Operating Systems Programming

Discussion Section
February 3, 2010
HELP ME!

• Send email by Tuesday nights with questions!

• With that in mind, let's start with questions.
Plan for Today

- Project Stuff
- Thread creation (fork)
- Preemption (Alarm caveats)
- Dispatch loop
- Sharing Is Caring
Project 1 Timeline

• **Initial design doc:** due Thursday Feb 11\textsuperscript{th}

• **Design review** with me: schedule as early as Tuesday Feb 9\textsuperscript{th}, but make sure you have your design doc done before meeting me!

• **Code:** due Monday Feb 22\textsuperscript{nd}

• **Final design doc:** due Tuesday Feb 23\textsuperscript{rd}

• **Peer evaluations:** also Tuesday Feb 23\textsuperscript{rd}
Design Doc Expectations

• 2000-4000 words long
• Contents:
  – Overview of solution (2-4 lines)
  – Correctness constraints
  – Data structures
  – Design decisions
  – Descriptions of Java classes and methods
  – Pseudocode for key algorithms
  – Test plan and test cases!

• See the sample on the web page!
Project Tips

• Start early
  – Read the assignment
  – Learn the tools: Nachos, Java, SVN

• Test heavily
  – This code can be tricky
  – Design test cases before solution

• Build a group dynamic that works
  – Make sure everyone understands what’s going on
  – Make sure everyone has something to do
  – Figure out what can be parallelized and what can’t
  – Check in periodically
Thread Creation (fork)
Preemption (Alarm caveats)
Dispatch loop

• The ready queue
• Atomicity via disabling machine interrupts
• The context switch!
• The idle thread!
Sharing Is Caring

- Introduction to mutual exclusion ...

- Lots more in the upcoming lectures!