Geometric Modeling

Summer Semester 2012

Michael Wand

Saarland University & MPI Informatik
Saarbrücken

UNIVERSITÄT DES SAARLANDES

CLUSTER OF EXCELLENCE

max planck institut informatik

Introduction

Today...

Topics:

- Formalities & Organization
- Introduction: Geometric Modeling
  - Motivation
  - Overview: Topics
  - Basic modeling techniques
- Mathematical Background
  - Function Spaces
  - Differential Geometry

Who is Who?

Who's who?

Lecture

Michael Wand
mwand@mpi-inf.mpg.de

Campus E1 4, Room 208
Lecture

Tutorials

Silke Jansen
sjansen@mpi-inf.mpg.de

Campus E1 4, Room 209
Theoretical Assignments

Ruxandra Lasowski
lasowski@mpi-inf.mpg.de

Campus E1 4, Room 207
Management

Avinash Sharma
asharma@mpi-inf.mpg.de

Campus E1 4, Room 208
Theoretical & Practical Assignments

Art Tevs
tevs@mpi-inf.mpg.de

Campus E1 4, Room 219
Practical Assignments

Registration

Registration: Lecture

You have to register for the lecture

- Grading (exercises, exam) requires registration
  - You are welcome to just sit in and listen
  - Registration is required for credits
- *Register* within *first two weeks* of the lecture
- Email Ruxandra Lasowski: lasowski@mpi-inf.mpg.de
  - Include: *Name*, *student number*, *your email*, "*Studienordnung*"
  - Register on or before April 26th, 2012.
  - This is also the last day to *unregister* again (mail)

Registration: Lecture

Registration:

If you want to take the exam & the exercises

⇒ Sign up on or before April 26th, 2012.

In case you change your mind

⇒ Unregister on or before April 26th, 2012.

How to register / unregister?

- Email Ruxandra Lasowski: lasowski@mpi-inf.mpg.de
- Include *name*, *student number*, "*Studienordnung*", *email*

Written Exam

Signup for the Exam

Signup in HISPOS

- You have to sign up for the exam *separately*.
- You will be notified about the signup deadline by the university
- Always sign up for both (with us, with HISPOS)
  - The information is *not* passed automatically (either way)

Homework & Exam

To pass the lecture, you need to...

- Work on *all homework assignments*
- Obtain at least *50%* of the *assignments score*
  - Scores above 50%: bonus to written exam(s)
  - 100% = 10% bonus
- *Pass* the final *written exam* or *the re-exam*
  - Two tries, one must succeed
  - Free to take one or both, better grade counts

Date for the written exam (discuss):

- **Final exam:** First week of the semester break
- **Re-exam:** end of semester break (late September)

Assignments (Homework)

Assignments

Concept

- Theory & practice: Alternating each other week
- Exercises will be posted online on Tuesdays

Theoretical Assignments

- Each student must prepare a write-up
- Hand-in solutions: *Tuesday, before the lecture* (after one week)
- Will be graded and returned in the tutorial courses
- Solutions will be discussed in the tutorial courses

Practical Assignments

Practical Assignments

- Programming assignments
  - Every other week, instead of theory
  - Group work: groups of three students
- A C++/QT framework will be provided (Linux/Windows)
  - Windows users:
    Visual Studio Express is available for free download
  - Linux users:
    Multiple options: Console, K-Develop, QT Creator
- Other environments can be used as well
  - Needs to be approved (talk to us)
  - Won’t promise any support :-)

Practical Assignments (II)

Practical Assignments

- Groups of three students
  - Form groups yourselves
- Please sign up for an interview slot
  - Directly after the lecture
  - After that: list in Room 208
- Bring your own equipment (laptop)
  - Possible for everyone?
    (if not, we need to move to computer room)

Practical Assignments (II)

Practical Assignments: Grading

- Grading in personal interviews
- 20 min slots, same room as theory tutorial
- Group must *show up entirely*
  - Only for the 20min, not the whole time
- Everybody is graded individually, based on:
  - The group's implementation
  - Personal knowledge about the implementation
  - Everybody must be able to *explain all of the code*

Practical Assignments (V)

First Tutorial Course:

- Topics:
  - Using the programming environment (personal advice)
  - Introduction to the provided C++ framework
- **Only this time:** we will meet for 90 minutes
- **Only this time:** Participation is voluntarily.
  - Meant to help students with little programming experience

Time & Location

Time & Location

Lecture:

- Tuesday 14-16h (c.t.), Room 021
- Thursday 16-18h (s.t.), Room 024

Tutorial Courses:

- Wednesday 14-16h (c.t.), Room 021
- Friday 10-12h (c.t.), Room 021

Location

- MPI Building (E1 4)

Schedule (tentative)

Time		Tuesday			Day	Thursday	Day	Wed / Fri	Day
		Lecture	Assignments out	Hand-in		Lecture		Tutorials	
April	17	Lecture #1			19	Lecture #2			
	24	Lecture #3	Ass. #0: practice		26	Lecture #4			
May	01	Holiday	Ass. #1: theory		03	Lecture #5	02	Progr. tutorial #0	04
	08	Lecture #6	Ass. #2: practice	Ass. #1	10	Lecture #7	09	Solutions #1	11
	15	*Guest Lecture #8*	Ass. #3 theory		17	Holiday	16	Interviews #2	18
	22	Lecture #9	Ass. #4 practice	Ass. #3	24	Lecture #10	23	Solutions #3	25
	29	*Guest Lecture #11*	Ass. #5 theory		31	Lecture #12	30	Interviews #4	01
June	05	Lecture #13	Ass. #6 practice	Ass. #5	07	Holiday	06	Solutions #5	08
	12	Lecture #14	Ass. #7: theory		14	Lecture #15	13	Interviews #6	15
	19	Lecture #16	Ass. #8: practice	Ass. #7	21	*Guest Lecture #17*	20	Solutions #7	22
	26	Lecture #18	Ass. #9: theory		28	Lecture #19	27	Interviews #8	29
July	03	Lecture #20	Ass. #10: practice	Ass. #9	05	Lecture #21	04	Solutions #9	06
	10	Lecture #22	Ass. #11: theory		12	Lecture #23	11	Interviews #10	13
	17	Lecture #24	Ass. #12: practice	Ass. #11	19	Lecture #25	18	Solutions #11	19
	24	Lecture #26			26	Lecture #27	25	Interviews #12	27

Evaluation

Questions & Suggestions

- Please let us know if there are any issues *anytime*
- *We appreciate your feedback!* Please let us know:
  - ...if you find a certain part of the lecture hard to understand or not well explained.
  - ...any suggestions how to improve the lecture or the exercises.
  - ...any other questions, suggestions or concerns.
- Easiest: Come to my office
  - Office hours: just drop by, or mail to be sure I am around.
- Mail me at: mwand@mpi-inf.mpg.de
- Or speak to / mail the teaching assistants

Questions?