Mobile Computing (MC)?

- Computing enabled by presence of wireless enabled portable devices (PDAs, cell phones etc.)
- Many other names/overlapping computing paradigms:
  - Distributed Computing
  - Pervasive Computing
  - Ubiquitous Computing
  - Wireless Computing
  - Embedded Computing
Course Goal

To understand what are the fundamental challenges in MC and what are some of the solutions towards solving these fundamental challenges

- To learn about the “latest and greatest” in research in MC.
- To familiarize the MC technologies and understand their trends.
Course Goals - Indirect

- To enrich you with new ideas
- To train you in (mobile) systems oriented thinking
- To prepare you for research/profession in mobile computing – but more generally – in “adaptive” (next-generation) computer systems
Course Pre-req

- Knowledge of
  - Computer Networks,
  - Operating Systems
  - Distributed Computing Concepts and Algorithms
  - Some analytical modeling
- Willingness to learn!
Course/Reference Book(s) + Material

   - Book Website – Link at bottom of http://impact.asu.edu
   - Reference Books:
     - Principles of Wireless Networks – Pahlavan and Krishnamurty
     - Mobile Computing- Imielinski and Korth
     - Protocols and Architecture for Wireless Sensor Networks - Karl and Willing
   - Reading List – will be posted on the class web site.
Topics – Tentative List

- Mobile and Pervasive Computing Application, Services and Standards
  - Mobile Info access and dissemination
  - Mobility and Location Management
  - Routing and Middleware
  - Zigbee, Bluetooth, WiFi, Android and iOS
- Wireless Sensor networking, applications and services
  - Localization
  - Energy-aware routing
- Mobile Security and Privacy
  - Mobile computing security
  - Sensor network security
Course Mechanics

- Assignment + Exams + Quizzes: 55%
  - Exams – take home: 25%
  - Assignment – written (theory) and programming: 20%
  - Quizzes – will be un-announced: 10%
- Paper presentation: 10%
- Term Project: 30%
  - Group
  - Self-defined (with help of instructor)
  - Involves analysis/implementation
- Active in-class participation
  - just showing up to class does not count as active participation.
- Extra: 10%
  - Self-directed presentation – related to this class
Class Format

- Lecture (75 min) (usually Mondays)
  - As class progresses the lecture time will decrease (on average)
- or One or Two Paper presentation (1/2 hr each)
  - Starting soon! (Usually Wednesdays)
- 5 min. mid-break – if desired
- Note: slides of presenters should be provided to Grader one day in advance.
Class Cyberpresence

- [http://impact.asu.edu/cse535fa12.htm](http://impact.asu.edu/cse535fa12.htm)
  - Class assignments
  - Slides
  - Reference material
  - Announcement

- Use Blackboard for submission and other confidential material.
- Visit regularly for latest information
What can you expect from this course?

- Lots of in-class/on-line interaction
- Interesting and challenging assignments and exam questions
- Reading technical papers – classical as well as state-of-art
- Technical Writing – critiquing, summarizing
- Use of LaTeX in writing assignments is required.
- Help/Tutorials by instructor/Grader on difficult material
- And lot more!
Contacting Me or Grader

- Instructor
  - Email: george.varsamopoulos@asu.edu
  - Subject line: CSE535Fa07
  - Office: BY 514
  - Phone: 5-2794
  - Office Hours: M W 3-4pm
  - Call me || come to my office hrs || Set up an appointment
  - http://impact.asu.edu

- TA: Priyanka Bagade
  - Email: priyanka.bagade@asu.edu
  - Office BY517BA
  - Office Hours: Monday, Friday 3-4pm
What’s Next?

- Appendix A: Wireless Networking.