

ECE 306: Mobile Networked Computing (3)

Alexandridis

Microarchitectures for the mobile, handheld and transport application domain. Collaborative computing. Models of distributed computing systems. Handling locality migration, caching for intermittent connectivity, and location dependent information. Mobile network interface devices. Concurrency. Adaptations for mobile computing.

Prerequisite: ECE 201 or permission of the instructor

(Summer)

Textbooks:

1. J. Bacon, "Concurrent Systems", Addison Wesley
2. D. Culler & J. Singh, "*Parallel Computer Architecture*", Morgan Kaufmann
3. Technical publications

Contents:

1. Distributed vs. mobile computing systems
2. Programming & software for the mobile computing environment
3. Developing mobile applications
4. Mobile middleware and shared data bases in client-server implementations
5. Concurrency control, deadlocks, coherent shared access spaces
6. Adaptation to load, connectivity, data types
7. Collaborative computing
8. Midterm examination
9. Interoperability and collaborative computing
10. Architecture and O/S extensions for mobile computing
11. Mobile networks: Protocols, messaging, internetworking
12. Caching for intermittent connectivity
13. Location dependent information & migrating locality
14. Network security and privacy
15. Final examination