

# **CSE 40373: Multimedia Systems**

## **Home work assignment #6 (Due 04/15/2009)**

Open book, open notes, individual effort. Google searches are okay - always cite your source.  
Brevity is encouraged,

- 1) Consider a reservation based MPEG-4 player. Describe the amount of memory that would be reserved for a pessimistic as well as an optimistic approach.
- 2) Consider a large MPEG-4 file that is stored as a UNIX file (you may refer to the i-node structure from Figure 4-27). The file is large enough to require the entire triple-indirection blocks. Describe the QoS performance of this file for a application that plays the MPEG-4 video in the forward as well as reverse direction (i.e., start playing from the last frame first and ending with the first frame).
- 3) Describe the relationship between RTP and RTSP for multimedia streaming. Explain the need for a separate RTSP protocol. Can RTSP be implemented within an RTP stream?
- 4) Consider a picture-in-picture system that will display 2 different video streams. Describe a synchronization specification for this application (you can use any model that you deem to be appropriate. Describe any assumptions)