CS 241 Wrap Up

Yayyy!
What did you learn?

• Write, compile, debug, and execute C programs
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- Interact with the operating system via POSIX system calls
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• **Understand memory allocation and virtualization**
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- Create and manage many processes and threads
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• **Control scheduling of processes/threads**
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• Control scheduling of processes/threads
• Communicate and share resources between threads
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• Use communication protocols (TCP/IP) and interfaces (sockets)
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• Control scheduling of processes/threads
• Communicate and share resources between threads
• Use communication protocols (TCP/IP) and interfaces (sockets)
• Write distributed multi-threaded apps that talk across a network
What did you do?

• Wrote a **real** memory allocator.
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• Wrote many **real** non-trivial parallel applications (merge sort, make)
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• A **real** data framework for processing **big data**
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• A **real** web server
• A **real** shell
Applied Problem #1

• Consider a system of two processes that may only communicate via signals.
  – Explain how one process can transmit data to the other process.
  
  – If it takes 100ms for a signal to be sent and then delivered to the other process, what is the bitrate of your transmission algorithm?
Applied Problem #1
What will you do next?

• Q: What did you enjoy about this class?
  – A1: Processes/threads, memory, managing system resources?
  – A2: Concurrency, synchronization, optimization?
  – A3: Networking, client-server programming?
  – A4: The tiny bit of security we did?
  – A5: Programming / MP design
  – A6: Nothing at all
What will you do next?

• Q: What did you enjoy about this class?
  – A1: Processes/threads, memory, managing system resources?
    • CS 423: Operating Systems
    • CS 424: Real-time Systems
    • CS 431: Embedded Systems
What will you do next?

• Q: What did you enjoy about this class?
  – A2: Concurrency, synchronization, optimization?

  • CS 411: Database Systems
  • CS 420: Parallel Programming
What will you do next?

• Q: What did you enjoy about this class?
  – A3: Networking, client-server programming?
    • CS 414: Multimedia Systems
    • CS 425: Distributed Systems
    • CS 438: Computer Networking
What will you do next?

• Q: What did you enjoy about this class?
  – A4: The tiny bit of security we did?
    • CS 461: Computer Security I
    • CS 462: Computer Security II
What will you do next?

• Q: What did you enjoy about this class?
  – A5: Programming / MP design
    • CS 421: Programming Languages and Design
    • CS 426: Compiler Construction
    • CS 427: Software Engineering I
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• Q: What did you enjoy about this class?
  – A6: Nothing at all?

  • “Higher Level”
    – CS 465: User Interface Design
    – CS 398.VL (Spring 2014): Visualizing Literature

  • “More Applied”
    – CS 418/419: Computer Graphics
    – CS 446: Machine Learning
    – CS 440: Artificial Intelligence

  • “More Math”
    – CS 450: Numerical Analysis