

Ubiquitous Computing
DCF5013-41
Spring 2017

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Lec/Lab/Credit: 3:0:3

Office Hour: Instructor: M 13:30 - 15:00 (or by appointment)

TA: T 14:00 – 17:00

Lecture type: English

Course Description: The modern IT infrastructure has been built based on ubiquitous computing paradigm. This course introduces the key concept of information and communication technologies used to implement the ubiquitous environment. The main topics are wireless networking allowing information sharing anytime anywhere, distributed software technology providing customized services, various u-devices such as RFID/u-Tag, ubiquitous society and service issue, and new computing paradigm such as wearable computing and pervasive computing.

Objectives: Ubiquitous computing integrates numerous heterogeneous computing devices into every-day environment. These devices are portable and embedded in our environment such as home, office, etc., and they collaborate with each other to provide intelligent services to the users. The services should perceive not only the user requirements but also the context of the environment. This course is for introducing the fundamental issues related to ubiquitous computing, which allow proper design, operation, and evaluation of ubiquitous system. The objectives are achieved through the lectures on the state-of-the-art technologies relevant to ubiquitous computing. Individual project will be conducted for consolidating the materials covered by the lectures.

Prerequisites: Basic knowledge on computing and communication, or consent of instructor.

Textbook: Stefan Poslad, ``Ubiquitous Computing: Smart Devices, Environments and Interactions," 1st edition, John Wiley & Sons, 2009.

References:

- Adam Greenfield, ``Everyware: The Dawning Age of Ubiquitous Computing," New Riders, 2006
- John Crumm (ed), ``Ubiquitous Computing Fundamentals," CRC Press, 2010.

Grading policy:	Midterm Exam	25%
	Final Exam	35%
	Homework	20%
	Project	10%
	Attendance	10%

	Total	100%

Schedule:

Week	Subject	Remark
1	Introduction	
2	Applications	Homework No. 1
3	Smart Mobiles, Cards and Device Networks I	Project assignment
4	Smart Mobiles, Cards and Device Networks II	Homework No. 2
5	Human Computer Interaction I and project presentation	
6	Human Computer Interaction II	Homework No. 3
7	Tagging, Sensing and Controlling I	
8	Midterm exam (April 24, Mon)	Open book and note
9	Tagging, Sensing and Controlling II	Homework No. 4
10	Context-Aware Systems I	
11	Intelligent Systems I	Homework No. 5
12	Case study I	
13	Case study II	Homework No. 6
14	Case study III	
15	Case study IV	Homework No. 7
16	Final exam (June 20, Mon)	Open book and note

Remark:

- The lecture notes can be downloaded from <http://mobile.skku.ac.kr> and I-campus.
- 10% penalty per each day for late submission of the assignments.
- Honor code violation such as copying the assignments results in **F** grade for all the students involved.
- The exams are open book and notes.
- Correspondence through I-campus.