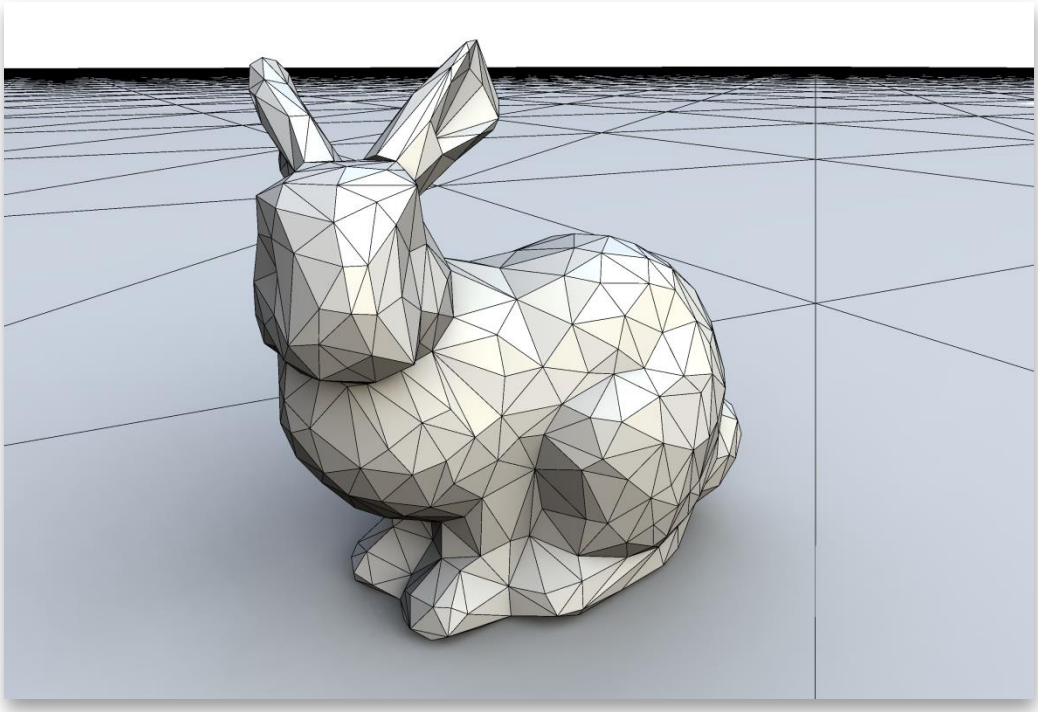
Graphics 2014



Formalities

[Faculty of Science]
Information and
Computing Sciences

Universiteit Utrecht

People

Lecture

Lecturer

- Michael Wand
- UHD in division “virtual worlds”
- Contact
  - Email: M.Wand@uu.nl
  - Room: BBL424

Practicals

Practicals

- Tigran Gasparian
- Vazgen Gasparian
- Gina van Lent
- Tom Rijnbeek
- Paul Scharf

Theory Tutorials

Theory (tutorials)

- Anna Aljanaki
- Coert van Gemeren
- Marcelo Rodríguez López
- Norman Jaklin

Students

Your prior knowledge?

- C++ / C#?
- OpenGL / DirectX?
- Programming
  - > 10.000 LOC
- Math
  - Vector / matrix algebra?
  - Homogeneous coordinates?
- Graphics
  - z-Buffer algorithm?
  - Octree?

Course Structure

Organization

The course consists of

- Lecture (4h/week)
- Practicals (hands-on!)
- Theory tutorials (prepare for exam!)

Grading

- Mid-term exam (1/3)
- Final exam (1/3)

} Theory assignments + tutorials for preparation

- Practicals (1/3)

Lecture

Time

- Tuesdays, 11:00h - 12:45h, Room ANDRO-C101
- Thursdays, 13:15h - 15:00h, Room ANDRO-C101

Date

- Week 17-26
- Apr 22 – June 26 2014
- No lectures in herkansing week (w. 22), i.e., May 26 – 30

Textbook

Peter Shirley, Steve Marschner:
Fundamentals of Computer Graphics, *3rd edition*,
AK Peters, 2009.

Theoretical Assignments

Theoretical Assignments

- 5-6 homework assignments
- Covering math + theory
- Solve for yourself / in small groups
- Not graded
- Strongly encouraged – preparation for exam

Theoretical Assignments

Tutorials

- Four time slots with TA present to…
  - …answers your questions.
  - …explain details.
  - …provide further information.
- Exercises yourself (alone or small groups)
- Attend one of them
  - Free choice, ignore “groep indeling” (OSIRS).
- Attendance not mandatory…
  - …but highly recommended.

Practical Assignments

Practical Assignments

- Three assignments
  - Parallel to lecture
  - Programmer's perspective
- Practical real-time 3D rendering
  - 3D rendering with XNA / C# / MS Visual Studio 2010
  - Example platform / case study
- Solve in groups of 2-3 students (mandatory!)
- Need at least 5.0 to pass course
  - Weighting: 20% P1 + 40% P2 + 40% P3
- Redoing course? Special rules.

Practical Assignments

Group Work

- Groups of 2-3 students
  - Submitting alone will be reduced by 1.0 (without prior permission)
- Building groups
  - Choose your teammates yourself
  - Contact TAs during the practical consultation in case of difficulties
- If a partner drops the course
  - Contact us immediately
- Project team responsibility

Practical Assignments

Doing the course a second time?

- Comparable practicals

Participated last year – two options

- (a) Redo practicals
  - Reuse code only if both team mates redo the course
- (b) Passed last year's practicals (≥ 6.0)
  - You can choose to reuse results (Mail until Thu, April 24)

Other cases (course ≥2 years ago)

- Redo practicals

Practical Assignments

Required HW/SW

- Windows 7 PC with Visual Studio 2010 and XNA Game Studio 4.0.

In the lab

- Provided on computers in room BBL 175
- Reserved for us the whole period (Mo-Fri, 9-17h)
- Seating first-come-first-served

Practical Tutorials

Separate Practicals Tutorial

- Teaching assistants in BBL175
- Help & support with the practical assignments
- TAs will give detailed instructions on P2, P3 during the lecture

Forum

- Best-efforts to answer your questions:

  `http://graphics14.amulware.net`

  (Thanks to Paul Scharf!)

Practical Assignment P1

Assignment P1

- Will be out after the lecture
- XNA tutorial
- Walk-through of the framework
- Thanks to Tom for polishing!

Tutorials Schedule

Weekly Schedule

time	Mon	Tue	Wed	Thu	Fri
9-11					
11-13		Lecture Tue			
13-15				Lecture Thu	
15-17				Tutorial Thu1 / Tutorial Thu2 / Tutorial Thu3 / Tutorial Thu4	
17-19					

Timing Decision

Practicals

- tba.

Theory tutorials

- Thursdays 15-17h
  (after the lecture, four parallel slots)
- Rooms: BBL-165, BBL-023, BBL-079, BBL-083

Tutorials (practice & theory): start next week!

Exams & Grading

Exams & Grading

Midterm Exam

- Thu May 22 2014 13:30-15:30 (EDUC-BETA)

Final Exam

- Thu July 3 2014 17:00-20:00 (EDUC-BETA)

Retake Exam

- Fri Aug 15 2014 09:00-12:00 (EDUC-ALFA)

Exams & Grading

Rules

- You must take Midterm & Final
- Average exam score must be at least 5.0
- Score in practicals must be at least 5.0

Final Grade

$$practicals = 0.2 \cdot P_1 + 0.4 \cdot P_2 + 0.4 \cdot P_3$$

$$grade = \frac{midterm + final + practicals}{3}$$

Exams & Grading

Retake Exam

- Participation in P1,P2,P3, midterm, final exam
- Overall score must be ≥ 4.0
- Will replace worst exam score
  - but only if it improves (no loss possible)

Exams & Grading

Practical retake

- Failed only due to practicals (score below 5.0)
- Participation in P1,P2,P3, midterm, final exam
- Practical retake replaces worst of P1,P2,P3
  - again, only if it improves
- Mail me until Friday, July 4 if you want to take it

Exceptions / hardship

- Contact us early with a good reason
  - For example: very close call (3.9), highly motivated
  - Case-to-case-basis

Week	Date	Lecture / Exams	Tutorials	Practical #1	Practical #2	Practical #3
17	Tue Apr 22 11:00-12:45	Lecture 1: Introduction		**Assignment P1** XNA Introduction / Tutorial		
	Thu Apr 24 13:15-15:00	Lecture 2				
18	Tue Apr 29 11:00-12:45	Lecture 3	**Tutorials #1**		**Assignment P2:** basic shader programming	
	Thu May 01 13:15-15:00	Lecture 4				
19	Tue May 06 11:00-12:45	Lecture 5	**Tutorials #2**	**Deadline:** Tue May 6, 23:59h		
	Thu May 08 13:15-15:00	Lecture 6				
20	Tue May 13 11:00-12:45	Lecture 7	**Tutorials #3**			
	Thu May 15 13:15-15:00	Lecture 8				
21	Tue May 20 11:00-12:45					**Assignment P3:** advanced shader programming
	Thu, May 22 13.30-15.30	Midterm Exam (room: EDUC-BETA)				
22	May 26-30	*herkansing week*				
23	Tue June 3 11:00-12:45	Lecture 9	**Tutorials #4**		**Deadline:** Tue June 3, 23:59h	
	Thu June 5 13:15-15:00	Lecture 10				
24	Tue June 10 11:00-12:45	Lecture 11	**Tutorials #5**			
	Thu June 12 13:15-15:00	Lecture 12				
25	Tue June 17 11:00-12:45	Lecture 12	**Tutorials #6**			
	Thu June 19 13:15-15:00	Lecture 14				
26	Tue June 24 11:00-12:45	Lecture 15				
	Thu June 26 13:15-15:00	Lecture 16				**Deadline:** Thu June 26, 23:59h
27	Thu July 3 17:00-20:00	Final Exam (room: EDUC-BETA)				
...						
33	Fri Aug 15 09:00-12:00	Retake Exam (room: EDUC-ALPHA)				

latest schedule online at: http://www.cs.uu.nl/docs/vakken/gr/