Seminar Wissenschaftliches Arbeiten
186.828, SS 2015, 2.0h (3 ECTS)

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Important!

Register to course in TISS: to get news & updates

These slides will on the website after this meeting

Official registration: by submitting the literature list

Topics are presented and assigned here today
Seminar Goals

Practice selecting, reading and understanding

- Search and select papers relevant to your topic
- Summarize them as a state-of-the-art report
- Prepare a talk about your topic in the seminar

This permits in-depth familiarization with the topic
Tasks

- Submit a literature list (chosen with supervisor)
- Attendance of 3 lectures
- Meetings with supervisor: paper selection, discussion of papers, preparing talk slides
- Alternative: evaluate and compare algorithms
- Final talk in seminar
Literature List

- Analyze recent papers (select with supervisor)
- Study secondary literature to understand topic
- How to find relevant papers:
  - SIGGRAPH Proceedings
  - Google Scholar: find the right key words
  - Survey papers, often-referenced papers
- Submits a list of 10+ papers per email to supervisor & me → official registration
State-of-the-Art Report (STAR)

- 8 pages per student, preferably in English
- Format in the style of a scientific paper
- Use LaTeX template on course website
- LaTeX tools and guides also on the website
- Submit the draft in PDF format, per email to supervisor+organizer
Scientific Review

- You will get a draft of another student to review
- Typical conference review form (Eurographics)
- This helps author to improve the manuscript
- Guides on review writing on course website
- You will receive 2 reviews (student, supervisor)
- Improve final report according to reviews
Seminar Talk

- Prepare slides in advance, using template
- Each student talks for 15 minutes, english pref.
- 5 minutes discussion after each talk
- Focus is on overview/comparison of methods
- Present so that other students will understand it
- Active discussion is mandatory and is graded
- Submitted slides are presented on seminar PC
Grading

- Lecture attendance: 5%
- Review: 20%
- Seminar slides+talk: 30%, discussion: 5%
- Final report: 40%
- Late submission: 15% off per day, max. 1 week
Important Dates

- 24.03. 23:59 submit literature list (per email)
- 17.03. 15:00 – 16:30 lecture Prof. Gröller
- 24.03. 11:00 – 13:00 lecture Prof. Wimmer
- 17.04. 12:45 – 15:00 lecture Prof. Purgathofer
- 21.06. 23:59 submit slides (per email)
- 23.06. 9:00 – 15:00 Seminar talks
- 23.06. 23:59 submit final report (per email)
Now 7 topics will be presented

After the presentation, please mark down at least 3 in order of preference (1, 2, 3, …)

I will try to make a fair assignment of topics
1 From Sutherland To Holodeck

- **History (Focus on Recent Advances) of Virtual and Augmented Reality**

  - Sutherland’s HMD
  - Google Glass
  - Microsoft HoloLens
  - Oculus Rift
  - Sony SmartEyeglass

  - Timeline:
    - 1969
    - 2012
    - 2013
    - 2015

Michael Birsak
Investigate state-of-the-art optimizations in Smoothed Particle Hydrodynamics (SPH).

Evaluate one of the latest algorithms.
3 Browsing a VR Environment

Implement:
- Real Time VR app.
- Occlusion Layers
- Handle Occlusion Cycles
- Interactive Browsing

Mohamed Radwan
With *global illumination* algorithms, it is possible to **render photorealistic images** by simulating the **behavior of light**. Examine the **newer algorithms** on the field and write a report on them.
5 Procedural Modeling of Architecture

- Shape grammars
- Generative modeling
- Prior knowledge of formal languages required
Conduct a survey of recent advances in
- Symmetry Detection
- Model Manipulation Techniques
Voxels or Triangles? Octrees or BVHs?

Investigate efficient occlusion culling methods and their limitations
• Please mark at least 3 topics in order of preference (1, 2, 3, …), with your name
• Hand in the sheet
• Then I will assign the topics on the spot
Questions?

- Get in contact with your supervisor ASAP
- Discuss literature list with your supervisor
- Submit the list (to supervisor and me) by 24.3.