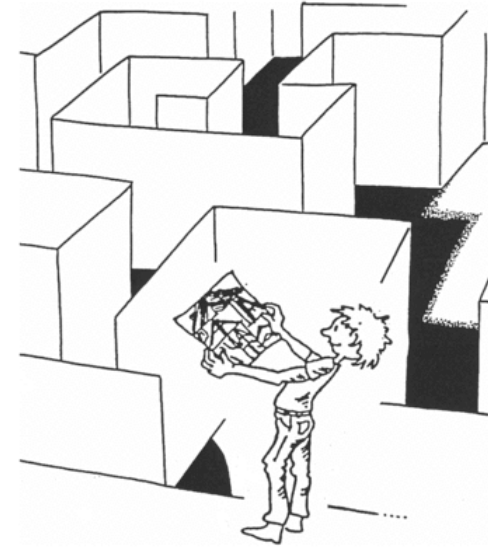


Advanced Computer Graphics Organization



G. Zachmann

University of Bremen, Germany

cgvr.informatik.uni-bremen.de

Prerequisites

- Theoretical Knowledge:
 - Computer graphics I (Bachelor)
 - Should you have missed it – you can find the slides at <http://cgvr.cs.uni-bremen.de/> → "Teaching" → "Computer Graphics"
- Inclination towards *algorithmic thinking* in general
- Programming skills:
 - C/C++ (actually, just "C with classes")
 - Perhaps a little OpenGL
- Mathematical knowledge:
 - Only very little

The Web Page for This Class

- All important information for this course will be put on the homepage of this course:

<http://cgvr.cs.uni-bremen.de/>

→ "Teaching" → "Advanced Computer Graphics"

- Slides
- Assignments & frameworks accompanying the programming assignments
- Literature, online documentation
- Etc.

- You have two options:
 - Either, regular oral exam, ca. ½ hour per student
 - Or, mini oral exam (so-called "Fachgespräch"), ca. 10 minutes per student

- The formula for calculation of your grade with option 2:
 - Assignments → grade A
 - 95% of all points → A = 1.0
 - 40% of all points → A = 4.0
 - Mini oral exam → grade B
 - Overall grade = $0.5 \times A + 0.5 \times B$
 - Prerequisite: $A \geq 4.0$ && $B \geq 4.0$!

Tutorials & Assignments

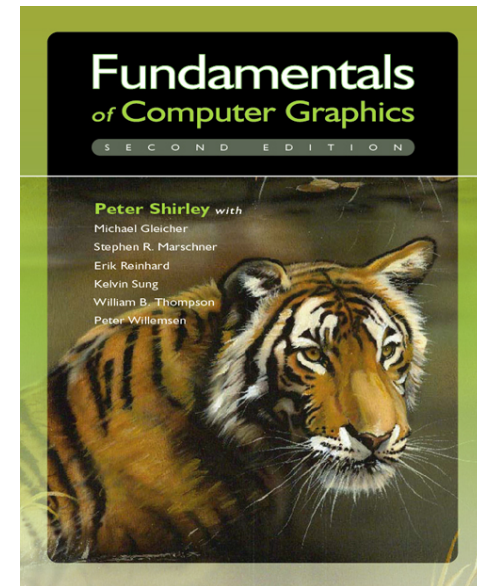
- First tutorial & assignment around mid May
- Then approximately weekly
- About 6 assignments
- First assignment will be on ray-tracing
 - Following assignments will build upon previous ones
- Mostly programming within given framework (just a few LoC)

- Please register in StudIP!

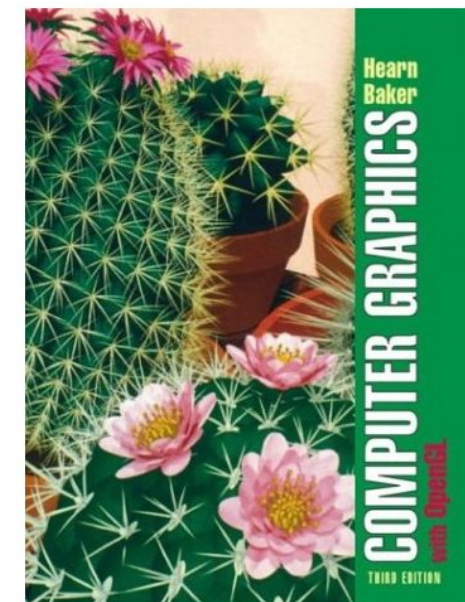
- Special deal/assignment for fluent English/German speakers ! ...

Textbooks as of CG1

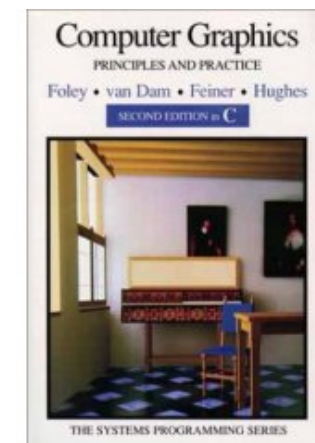
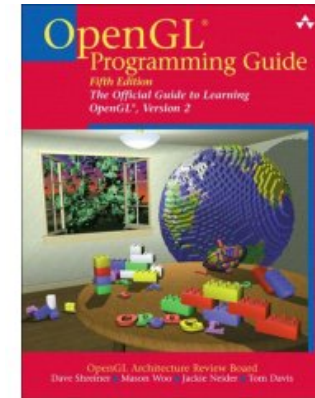
- Peter Shirley: *Fundamentals of Computer Graphics*. AK Peters LTD, Second Edition 2005



- Donald Hearn, M. Pauline Baker: *Computer Graphics with OpenGL*. 3rd Edition, Prentice Hall, 2003



- Mason Woo, Jackie Neider, Tom Davis, Dave Shreiner: *OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 2*. 5th Edition, Addison-Wesley, 2005
- J. L. Encarnaç o, W. Strasser, R. Klein: *Graphische Datenverarbeitung 1 und 2*. Oldenbourg, 1996
- J. Foley, A. van Dam, S. Feiner, J. Hughes: *Computer Graphics: Principles and Practice*. Addison-Wesley Professional; 2nd Edition, 1995



For Some Topics of Advanced Computer Graphics

- Randi J. Rost: *OpenGL Shading Language*. Addison Wesley, 2004
S.a.: <http://www.opengl.org/documentation/glsl/>
- Matt Pharr, Greg Humphrey: *Physically Based Rendering : From Theory to Implementation*. Morgan Kaufmann, 2004.
S.a.: <http://www.pbrt.org/>
- Peter Shirley: *Realistic Ray Tracing*. AK Peters
- See the links on the homepage of the course!

