EECS 211: Advanced System Software Lecture 11

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Lecture 11: Overview

- Assignment 4
  - Priority-based scheduling
- Assignment 5
  - User programs and system calls in Nachos
- Storage Management
  - File-System Implementation

Assignment 4

- The Nachos System
  - Task 1: Implement a priority-based scheduler
    - Non-preemptive
  - Task 2: Bounded buffer for safe communication
    - Template code provided
    - 2 producer and 2 consumer threads
- Deliverables
  - brief explanation (in body of email)
  - **`thread.h, thread.cc, scheduler.cc`**
  - **`threadtest.cc`**
  - Email to **`doemer@uci.edu`**
- Due
  - Wednesday, Feb 18, 2009, at 12pm (noon)

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Assignment 5

- User programs and system calls in Nachos
  - Task 1: Implement exception handling and system calls
    - Implement **`ExceptionHandler()`**; handle 9 exceptions
    - Implement **`SystemCall()`**; handle 7 (out of 9) system calls
  - Task 2: Validate kernel using simple test programs
    - "good" programs: **`Print.c`**, **`Reverse.c`**, **`Show.c`**
    - "bad" programs: **`MemError.c`**, **`FileError.c`**, **`IOError.c`**
- Deliverables
  - brief explanation (in body of email)
  - **`addrspace.h, addrspace.cc, exception.cc`**
  - **`Print.c`**, **`Reverse.c`**, **`Show.c`**, **`MemError.c`**, **`FileError.c`**, **`IOError.c`**
  - Email to **`doemer@uci.edu`**
- Due
  - Wednesday, March 4, 2009, at 12pm (noon)

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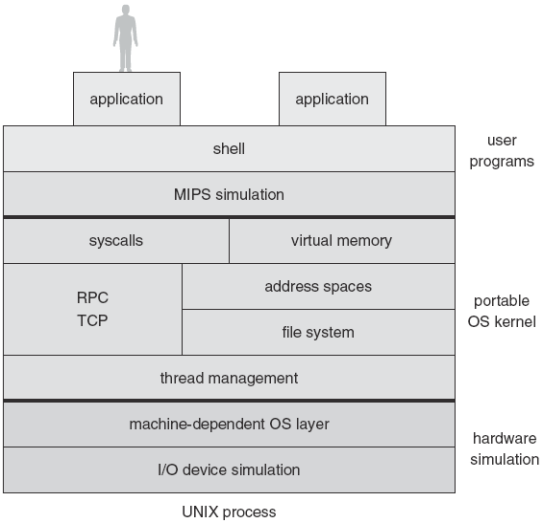
Assignment 5

- Overview

– The Nachos System

  - User code: emulated by MIPS simulator
  - Kernel: normal (debug'able) Unix process
  - I/O System: simulated by std. process I/O



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Storage Management

- Excerpts from chapter 11 of *"Operating System Concepts",* 8th Edition, by A. Silberschatz, P. B. Galvin, G. Gagne, John Wiley & Sons, 2009.
- Storage Management
  - File-System Implementation

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