



Outline of the Seminar, new and updated

Contents

Computer graphics is about images. Big surprise. It's about images that are computed by computer and displayed on screen. There are other ways, too, of making them visible. When these images are computed and displayed, they are not photographed and displayed, nor are they drawn and displayed. They are algorithmically generated images. In design this is currently (again) called generative graphics or generative design. A true hype is emerging. – Images on computers and out of computers always come with two faces: their subface (of algorithmic kind) and their surface (aesthetic). In the seminar, we will focus on the algorithmic face.

At the University of Bremen, we currently offer the following computer graphics courses:

Grafische Datenverarbeitung: Grundlagen	Wintersemester. Ab 3. Semester Bachelor Digitale Medien Et Informatik, Diplom 4 SWS, 6 ECTS. Festes Curriculum, Übungen
Grafische Datenverarbeitung: Vertiefung	Sommersemester. Ab 4. Semester Bachelor Informatik Et Digitale Medien, Diplom 4 SWS, 6 ECTS. Wechselnde Themen, wechselnde Formen
Topics in Graphics and Image Processing	Summer term. Master Digital Media Et Informatik, Diplom 2-4 SWS, 6 ECTS. Varying topics, depending on participants

For this term, I want to do the following. We take up the proceedings of the 2010 SIGGRAPH conference. We first try to gain an overview of the topics treated at the meeting. Eurographics 2010 would be an alternative, and we might want to look at their proceedings as well. We may spend a bit of time on how such scientific conferences are prepared in general. (A tip: the Smart Graphics 2011 will be held in Bremen from 18 to 20 July 2011.)

Our main purpose will be to select from the proceedings a good choice of contributions that we are then going to study in detail. Each participant will become responsible for one of the contributions. He or she presents the paper at one of our meetings. Under her guidance, we try to understand the problem, the initial step, and the results, as well as possible. Quite likely, some questions will remain open that we want to identify clearly. The next step will be to work on them in greater detail.

The seminar will thus rather naturally be divided into two phases: A series of first encounters with the contributions to the conference, and, second, a thorough study of open questions that we did not understand at first reading. How exactly we are going to do this will be our first discussion.

You may notice that this process will require your full attention and active participation. We should not allow ourselves to fall into a hurry. But all of us should stay up to date and abreast, because things will not be easy. – We will have to surmount some rough terrain. Clearly, you gain credit for your contributions along the lines indicated. Detailed conditions and requirements will jointly be defined at the beginning.

The schedule, updated

4 April	General introduction. This proved to have drawn only part of those interested. Therefore a second attempt
11 April	Second introduction of the general approach. Enough agreement on formals with some adjustments
18 April	Finally, the real start: Great themes at SIGGRAPH 2010, selection of topics and papers by titles and abstracts. Assignment of a paper to each student
25 April	– National holiday –
2 May	5-minutes short presentations.. Organizing the rest of the term
9 May	Presentations of 20 plus 10 minutes Ugur
16 May	Presentations of 20 plus 10 minutes / Rüdiger, Markus
23 May	Presentations of 20 plus 10 minutes / Roxana
30 May	Presentations of 20 plus 10 minutes / Preslav, Daniel
6 June	Presentations of 20 plus 10 minutes / Alexandre
13 June	– National holiday –
20 June	Advanced topic 1: Face modeling and rendering (Rüdiger, Alexandre, Roxana)
27 June	Advanced topic 2: GPU programming (Preslav)
4 July	Advanced topic 3: Simulation of fluids (Ugur)
11 Juli	Final meeting, summary, looking back, critique

A remark concerning credit

You gain the 6 points of credit for your permanent active participation. Your participation shows particularly in your presentation of a paper chosen from the proceedings of SIGGRAPH 2010. You have 20 minutes for the presentation, and there should be 10 minutes time for discussion. The presentation must (1) clearly identify the problem, (2) explain the approach to solve it, (3) list the results of this attempt, and (4) give some of the actual process of solving the problem. Your presentation should make an attempt at (5) identifying difficulties, open questions, and generalized topics for our second round.

Besides the oral presentation, you must summarize the five points mentioned above in written form. Do this as short as possible, as extensive as necessary (try to do it in two pages, don't use more than five).

Together, we will define the advanced topics of the second round. There will be specialized tasks for you to do during this round.