Slide 1

Administrivia

- Everything graded except optional problem for Homework 6. Averages and letter grades to be mailed soon (tomorrow?).
- Extra-credit problems on Web.
- Office hours this week — afternoons, details by e-mail.

Slide 2

Course Recap

- Four key areas (the gospel according to Pitts):
  - Process management.
  - Memory management.
  - I/O management.
  - Filesystem management.
- Also a little about history, a little about security.

Slide 3

Recap, Continued

- Some recurring themes:
  - Interaction between h/w and s/w — some h/w features are there to support o/s features; o/s influenced by what's available in h/w.
  - Trade-offs — often the answer to "which is best?" is "it depends".
- We didn't cover the whole book, but if you look at the ACM's guidelines for an undergrad o/s course — we pretty much did what they said.

Slide 4

Process Management

- O/S as virtual machine — process abstraction, "concurrent" execution, IPC, distributed algorithms.
- O/S as resource manager — implementation of above, including interrupts and context switches, CPU scheduling.

Memory Management

- O/S as virtual machine — memory protection, virtual memory, “multiprogramming”.
- O/S as resource manager — implementation of above, including page replacement algorithms.

Slide 5

I/O Management

- O/S as virtual machine — layered abstractions for working with I/O devices (user-level s/w, device-independent s/w).
- O/S as resource manager — implementation of above, plus a little about lower-level interaction with devices (programmed versus interrupt-driven I/O versus DMA).

Slide 6

Filesystem Management

- O/S as virtual machine — filesystem abstractions (files, file attributes, directory structures).
- O/S as resource manager — implementation of above, disk-space management, reliability and consistency.

Slide 7

Minute Essay

- None — just sign in.

Slide 8