VU Entwurf und Programmierung einer Rendering-Engine
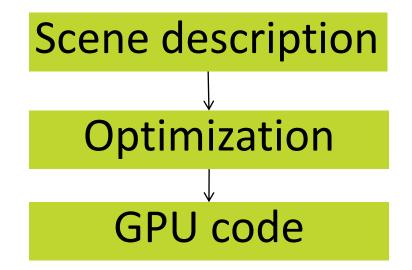
Content: Rendering engine *internals*

Challenges

- Architectural: how to structure reusable **software modules**

- Technical: how to use hardware **efficiently**

- Conflicting goals: **usability** vs **performance**

Topics

- Graphics APIs **Insights** (OpenGL, Direct3D, Vulkan,..)

- Scene representation, **domain specific languages**

- performance **optimization** and **data structures**

Scene description

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Optimization

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GPU code

More information

Organization

- 3 ECTS ~ half lecture, half exercise (see TISS):

  - rendering engine component, optimization technique,…

- Monday, 16:15 (s.t.)-17:45, Seminarraum 186

- First lecture: **14.10.2019**

Background

- Based on Robert F. Tobler's great lecture extended with recent research and topics.

- The lecture combines:

  - State of the art rendering engine architecture and implementation

  - Years of rendering engine development experience (in research and industry)