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TA: (TBA)

Course Material:
Related papers published within recent 3-5 years (will be announced in course)
Slides

Course Objective: This course is offered for those who are interested in understanding and building systems support mechanisms for mobile computing systems including asymmetry communication systems, and mobile ad hoc and sensor networks for achieving the goal of anytime, anywhere computing in wireless mobile environments. The main objective of this course is to study the fundamental concepts necessary for designing, using, and implementing mobile and wireless data management. While mobile computing covers many topics, in this course we stresses the fundamentals of data modeling under the wireless environments, the data management in mobile information systems, and recent popular wireless techniques, such as wireless sensor networks and cloud-based mobile systems.

Course Outline:
Introduction
Asymmetric wireless data communication
Mobility and location management
Mobility and service migration in cloud environments
Spatial database considering moving objects
Novel intelligent WSN applications
Knowledge engineering over networked environments
Performance evaluation for mobile computing systems

Note: This course will proceed in research-oriented style. All students in this course will be requested to read and present dozens of papers assigned by instructor. Consequently, each student needs to think up research issues in the cutting-edge of research trends in the mobile computing and wireless
data management. We will discuss progress weekly and finish papers (as final reports) in the end of semester.

**Grading Policy:**

- Presentation: 40%
- Final report: 60%

**Homework:** Each student will be assigned a homework weekly for reading papers or coding prototypes. In principle, each homework need to be accomplished within one week, including your reports written in \LaTeX. Homworks will be evaluated as certain portion of the final-report grading.

**Requested Skills:**

- Paper reading and presentation
- Discrete mathematics
- Linear mathematics
- Undergraduate-leve OS and computer architecture
- Programming (C, C++, Java, Python)
- \LaTeX (for writing weekly reports and the final report)