

Graphische Datenverarbeitung - Projekte SS 2012

[CoGVis/MMC]

www.uni-weimar.de/medien/cg

April 2, 2012

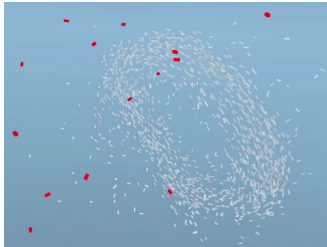
- Lectures
 - Computer Graphics II: Computer Animation (M.Sc.)
 - Start: Thursday, 05.04.12 11:00; B11, R014
 - Computer Graphics II: Fundamentals of Imaging (M.Sc.)
 - Start: Tuesday, 03.04.12 13:30; B11, R 015
- Seminars
 - Real-Time Graphics: Shader Programming (M.Sc.)
 - Start: Tuesday, 03.04.12 11:00; B11 R015
- Projects (lab and research)
 - Natural Phenomena
 - Synthesis and Rendering of anisotropic materials
 - TreeHugger
 - Start: tba; gfxLab
- www.uni-weimar.de/medien/cg

Project: Natural Phenomena



- [PHE–NOM–E–NON]: An observable fact or event.
(Merriam Wester)
- Natural
 - Behaviour: swarms, flocks, schools, herds, crowd.
 - Flow: Smoke, flow, wind.
 - Growth: Cells, plants, algae, beings.

Project: Natural Phenomena



(a) Swarms



(b) Real Time Gas

Project: TreeHugger



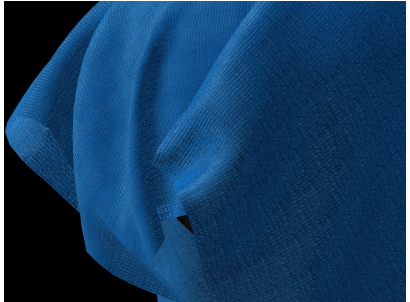
- tResearch
 - Simulation of trees
 - Rendering of trees
 - Modelling of trees

Project: TreeHugger



- C++ / OpenGL / Qt / TUIO
- Rule driven plant growth (L-System vs. Particle System)
- Self-Illumination / Shadows Parallax-Occlusion-Mapping vs. Displacement Mapping
- Physics (Rigid body vs. Euler-Bernoulli-Beam-Model)
- Wind simulation (Navier-Stokes)

Project: Synthesis and Rendering of anisotropic materials

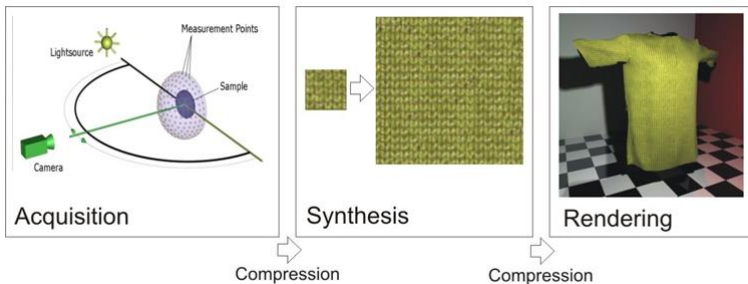


- Realistic rendering of complex materials
- Real-time visualization
- Comparing algorithms

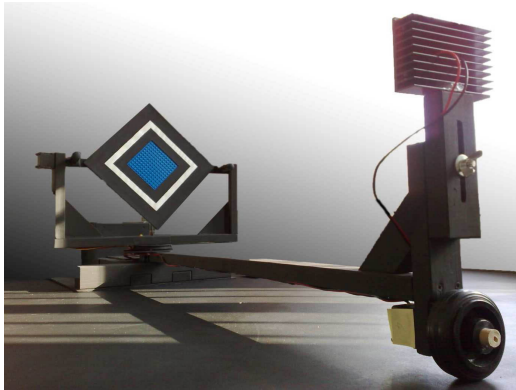
Project: Synthesis and Rendering of anisotropic materials

BTFs Visualization steps:

- Texture acquisition
- Synthesis
- Rendering



Project: Synthesis and Rendering of anisotropic materials



Acquisition setup

The end

- Hoping to see plenty of you
- For more Infos see:
<http://www.uni-weimar.de/medien/cg>