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*
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)