Assignment2 Application Layer Protocols

Flipped Classroom Instruction

Objective: using flipped classroom to promote active learning by having students learn content online after class, and organizing students discuss and solve problems in class.

How to:

After class:

- Watch MOOC video online about protocols of DNS, HTTP, FTP, SMTP, BitTorrent, e.g.:
  - ✓ https://class.coursera.org/comnetworks-003/lecture (chapt8 DNS, HTTP, BitTorrent)
  - ✓ or https://class.stanford.edu/courses/Engineering/Networking/Winter2014/about (unit5 DNS, HTTP, BitTorrent)
- Reference to chapter2 of textbook, the ppt of chap2-1 and chap2-2 on SJTU ftp portal.
- Use WireShark to observe the packets of the five protocols.
- Answer following questions for each of DNS, HTTP, FTP, SMTP/POP, BitTorrent:
  - ✓ What kind of transport service does the app need in terms of data-loss, delay and throughput? Does it use TCP or UDP? Why?
  - ✓ What is the interaction model of the protocol: Client/Server or P2P, and how?
  - ✓ What is the message format, semantics and rules for processing the messages?

In class (16 March.)

- Finish the quiz
- Discussion in groups with the same topic(one of DNS, HTTP, FTP, SMTP, BitTorrent)
- Group presentation

Note:

- This is a marked assignment, 2% of final according to the class performance of each student.
- The MOOC courses need account log in to watch the video.