

Final project

Objectives

1. Integration of different concepts in computer graphics
2. Developing a complete application to illustrate different aspects of computer graphics programming in OpenGL

Description

For this assignment, you are required to work in groups and elaborate a proposal which, after validation with the lecturer, will have to be implemented, tested, documented and presented to the rest of students in the course.

The final application can be of any kind, although the minimum requirements it should include are the following:

- a) The scene should include several objects and light sources.
- b) Some of the objects could come from external files (using e.g. OBJ file format).
- c) It should include some texture techniques.
- d) It should include some kind of animation.
- e) It should include the possibility to alter views of the global scene.
- f) It should include some shaders (vertex and fragment) for some special effects.

You can code your application in Java or in C/C++, using Netbeans IDE or any other editor you prefer. It could use GLUT, GLX or any other windows library. In any case, you should include a description of the libraries as appendixes of your final documentation.

Project steps

The three main phases of the project, with deadlines, are the following:

- a) **Proposal draft** (before May 13th): Starting from a preliminary draft, you should contact the lecturer (through email or using the group forum in aulas.inf.uva.es) to discuss a first proposal. It is better if you have two or three, so that we can choose the best one. After the preliminary proposal is agreed, a draft of initial specifications and a planning should be delivered through the virtual course environment. You can interact with the teacher and with the rest through the group forum (so that we can have evidences of these interactions) in order to prepare this draft.
- b) **Preliminary version** (before June 3th): An initial version of the application should be ready by that date. The draft of the final documentation should be prepared also by then. All the interactions should be channeled through the group forum. You will present this version to the lecturer along the next week to the delivering, in order to check details. Meanwhile, you will be preparing the final report on the application and the presentation.
- c) **Final version and documentation** (before June 17th): The final version, including any possible additions and corrections, and the final documentation and presentation should be prepared. These presentations will be programmed on the lab session June 17th.

Evaluation

The following aspects will be considered in the evaluation:

- a) Quality of the solution (50%): How it complies with the specifications and how final code is organized.*
- b) Quality of the documentation (40%): The report should clearly introduce the problem of shading, include a short discussion on the illumination equation and describe the solution and any possible extras. Clarity, correctness and structure will be the main quality indicators.*
- c) Quality of the exposition (10%): Clarity in the exposition, right use of time and answer to possible questions will be used as indicators.*