INFOGR – Computer Graphics

Jacco Bikker & Debabrata Panja  -  April-July 2018

Lecture 1: “Introduction”

Welcome!
Today’s Agenda:

- Graphics
- Course Introduction
- Math 1
Introduction
Introduction
Computer Graphics 2018:

Looking for realism (in several wrong places):

1. Rasterization
   - Geometry
   - Textures, shaders
   - Clipping, culling
   - Post processing
   - ...

2. Ray tracing
   - Ray/triangle intersections
   - Bounding volume hierarchy
   - Snell, Fresnel, Beer
   - Whitted, Cook, Kajiya
   - ...

3. Mathematics
   - Vectors
   - Matrices
   - Transformations

INFOGR – Lecture 1 – “Introduction”
Introduction

Language: English, because of reasons.

Prerequisites: C#.

Literature: Fundamentals of Computer Graphics (3rd edition), by Peter Shirley and Steve Marschner (or 4th, or 2nd, or 1st).

~15 lectures.

Supporting math tutorials and working lectures.

For rooms: see schedule.
Exams:
- Mid-term: May 22nd.
- End of term: June 28th.
- Retake: July 12th.

Attendance:

You are not required to attend any of the lectures / tutorials / practicals (i.e., if you are here, it’s because you want to*).

*Obviously, attendance is highly recommended.
Graphics

UNIVERSITEIT UTRECHT - INFORMATION AND COMPUTING SCIENCES

academic year 2017/18 – 4th period

http://www.cs.uu.nl/docs/vakken/gr
https://infogr2018.slack.com/signup
use student.uu.nl e-mail address
Course characteristics:

This is a very intensive course. Be sure to keep up, i.e. don’t miss lectures.

Be aware that this course will be attended by a diverse student population:

- Math-savvy students;
- Programming gurus;
- Game people;
- Informatics guys.

Regardless of your skill level and interests, make use of this course to improve.
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Team

Lecturers:

Jacco Bikker
bikker.j@gmail.com / j.bikker@uu.nl
Office: BBL 424

Debabrata Panja
d.panja@uu.nl
Office: BBL 511
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Team

Student Assistants:

1. Frederico D’Ambrosio
2. Mark Dekker
3. Kylian Kuijer
4. Sander Vanheste
5. Rik van Toor
6. Ozer Ulusoy
7. Carlijn Nijhuis
Assignment Overview:

i. P1: “Tutorial”;

ii. P2: Ray Tracing;

iii. P3: Rasterization.

Final practicum grade is (P2 + P3) / 2.

Exam overview:

i. T1: Mid-term exam;

ii. T2: Final exam.

Final exam grade is 0.3 * T1 + 0.7 * T2.

Final grade: (T + P) / 2

Passing criteria:

Final Grade ≥ 6 (after rounding); both T and P ≥ 5.0 (before rounding).
How to hand in assignments:

- [http://www.cs.uu.nl/docs/submit](http://www.cs.uu.nl/docs/submit)

First assignment ("Tutorial") is online now:
See website.
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Practical Details

Retake: only if you failed the course, and scored at least a 4.0 (before rounding).

Retake / Theory:
- Retake covers all theory and replaces \( \min(T_1, T_2) \).

Retake / Practical:
- Retake replaces \( \min(P_2, P_3) \).
  Topic will be assigned individually.
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Assignments

PART 1: Mathematics

Tutorial 1 is now available from the website.

PART 2: Programming assignment

P1 (OpenTK Tutorial) is now available from the website. Assistance is available after each lecture.
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