Advanced Computer Graphics (CG2)
Organization

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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"
  - Appreciation of algorithmic thinking in general

- Programming skills:
  - A little bit of C/C++ (actually, just "C with classes")

- Mathematical knowledge: just the very basics
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
- Literature, online documentation
- Etc.
Grades & Examinations

- Option 1:
  - Regular Oral exam, ca. 20 min per student
  - Note: *all of the material could be topics for the exam!*

- Option 2:
  - Do a (small) programming project
  - Contact me for more information
High-Level Goals of This Course

Cognitive Processes

- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create
Textbooks For Some Topics of Advanced Computer Graphics

Matt Pharr, Greg Humphrey: Physically Based Rendering. Morgan Kaufmann.

Peter Shirley: Realistic Ray Tracing. AK Peters

Tomas Akenine-Möller, Eric Haines: Real-Time Rendering. AK Peters

Peter Shirley: Fundamentals of Computer Graphics. AK Peters


See also the documents on the homepage of this course!
What Lies Ahead (Tentative)

Ray Tracing

Modeling

Acceleration Data Structures

Advanced Shader Techniques
Tone Mapping

Advanced Texturing

Real-Time Rendering

Boundary Representations
Mesh Processing

Generalized Barycentric Coordinates

[ More ... ]