

1a – Administrative Stuff

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Sensors and User Models

<http://kti.tugraz.at/about-kti/team/viktoriapammer/sensors-and-user-models-2015/>

https://online.tugraz.at/tug_online/lv.detail?cperson_nr=23131&clvnr=184716

Allgemeine Angaben	
Titel	Sensors and User Models
Nummer	707.033
Art	Vorlesung-Übung
Semesterstunden	1 Vorlesung/1 Übung
Angeboten im Semester	Sommersemester 2015
Vortragende/r (Mitwirkende/r)	Pammer-Schindler Viktoria
Organisation	Institut für Wissenstechnologien
	Kontakt
Stellung im Studienplan / ECTS Credits	Pflichtfach: 0 Wahlfach: 4 Doktoratsstudien: 0

Can also be used in doctoral studies, you just need to get it approved by the dean of studies.

Times and Places

Times: Pretty irregular, mostly on **Mondays betw. 10-12 am**

Places: More regular, but on April, 4 we are in a different room.

Please check the calendar exactly to know the dates.
TUGOnline is always up-to-date!

Contact

Contact Details: See TUGOnline –
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Please use whenever possible the opportunity to talk to me in class:

- You will get an immediate response
- Others who may have the same question will also hear the answers

When you email me

- I answer all emails. But please understand if I don't answer immediately
- If I have not answered within a few days, please remind me – I may simply have forgotten

Lecture Mode I

Lecture with integrated practical work (VU) and continuous assessment

Lectures: Short written exam at the end of lecture

Paper Presentation: You will read a paper and present it to class (presentation is groupwork, but not every group will present; compulsory attendance at paper presentations)

Lecture Mode II

Assignments: Short practical home assignments (design and implementation tasks). Groupwork – typically the same group as in the paper presentation. However, if you find a more suitable group, this is also fine for me. Assignments will be presented in class – Compulsory attendance on presentation days

Written Report: Every student writes a final report. This should be, in terms of structure and methodology, a scientific paper (Length: 4, SIGCHI format).

Grading

Activity	% of overall grading
Lecture Exams	25%
Assignments including Paper Presentation (4-5 single grades for each group)	50%
Final Paper	25%

Grade	%
1	(87.5 , 100]
2	(75 , 87.5]
3	(62.5 , 75]
4	(50 , 62.5]
5	[0 , 50]

- Group Work and Individual Work each count for half of the grade
- In group work, typically all group members will be given the same grade. If there are noticeable differences in competent answers, I may give different grades though.

Attendance

Where there are two dates for presenting the same assignment, you need be present only on one date (where you present)

If you show up, show up on time!

Attend class. This is typically helpful for learning and exploring the subject!

Lecture Mode III – Interconnected assignments

General idea: Learn from good prior research.

Procedure

- **Read a top paper** (Selection will be predefined), Understand and discuss it in group, and present it to class – **Assignment 1**
- Design **Interaction Flow** of a smartphone-based system inspired by your paper – **Assignment 2**
 - Use Mock-Ups: Paper prototypes, approximations based on existing apps, ... (no coding allowed!)
 - Use Design Guidelines, Heuristics, inspirations from lectures
 - Present Design in front of class
- **Re-Enact** UbiComp system from paper (cognitive walkthrough) – **Assignment 3**
 - Demo Re-Enactment in front of class

Lecture Mode IV – Interconnected assignments, follow-up possible

- Describe **System Architecture – Assignment 4**
 - Use UML diagrams to illustrate the system architecture
 - Make notes about what kind of capabilities you need in which pieces of your system
- Decide on and **implement one adaptive feature** of your system – **Assignment 5**
 - Tutorial on Android programming, especially reading sensor data, will be organised
 - Prototypes will be demo-ed in front of full class on campus. It needs to work in or in front of Inffeldgasse 13!

You can **follow up on this course as Project Knowledge Technologies or Master Project**

- If you are interested in doing a more full-scale system implementation of your Mock-Up plus evaluation
- Advantage: practice what you learned in Evaluation Methods plus this lecture in combination

Working Together

Be On Time

- In lectures/paper presentations
- With handing in your assignments

Exceptions

- Exceptions from rules are always possible. If you have trouble with attendance, deadlines, whatever other troubles with the structure of the course: Come to me, and we will discuss.
- However: Exceptions are exceptions. If there are too many exceptions overall, then I will simply close down all exceptions.

Ask – not too much, not too little

Note on Lecture Title and Topics

General Topics

- Designing Interactive Systems (Methods)
- Ubiquitous Technologies, focus on smartphones and mobile phone sensing (Technologies)

-> Will be called „Designing Interactive Systems“ in the future

- With a focus on interesting technologies every year (what technologies are interesting sometimes changes quickly...)
- Sensors and User Models play an important role in ubiquitous technologies, but so do human-computer interaction issues, context-awareness...

Course Schedule

Days and Topics

March 11	Administrative Stuff, Intro
March 16	Designing UbiComp Systems – Assignment 1 Published in Detail
March 23 (10-13)	Evaluating Ubiquitous Computing Systems - Paper Presentation and Discussion (Assignment 1) - Assignments 2-4 Published in Detail - Android Sensing Tutorial Day will be Announced!
April 20	Presentation Assignment 2/3
April 27	Presentation Assignment 2/3 - Submission Assignment 4
May 4	User Interfaces for Ubiquitous Computing - Assignment 5 Published in Detail
May 11	Context-Aware Computing - Details on Final Paper
May 18	Presentation Assignment 5
June 1	Presentation Assignment 5
June 8	Submission Final Paper

Reading Material

Overall: Krumm, Ubiquitous Computing Fundamentals
Additional readings per lecture