Course Plan for Networked Video

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NETWORKED VIDEO (2005 SPRING)

- Lecture
  - Tue & Thu 4:15-5:30 pm (EA205)
- Homepage
  - http://www.cs.ccu.edu.tw/~cwlin/courses/netvideo/netvideo.htm
- Textbooks
  - Special Issue on Advances in Video Coding & Delivery of Proceedings of the IEEE (Jan. 2005)
  - M.-T. Sun & A. R. Reibman, *Compressed Video over Networks*, Marcel Dekker, 2000.
  - Journals:
    - IEEE T-CSVT, T-Multimedia (http://ieeexplore.ieee.org)
    - Signal Processing: Image Communication (http://www.elsevier.nl/inca/publications/store/5/0/5/6/5/1/)
    - Journal of Visual Communication & Image Representation

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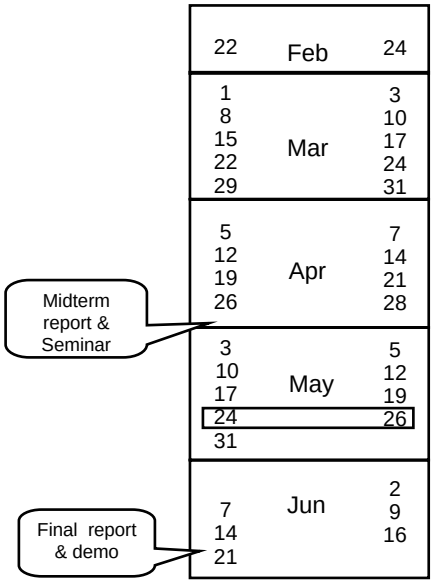
Grading

- Homework 40-45%
- Seminar 15%
  - →20-30 min presentation on a selected topic
- Course Projects 40-45%
  - →Midterm report
  - →Final report & demo



COURSE OUTLINE

- Video streaming: Technologies & Challenges
- Review of Video Coding Techniques
- Video Streaming over the Internet & wireless Networks
  - Characteristics of Current Network Infrastructure
  - Wireless Video delivery
  - Resource Allocation for Real-time Video transport
- End-to-End QoS for Video Transport over Networks
  - Error Control for Compressed Video: Error Resilience & Concealment
  - Multiple Description Coding for Multipath Video Transport
  - Feedback of Rate and Loss Information of Networked Video
- Video Adaptation for Heterogeneous Environments
  - Overview of Video Adaptation
  - Video Transcoding
  - Scalable Video Coding
  - Bitstream switching
- Emerging Technologies for Networked Video Applications
  - Distributed video coding
  - Video Content Protection