CSP 551: Advanced UNIX Programming

Texts


Objectives

- This course provides students a hand-on introduction to UNIX programming topics such as standard application programmer interfaces, concurrent programming, UNIX processes and threads, shell programming, UNIX interprocess communications, client/server designs, and application portability.

Projects

Potential programming assignments include

- Warm-up project
- Multi-process solver
- Database management system using shell scripts
- Enhanced http client (parallel access to one server, parallel access to mirror servers)
- Reliable multicast over IP multicast
- Thread-based server

Prerequisites

- C programming.
- CS 450 or equivalent.
- User-level knowledge of UNIX

Syllabus

- UNIX Standards, Processes, Process Management 9 hours
- Files and Directories, System I/O 6 hours
- System Interprocess Communication, Pipe, and Signal 9 hours
- Concurrent Programming with Processes and Threads 9 hours
- Sockets and TCP Clients 12 hours

Total 45 hours

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