TCN 6450 Wireless Information Systems

Catalog Description
Enabling technologies and impediments of wireless information systems. Focuses on software architectures, and information and location management in the wireless environment. (3 credits)

Prerequisites
Graduate Standing / permission of the instructor.

Type
Elective for MSTN

Course Objectives
Enabling technologies and impediments of wireless, pervasive, ubiquitous and wearable information systems. Impediments of the WIS environment will be covered. Then we will be set to explore a young but rich body of exciting ideas, solutions, and paradigm shifts. Problems and limitations due to such impediments will be explained. Students will review recent literature in each of these categories and will identify problems that we will attempt to solve. Our approach will be to understand the area and associated literature, define new problems, provide solutions, and finally provide evaluation of the solutions.

Topics
1. Introduction
2. WIS Models
3. WIS Architectural Design
4. Service Oriented, Context Oriented and Safety Oriented WIS Models
5. Service Discovery models
6. Broadcasting and over the air indexing
7. Mobile Databases
8. Wireless data caching
9. Moving objects
10. Trajectory privacy
11. Trajectory sensor objects
12. Wearable, wireless sensing systems
13. WIS security and privacy
14. Adaptive Mobile Applications
15. Mobile Software Development
16. Models Peer-to-Peer Systems
13. Case Studies
14. Emerging Standards

Textbook
This course has no textbook; instead, we will cover a number of original research papers. It is very important that students read and digest each paper. The class website contains links to references and other material that will help the student digest the material presented in class.
Last Update
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