VU Design and Implementation of a Rendering Engine

**Content:** Rendering engine *internals*

**Challenges**

- Architectural: how to structure reusable *software modules*
- Technical: how to use hardware *efficiently*
- Dealing with tradeoffs: *usability vs performance*

**Topics**

- Graphics APIs *Insights* (OpenGL, Direct3D, Vulkan,..)
- Scene representation, *domain specific languages*
- Performance *optimization* and *data structures*
- Systematic performance evaluation
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: **06.03.2023**

Background

- Lecturers bring together academic and industry experience
- The lecture combines:
  - State of the art rendering engine architecture and implementation
  - Years of rendering engine development experience (in research and industry)

see also: [https://www.cg.tuwien.ac.at/courses/RendEng/](https://www.cg.tuwien.ac.at/courses/RendEng/)