Week 4:

Tuesdays Lesson still needs to be covered

* Improving User Perceive Performance
  + Web caches
* Web Caches
  + Goal: satisfy client request without involving origin server
  + User configures browser to point to a web cache
    - A different server is used for most interaction with client, provided the server has the given site with up-to-date information
      * If object is in cache: returns object to client
      * Else: object is required from origin server
  + Proxy Servers:
    - Web cache acts as both client and server
      * Acts like a client to the origin server
      * Acts like a server to the original client
    - Typically, cache is installed by ISP (like a university or business)
    - Reduces traffic on an institution’s access link
    - Reduces time for the client request
* Option 1: (if delay time is too long)
  + Upgrade the access link
  + This can end up being very expensive
* Option 2:
  + If the access link is slowing down the process, it might be worth it to install a web cache
  + A web cache would utilize the part of the system where delay is very small, meaning the client does not need to send requests all the way back through the access link
* However, this does come at the sacrifice of a conditional GET
  + The goal is that the client shouldn’t send an object IF the proxy server has an up-to-date cache save
    - Cache: specify date of cached copy in http request
      * If-modified-since: <date>
      * Server
    - Server: response contains no object if cached copy is up to date
      * “HTTP/1.0 304 Not Modified”
* HTTP/2 standardized 2015
  + Key goal: decreased delay in multi-object HTTP requests
  + The larger objects requested are pushed to the end of the queue so smaller objects can be delivered quickly
* Wireshark
  + A network packet analyzer
  + Captures packets and lets you examine their contents
  + Allows to filter packers