

CSE 221 Homework 1

October 9, 2008

Due: Thursday, October 16 at 11:00 am

Submit your solutions as a hard copy at the beginning of class or e-mail them as a PDF to ebuchana@cs.ucsd.edu *before class starts* at 11:00 am. Late homeworks will *not* be accepted.

Answer each question completely, and support your answers with material from the papers and your own critical arguments, as appropriate.

1. A serious problem for operating systems developers is dealing with circular dependencies that typically lead to the potential for deadlock, complex implementations, severe limitations in performance, or a combination of the above. For the following systems: (i) describe the circular dependency problem the system was most concerned about, and (ii) describe the approach taken to address the problem, and how it solved the problem.
 - a. THE
 - b. Medusa
2. In the Multics paper, Saltzer lists five principles for protection in an operating system. How well, and to what extent does Hydra implement each principle?
3. What were the primary goals of the UNIX operating system? How did those affect tradeoffs made in the system design? How did those goals affect the interface exposed to a UNIX application developer?
4. Which features of UNIX resemble features found in TENEX? Choose two, and describe how they have been adapted. Why were they included?