

EECS 211: Advanced System Software Lecture 17

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Lecture 17: Overview

- Course Administration
 - Final Course Evaluation
- Assignment 5
 - Exception handling and system calls
- Protection and Security
 - Security

Course Administration

- Final Course Evaluation
 - 8th through 10th week
 - February 22, 2011 – March 13, 2011, 11:45pm
 - Online via EEE Evaluation application
- Feedback from students to instructors
 - Voluntary
 - Completely anonymous!
 - Very valuable!
- Please help to improve this class!

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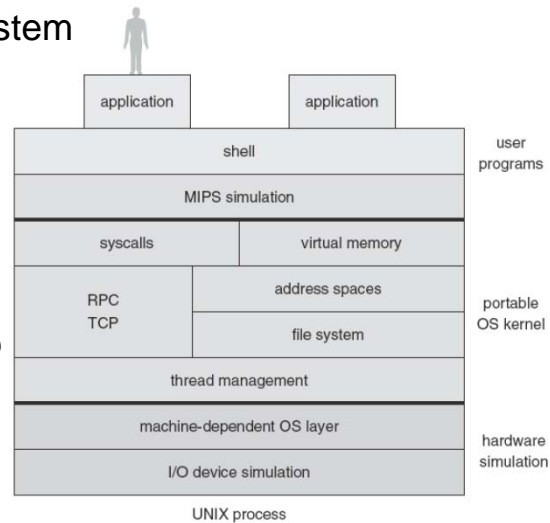
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3

Assignments 4 and 5

• The Nachos System

- User code:
 - Cross-compiled C/C++ code
 - emulated by MIPS simulator
- Kernel:
 - Compiled C/C++ code
 - normal (debug'able) Unix process
- I/O System:
 - simulated by Unix process I/O



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4

Assignment 5

- Exceptions and System Calls in Nachos
 - Implement exception handling and system calls
 - Implement `ExceptionHandler()`; handle 9 exceptions
 - Implement `SystemCall()`; handle 7 (out of 9) system calls
 - Validate kernel using the test programs from Assignment 4
 - “good” programs: `HelloWorld.c`, `Reverse.c`, `ListFile.c`
 - “bad” programs: `MemError.c`, `FileError.c`, `IOError.c`
 - Make your kernel bullet-proof!
- Deliverables
 - brief explanation (in body of email)
 - `exception.cc`
 - Log files of running examples from Assignment 4
 - Email to `doemer@uci.edu`
- Due
 - Wednesday, March 9, 2011, at 2pm (sharp!)

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5

Assignment 5

- Exceptions and System Calls in Nachos
 - Interactive discussion and code review
 - `cd code/userprog`
 - `vim exception.cc`
 - `more ../machine/machine.h`
 - `more syscall.h`
 - `more addrspace.h`
 - `more ../machine/console.h`
 - `more addrspace.cc`
 - `gmake`
 - `./nachos -x ../test/halt`
 - `./nachos -x ../test/sort`
 - `./nachos -x ../test/HelloWorld`
 - `./nachos -d X -x ../test/HelloWorld`

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6

Protection and Security

- Excerpts from chapter 15 of
“*Operating System Concepts*”, 8th Edition,
by A. Silberschatz, P. B. Galvin, G. Gagne,
John Wiley & Sons, 2009.
- Protection and Security
 - Security