Assignment 0319

Spring break gives us a good opportunity to hunker down and focus on things with fewer distractions than usual — critical for some quality operating systems work.

Not for Submission

SGG Chapters 3, 4, and 5 constitute the supplementary reading for the material covered in the past week and a half or so.

For Submission

A Shell of Your Own

Modify the fork-exec.c program given out in class to implement your own command-line operating system shell. Commit your code to homework/cmsi387/myshell.

In addition to the basic command prompt loop for entering a command then executing it, implement the following two features:

• Let a command ending with “&” run concurrently with the shell (i.e., just like bash).

• Make sure that the cd command works correctly (when you try this out, you’ll see what I mean).

Kernel Project Prospects

By this time, you should also have enough background to decide on a kernel project. Thus, the other deliverable over spring break is a README file listing three possible ideas. For these ideas, you should do a little pre-reading so that you can roughly describe what would need to be done in order to accomplish the work.

Commit the README to projects/cmsi387.

Extra Credit 1

Do Project 2 at the end of SGG Chapter 4, which implements matrix multiplication using threads. Use Pthreads for this assignment, and commit your code to homework/cmsi387/matrix.

Extra Credit 2

Extra Credit 1 actually bears some relationship to something in CMSI 371’s Assignment 0319. Correctly figure out that relationship, and use the code from Extra Credit 1 in that way, in order to get this second extra credit item. Commit your code to the appropriate CMSI 371 subdirectory (you’ll know it when you figure out what the relationship is).