CS 241 Wrap Up

Yayyy!

Write, compile, debug, and execute C programs

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization
- Create and manage many processes and threads

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization
- Create and manage many processes and threads
- Control scheduling of processes/threads

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization
- Create and manage many processes and threads
- Control scheduling of processes/threads
- Communicate and share resources between threads

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization
- Create and manage many processes and threads
- Control scheduling of processes/threads
- Communicate and share resources between threads
- Use communication protocols (TCP/IP) and interfaces (sockets)

- Write, compile, debug, and execute C programs
- Interact with the operating system via POSIX system calls
- Understand memory allocation and virtualization
- Create and manage many processes and threads
- 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

Wrote a real memory allocator.

- Wrote a real memory allocator.
- Wrote many real non-trivial parallel applications (merge sort, make)

- Wrote a real memory allocator.
- Wrote many real non-trivial parallel applications (merge sort, make)
- A real data framework for processing big data

- Wrote a real memory allocator.
- Wrote many real non-trivial parallel applications (merge sort, make)
- A real data framework for processing big data
- A real web server

- Wrote a real memory allocator.
- Wrote many real non-trivial parallel applications (merge sort, make)
- A real data framework for processing big data
- 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

- 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

- 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

- Q: What did you enjoy about this class?
 - A2: Concurrency, synchronization, optimization?
 - CS 411: Database Systems
 - CS 420: Parallel Programming

- 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

- 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

- 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

- 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
 - CS 498.CC3/CC4 (Spring 2014): Cloud Computing
 - "More Applied"
 - CS 418/419: Computer Graphics
 - CS 446: Machine Learning
 - CS 440: Artificial Intelligence
 - "More Math"
 - CS 450: Numerical Analysis