EEE 598 ST: Multimedia Quality of Service Networking

Fall 2013

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Time: TTH 3:00 - 4:15 pm, ECGG 237
Class # 83771

http://mre.faculty.asu.edu

Pre-requisite: Open to all Undergraduate and Graduate Students with background in elementary networking (e.g., EEE459, CSE434)
Or instructor approval

Description: Peer-to-peer (P2P) file exchange and distributed multimedia application have recently emerged as the "killer" applications in the Internet. P2P file exchange and SMS are limited to download and playback of multimedia files and wireless exchange of short alphanumeric messages, respectively. The streaming (as opposed to download and play) of multimedia to wireless terminals, such as laptops and PDAs, is widely expected to be the next "killer" application of the Internet.

This course examines the emerging networking technologies as well as the remaining roadblocks for the support of multimedia streaming to (and from) wired and wireless terminals. Particular emphasis will be paid to Quality of Service (QoS) supporting networking mechanisms for high quality multimedia.

- Protocols for Multimedia Networking: RTP/RTCP, RTSP, SAP, SIP
- Resource Allocation Paradigms: Best-Effort, IntServ (RSVP), DiffServ (SLAs)
- Characteristics and Requirements of Multimedia, Impact of Losses
- Overview of Wireless Link Characteristics
- Adaptation Techniques: FEC, ARQ, Replication and Caching

Readings: There is no formal course text book
Readings will be from selected papers from networking journals and conference proceedings (e.g., Proceedings of *IEEE Infocom, ICC, Globecom, ACM Mobicom*)

Grading: There is NO formal exam (midterm, final)
Topic exploration paper and professional presentation
Paper critiques/reviews