

DM80

Computer Game Programming

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Course Motivation

- Fun, curiosity, attraction
- Career move
- Great display of use of **many** Computer Science subjects (DM01, DM02, DM03, DM17, DM72, MM01, MM02, . . .).

Computer Games

Computer game developers:

- Game programmers
- Game designers
- Game artists

This course: study of methods and principles of

Game Programming

Subjects

- 3D geometry
- Scene graph management (clipping, culling, transformation)
- Rendering (polygons, color, textures, light)
- Game AI (path finding, chasing and evading, fighting, flocking, particle systems, . . .)
- Collision detection
- Physics modeling
- Terrain generation
- Animation
- Computer game history

Formal Course Description

Format:

| | |
|------------------|--|
| Prerequisites: | DM01, MM01, (DM02, MM02) |
| Literature: | Textbook + handouts |
| Evaluation: | Implementation projects (Pass/Fail), oral exam (13-scale) |
| Credits: | 7.5 ECTS |
| Course language: | Danish or English |

Projects

Projects (in groups of 3):

1. Warm-up project
2. Implement some game of own creation.

Programming language of own choice. Must run on either Linux or Windows XP.

Suggestions:

- C++ and OpenGL
- Java and OpenGL-binding (e.g. Lightweight Java Game Library).

Check OpenAL for sound. Check GLUT for easy start.

Disclaimer

- Includes math
- Includes programming
- Includes reading (textbook + handout)
- Infinite list of potential subjects
- Course is in β -version

Time and Place

- Tuesdays 12.15-14.00
- Thursdays 10.15-12.00

No examinatorier. One-third of lectures cancelled along the way to allow for project work. Guest lectures.