

# DM809 Computer Game Programming I: Graphics

Fall 2008

Department of Mathematics and Computer Science  
University of Southern Denmark

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## Introduction

The purpose of this project is to learn to apply the concepts from the course during actual programming in a 3D library of your choice.

The project is to be done in groups, preferably of size two. Groups of size one and three are allowed.

## Requirements

You are to implement a game-like application, with focus on 3D graphics. This can be a 3D visualization of a simple board-type game, or the graphics part of a prototype of a more advanced game.

Examples could be:

- A 3D version of the *15-puzzle* (full game).
- A 3D version of *Rubik's cube* (full game).
- First person shooter/adventure game (only graphics part).
- Car chase game (only graphics part).
- Space battle game (only graphics part).

What is required is the drawing (including texturing and lighting) of geometrical objects and surrounding scene, movement of some objects, some kind of movement of camera, and the handling of user input for controlling movements.

You are free to come up with other project ideas yourself. The requirement is that the above issues are covered. If wanted, you may continue the same project in course II and III, adding AI and collision detection and physics simulation there (so these issues should not be dealt with in the current project).

## Formalities

You should hand in: Some kind of executable program or installer (must run on either Linux or Windows (XP or Vista)), source code, and a report of 8-10 pages (excluding any appendices) in pdf-format. The main aim of the report should be to describe the design choices made during development, the reasoning behind these choices, and the structure of the final solution, as well as give a simple user manual for the program.

The project will be evaluated by pass/fail grading. The grading will be based on:

- The clarity of the writing and of the structure of the report.
- The ability to apply the concepts of the course.
- The amount of work done.

The material should be handed in using the `aflever` command on the Imada system: Move to the directory containing your code and issue the command `aflever DM809`. This will copy the contents of the directory to a place accessible by the lecturer. Repeated use of the command is possible (later uses overwrite the contents from earlier uses). In the directory, you must for identification purposes have an ASCII file named `names.txt` containing the names of the group members, with one name per line.

You must hand in the material by

*Tuesday, October 7, 2008, at 12:00*