK for macOS

FLTK uses either the Core Profile or the Legacy Profile (default). To enable the Core Profile, add the `FL_OPENGL3` flag to the argument list of `glutInitDisplayMode(...| FL_OPENGL3);`.

GLUT

Replace all include directives with `<FL/glut.H>`.

Freeglut

Not needed on macOS. Replaced with FLTK's GLUT implementation.

This document

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