Plan for NSS

Due date: 10-11-13

Define the topics 8-11-13

Topics to cover:

1. Layered technology and OSI model
   1. Server side / client side model / distinctions
   2. Circles of trust and permissions
   3. Hardware stacks & buffers, Ram and Hard Drives
   4. Networks (ports, protocols & devices) – A high level over view of the topics
2. Information security
   1. Hacking/Pen testing – case studies. Students will read a series of case studies on big historical compromises and social engineering exploitations. (Covers the historical element of the description)
      1. Ethics
      2. Common useful tools for web developers (not a how too, but a simple introduction).
         1. Scanners/Fuzzers/Probes
            1. Wireshare
   2. Common exploits
      1. Circle of trust and why buffer overflow works
      2. Variable sanitization / parameterization
   3. Digital forensics/incident handling (guest speakers)
3. Server setup
   1. Modern OSs
      1. Windows Server
      2. Linux
      3. GFS (discussion)
   2. LAMP
   3. Python
   4. NodeJS
4. Engineering programming projects
   1. SDLC and TQI- how proper planning, requirements gathering can positively impact any project
      1. Project managers
      2. 80/20 rule
      3. Issues with scope creep
         1. (maybe) Techniques for handling clients
         2. Getting things done
   2. Secure libraries vs random libraries
   3. Free resources vs no monetary output of funds
   4. Secure Development
      1. Sanitization of variables
      2. Testing
      3. Unit testing / building testers/validators (using JS)