Monash University • Clayton's School of Information Technology

CSE3313 Computer Graphics

Lecture 0: Introduction

COURSE OVERVIEW

- Welcome to CSE3313 Computer Graphics!
- http://www.csse.monash.edu.au/~jonmc/CSE3313
- Lecturers:
  - Clayton: Dr Jon McCormack, Rm. 144 (Building 63),
    jonmc@csse.monash.edu.au
  - Malaysia: Dr Loe Kia Fock, 3rd Floor, 327 Main building
    loe.kia.fock@infotech.monash.edu.my
- This is a 6 point course.
- Focus on 2D and 3D computer graphics: algorithms & applications.
- Applications in CAD, Simulation, Visualization, Games, Films.
- 13 weeks of lectures (revision in the final week).
- 2 practical assignments (30%), 3hr exam (70%).
- Homework exercises (do them!)
- Take notes in class (Lectures are recorded)

PREREQUISITES

- CSE2304 or CSC2040
- Programming in C or C++ in a UNIX environment (gcc, Make, gdb)
- In addition it is assumed that you have an appropriate maths background (linear algebra):
- Coordinate reference frames
  - 2D and 3D
- Points and Vectors
  - vector addition, scalar multiplication
  - inner and outer products
- Basis Vectors and Metric Tensors
  - orthonormal basis, metric tensor
- Matrices
  - Matrix multiplication, matrix transpose, determinant, inverse

TEXTBOOKS

- See the subject web site (http://www.csse.monash.edu.au/~jonmc/CSE3313)
- Recommended Text:

  Hearn, Donald & M. Pauline Baker, *Computer Graphics with OpenGL*, Prentice-Hall 2004.
- For the assignments:

  Angel, Edward, *Open GL: A primer (2nd Edition)*, Addison Wesley, 2005.
- Other texts:

  Angel, Edward, *Interactive computer graphics – a top down approach with Open GL (4th edition)*, Addison Wesley, 2006.
- Foley, James D. et. al., *Computer Graphics: Principles and Practice (2nd Edition)*, Addison Wesley, 1990.

  Rogers, David F., *Procedural Elements for Computer Graphics (2nd Edition)*, McGraw-Hill, 1998.

  Hill, F.S. Jr., *Computer Graphics Using Open GL (2nd Edition)*, Prentice-Hall, 2001.

ASSESSMENT

- Examination, 3 hours: 70%
- Sample exam is available
- Two assignments (total assessment value 30%) :
  - Assignment 1, 10%, Due Date: Friday, 24 August 2007.
  - Assignment 2, 20%, Due Date: Friday, 12 October 2007.
- Assignments are submitted electronically (see the assessment page for details).
- Late submissions will be penalised.
- Assignment marks (and feedback) will be available on-line.
- You need to achieve a total of at least 50% for your total mark to pass this subject (Total mark = exam mark + assignment 1 mark + assignment 2 mark).

PRAC WORK

- Tutorials on Monday, beginning week 3 provide assistance with the practical assignments.
- Help room (building 26): Thursday 11am-12pm each week until exams.
- No formal lab classes for this subject.
- Work to be completed on Linux/Unix machines using OpenGL, in the C or C++ programming languages.
- Use the MESA OpenGL library (www.mesa3d.org).
- Assessed on correctness, quality, SW Eng principles and documentation (see assignment sheets on-line).
- Submission is electronic — submit well before the deadline!
- ***Read*** the policy on cheating and plagiarism.
- Plan your time carefully!

WHERE TO GO FOR HELP

- Lecture notes available on-line (pdf format).
- Web resources available from the unit home page.
- Looking for assistance?
  - lectures/notes
  - fellow students
  - textbooks/library
  - web
  - lecturer
- Consultation hours:
  Wednesday 5-6pm
- Please use email to make an appointment outside these hours.