



Pervasive Computing Group

Institute of Networked and Embedded Systems / Klagenfurt University

Course „Advanced Topics in Pervasive Computing“

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Course Overview:

This course focuses on practical sensor network programming using SunSPOT wireless sensor nodes. SunSPOTs are a wireless sensor platform developed at SUN Microsystems and be programmed using Java. Topics to be covered in the course include gathering and analysis of sensor data, distributed sensor networking architectures and simple localization in sensor networks. The overall goal of the course is to give students the chance to get hand-on experience with wireless sensor network development. Based on given tasks students will be able to train their problem solving skills as well as an independent working habit. Design solutions of students will be presented and discussed in classroom sessions.

Selected Topics:

- reading and analyzing sensor data (accelerometer, temperature and light sensor)
- development of distributed applications for sensor networks
- basic localization techniques for sensor networks
- application oriented design of a sensor network architecture

Time and Place:

Mondays, IKT-Lab Lakeside B04, 08-12am



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Teaching Method:

- classroom introduction to the sensor platformself-study of sensor user guide, application notes and API documentation
- predefined tasks to be solved by groups of students
- design of typical sensor networking applications
- implementation of sensor networking applications in guided as well as free lab sessions
- presentation and discussion of intermediate and final results

Requirements:

- strong knowledge of Java and related tools such as ant, Eclipse, NetBeans (note that the Java programming language is not a topic to be covered in this course)
- solution oriented, autonomous work habit
- general interest in sensor networks and willingness to study related documentation

Additional Info:

- Course is held in english