COMPSCI 715
Advanced Computer Graphics

Course Outline

Christof Lutteroth

- Originally from Berlin, Germany
- My research interests:
  HCI, Graphics, Software Tools
- Contact details:
  lutteroth@cs.auckland.ac.nz
  Phone 373-7599 84478
  Office 303 - 494 (4th level CompSci building)

- If you have questions, come to my office or email me

Personal Support for Students

Class Representative

Who would like to be class rep?

- Approachable
- Collect feedback and relay to lecturer
- Student / staff meetings

Our class rep is Tim Diack

tdia010@aucklanduni.ac.nz

Congratulations, Tim!

Today's Mission

1. What is the course about?
2. How is it assessed?
3. What kind of project would you like to do and who could be in your team?

Learning Outcomes

This is a project-based course. The project topics are:

VR exergaming, VR feedforward learning, 3D sketch interaction, 3D user interfaces

After the course you will be able to:

- Describe the fundamental concepts of the project topics
- Explain the motivations (and underlying psychological processes)
- Apply 3D technologies to develop a creative solution
- Critically analyze and refine a solution
- Use scientific methods to evaluate a solution
- Write a scientific paper about your solution
- Present your solution to a scientific audience

Schedule 1st Half

Week	Activities	Assignments
1	Tue: course outline, Wed: project topics, Thu: feedforward learning (guest lecture)	Register teams
2	Tue + Thu: exergaming (guest lectures), Wed: academic writing overview, abstracts	Abstract (1.5%)
3	Tue + Thu: Unity, Wed: introduction write-up	Introduction (2.5%)
4	Tue + Thu: Unity, Wed: related work write-up	Related work (2.5%)
5	Team meetings, Wed: design & implement.	1st prototype (1.5%)
6	Team meetings, Wed + Thu: demos (2.5%)	

Mid-semester break. So far 12% of individual assignments.

Schedule 2nd Half

Week	Activities	Assignments
7	Team meetings, Tue + Wed: evaluation methods	2nd prototype (1.5 %)
8	Team meetings, Wed: evaluation write-up	Design & impl. (2.5%)
9	Team meetings	Eval methodology (1.5%)
10	Team meetings	Eval results & discussion (2.5%)
11	Team meetings	Final report (5%) Slides for presentation
12	Final demos (5%), prizes, exam prep / learning tips	Team project Repo freeze (20%) Video (1.5%)

Project Prizes

AIAIAI hifi headphones for every member of the team with the best project.

Sponsored by Serrato, who will be there for the final presentations.

Course Expectations

- Teamwork: be a part of an awesome team
- Workload: 10h per week ...not more, not less.
- It's a postgraduate course (see also postgrad profile)
  - Creativity: you create & "own" your project
  - Independent problem solving: find own solutions
  - Critical thinking / analyzing: see the difference
  - Academic literacy: hone your reading & writing skills
  - Communication: inspire others with your work
- Use the university resources to improve your skills,
  e.g. student learning center, library

Lectorials & Meetings

Lectorial = combined lecture / tutorial

- Interactive
  - Ask questions anytime
  - Practical exercises during lectorial
  - Give (anonymous) written feedback after the class
- Teamwork encouraged (help your peers!)
- Encouraged to bring laptops (1 per pair)

Meetings in your project teams

- “Personal training” for you to become researchers
- To deliver and discuss prototypes (see assignments)
- To get feedback & advice

Attendance & Catching Up on Missed Material

Guest Lectures / Demos / Lectorials

- It would be great if you could attend all the sessions :-)
  But we understand that this is not always possible :-(
- To help you catch up, we will record all sessions (also demos)
- Lectorials about methodology on Wednesdays
  (they are useful for your project, the assignments etc.)

Team Meetings

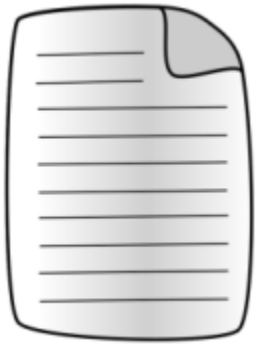
- We arrange a time that suits all team members
- Please attend them as parts of them are graded
- If you cannot come, please let Christof know so we can work around it

Assessment

When?	What?	How much?	Where?
Every week (see schedule)	Writing assignments	18% in total	Assignment Dropbox
Every week (see schedule)	Coding assignments	4.5% in total	Team meetings
Week 6 + 11/12	Demos	2.5% + 5%	Lectures
Week 10	Project	20%	Repository
TBA	Exam	50%	TBA

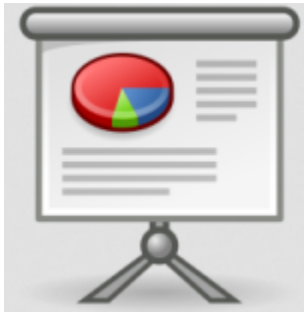
All marks are individual. See schedule for rough deadlines. Exact deadlines will be announced in time.

Writing Assignments (18%)



- Submitted individually through the assignment dropbox: https://adb.auckland.ac.nz/
- Should adhere to scientific standards as taught in the lectorials
  - Must use LaTeX (ACM or IEEE style)
  - Must not be plagiarized from someone else
- Aligned with your project - will help you!
  - Assignments break down full report into parts: 1.5% + 3 x 2.5% + 1.5% + 2.5% = 13%
  - By final report deadline mostly already complete, opportunity to improve the parts from feedback (5%)
  - Possibility of publishing at scientific conference

Demos (7.5%)



- Week 6: Interim Demo (2.5%)
  - Present to your peers what you have achieved
  - Get feedback
  - Team members should present equally long
  - Main part: life prototype demonstration
    (slides possible, but only after prototype)
  - Slots are first come first served

- Weeks 11/12: Final demo (5%)
  - Serato will be present

Coding Assignments (4.5%) and Project (20%)

Coding Assignments (3 x 1.5%)

- Code/project review in team meetings
- Looking at your current prototype
- You explain your prototype and the code

Project (20%)

- Repo freeze (week 12) then marker starts
- Version control commit log:
  Individual marks based on recorded contributions
- Mandatory - penalty if not:
  - Usable, complete project folder with runnable project
  - **`readme.txt`** with working test instructions
  - Source code comments

Exam (50%)

- 2 hours, closed book
- Essay-style text questions about the projects
  - Covering the different topics
  - Know a little bit about every project

- Prepare yourself by participating in the lectorials, labs and your project
- Also attend other teams' presentations
- Read some of the other team's reports & related works

Plagiarism

Cite, then summarize, paraphrase or quote

- Always cite sources (it's scientific and impresses your readers)
  - Same with copying images/figures: cite the source
- Summarizing cited content helps yourself and your readers
- Paraphrase if you cannot summarize (write it in your own words)
- Quote text as a last resort (always use quotation marks)

When copying code:

- Using small snippets of code from the web is ok
- Longer portions copied/used, e.g. libraries:
  - Check license, is it legal?
  - Cite source in report and source code

When in doubt, ask your lecturer :-)