

Subject code: IFI7162	Subject name: Ubiquitous Computing		
Study load: 4 (EAP/ECTS)	Load of contact hours: 5	Study semester: F	Assessment: Exam
Objectives:	The course provides an introduction to ubiquitous computing.		
Course outline:	<p>The course consists of the following modules:</p> <ol style="list-style-type: none"> 1. Introduction to ubiquitous computing 2. Characteristics of ubiquitous computing 3. Enabling technologies 4. Design issues 5. Ubiquitous computing today and tomorrow 		
Learning Outcomes:	<p>After successfully attending the course, students will know:</p> <ul style="list-style-type: none"> • How the field of ubiquitous computing was established; • What are the different characteristics of ubiquitous computing; • What are the existing enabling technologies, which can be used for the creation of ubiquitous computing solutions; • What design issues need to be addressed in the creation of ubiquitous computing solutions; • What does the ubiquitous computing landscape look like today and where is the field moving forward. 		
Assessment Methods:	<p>Grading criteria:</p> <p>A - 90-100% of the work is done - excellent: outstanding work with only few minor errors.</p> <p>B - 80-90% of the work is done - very good: above average work but with some minor errors.</p> <p>C - 70-80% of the work is done - good: generally good work with a number of notable errors.</p> <p>D - 60-70% of the work is done - satisfactory: reasonable work but with significant shortcomings.</p> <p>E - 50-60% of the work is done - sufficient: passable performance meeting the minimum criteria.</p> <p>F- less than 50% of the work is done - fail: more work is required before the credit can be awarded.</p> <p>The final grade consists of the following:</p> <ul style="list-style-type: none"> • 20% - participation in seminars; • 30% - assignments for each module; • 50% - final report. 		
Teacher(s):	Ilja Šmorgun, MSc		
Subject name in Estonian:	Lausandmetöötlus		
Prerequisite subject(s):	-		
Compulsory Literature:	Course blog http://ifi7162.wordpress.com		
Replacement	<ul style="list-style-type: none"> • Barkhuus, L., & Polichar, V. E. (2011). Empowerment 		

Literature:

through seamfulness: smart phones in everyday life. *Personal and Ubiquitous Computing*, 15(6), 629–639.

- Chen, G., & Kotz, D. (2000). A Survey of Context-Aware Mobile Computing Research (Tech. Rep.). Hanover, NH, USA.
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- Dourish, P., & Bell, G. (2011). *Divining a Digital Future: Mess and Mythology in Ubiquitous Computing*. The MIT Press.
- Ebling, M., & Cáceres, R. (2010). Bar Codes Everywhere You Look. *IEEE Pervasive Computing*, 9(2), 4–5.
- Greenfield, A. (2010). *Everyware: The Dawning Age of Ubiquitous Computing* (1st ed.). New Riders Publishing.
- Krumm, J. (Ed.). (2009). *Ubiquitous Computing Fundamentals*. Chapman and Hall/CRC.
- Kuniavsky, M. (2010). *Smart Things: Ubiquitous Computing User Experience Design* (1st ed.). Morgan Kaufmann.
- López, T. S., Ranasinghe, D. C., Harrison, M., & McFarlane, D. (2012, March). Adding sense to the Internet of Things. *Personal and Ubiquitous Computing*, 16(3).
- Lyytinen, K., & Yoo, Y. (2002). Introduction. *Commun. ACM*, 45 (12), 62–65.
- Poslad, S. (2011). *Ubiquitous Computing: Smart Devices, Environments and Interactions* (1st ed.). Wiley.
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- Want, R. (2006). An introduction to RFID technology. *IEEE Pervasive Computing*, 5(1), 25–33.
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- Want, R. (2009). When Cell Phones Become Computers. *IEEE Pervasive Computing*, 8(2), 2–5.
- Weiser, M. (1999). The computer for the 21st century. *SIGMOBILE Mob. Comput. Commun. Rev.*, 3(3), 3–11.
- Weiser, M., & Brown, J. S. (1996). *The Coming Age of Calm Technology*. Xerox PARC.
- Zhang, X. (2011). A user's perspective of design for context-awareness. In *Proceedings of the 13th international conference on ubiquitous computing* (pp. 531–534). New York, NY, USA: ACM.
- Zhao, R., & Wang, J. (2011). Visualizing the research on

	pervasive and ubiquitous computing. <i>Scientometrics</i> , 86(3), 593–612.
<i>Participation and Exam requirements:</i>	The students are expected to participate in the contact seminars as well as complete their assignments for each module and the final course assignment on time.
<i>Independent work:</i>	<ul style="list-style-type: none"> • Submitting assignments for each module; • Compiling assignments for each module into a final report outlining the scenario for the creation of a ubiquitous computing project.
<i>Grading criteria scale or the minimal level necessary for passing the subject:</i>	<p>In order to pass the course the students are required to:</p> <ul style="list-style-type: none"> • Actively participate in the contact seminars; • Complete individual assignments for each module; • Submit the final report.

Course Program

<i>Week</i>	<i>Activities</i>
Weeks 1 and 2	Participate in the introduction face-to-face session (Sep 6, 2013 at 3:45pm – 5:15pm). Read the topic on the Introduction to Ubiquitous Computing. Work on Assignment 1 and deliver the results.
Weeks 3 and 4	Read the topic on the Facets of Ubiquitous Computing. Work on Assignment 2 and deliver the results.
Weeks 5 and 6	Read the topic on the Enabling Technologies. Work on Assignment 3 and deliver the results.
Weeks 7 and 8	Read the topic on the Design Issues. Work on Assignment 4 and deliver the results.
Weeks 9 and 10	Read the topic on Ubiquitous Computing Today and Tomorrow. Work on Assignment 5 and deliver the results.
Weeks 11 and 12	Work on the Assignment 6.
Weeks 13 and 14	Continue working on Assignment 6 and deliver the results. Present the results in the final face-to-face session (Dec 12, 2013 at 2pm – 3:30pm).