

CS770/870 Fall 2008

Course Overview

R. Daniel Bergeron
Matt Plumlee

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Personnel

- Dan Bergeron
 - Kingsbury N221C
 - rdb@unh.edu
 - 862-3780
- Matt Plumlee
 - Kingsbury W239
 - mdp@cs.unh.edu
 - 862-1237

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Course Goals

- 3D computer graphics techniques/algorithms
- Interaction
- Good object-oriented design
- Good programming style

- OpenGL

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Course Tasks

- 7 Programs (about 2 weeks each)
 - First 2 are OpenGL learning devices
 - Last 5: in-depth exposure to particular algorithms
- Exams: 2 exams plus the final
 - Focused on concepts, algorithms, techniques

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Grading

- Programs (about 60%)
 - Correctness
 - does it implement the specification?
 - is it robust?
 - Object-oriented software design
 - Style (see CS770 Style guidelines)
- Tests (about 40%)
 - Did you answer the questions correctly?

Programming Assignments

- Due at 23:59:59 on the due date
 - Penalties: 3, 7, 15, 20 points for 1, 2, 3, 4 days late
- Most specifications will be high-level
 - you'll have flexibility in your design and implementation
 - you'll be expected to implement more than what is specified
 - a good solution to the specification will be worth 90%
 - the last 10 points will be based on a (subjective) exponential curve
 - we'll provide some high level suggestions for possible extra features

Plagiarism

- Department policy on plagiarism will be strictly enforced
- The design, implementation and debugging of programming assignments should represent each individual's own efforts
- Use of work from other students or downloaded from the web should be documented with appropriate acknowledgement

Acknowledging Other Work

- It is not *per se* wrong to build your software upon other work; in fact, it's often a good idea (as long as the work is in the public domain)
- It's critical to acknowledge your sources
 - If your algorithm was learned or derived from a book or article, cite that source
 - If you make use of utilities or packages, tell us about it
 - If your program is a modification or extension of pre-existing code, document that -- and how you improved it
- Your grade will be based on what you contributed
- Talk to us if you are worried.

Programming Tools

- Your programs will be written in C++ and will use the OO features of C++
- Graphics and interaction will be done using OpenGL and its associated libraries:
 - GL: basic graphics features
 - GLU: convenience utilities
 - GLUT: system-independent windows and basic interaction
 - GLUI: more extensive gui features built on GLUT

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Programming Environment

- Use anything you want:
 - Windows, Linux, Mac OS X
- But, we'll grade it using unix
- We expect you to use a *make*-like utility
- We'll provide guidance for
 - *make* (the old-fashioned way)
 - *SCons* -- python based portable build tool
- We should allow/support *ant*
 - anyone want to help?

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Very Tentative Task Schedule

| | |
|-------|-----------------------------|
| 9/15 | P1 – OpenGL intro |
| 9/29 | P2 – 2D interaction |
| 10/7 | Exam 1 (during common exam) |
| 10/13 | P3 – 3D viewing/modelling |
| 10/27 | P4 – Scene graphs |
| 11/10 | P5 – Light/color |
| 11/18 | Exam 2 (during common exam) |
| 11/24 | P6 – TBD |
| 12/8 | P7 – TBD |
| 12/18 | Final Exam, 10:30-12:30 |

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