

CS 571 Materials

January 22, 2002

4:30pm - 7:10pm

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AGENDA

- Purposes of course (including promises)
- Tour of website and policies
- Formation of teams
- OS Development history
- Functional map of OS
- Architecture basics

Course Purposes

- CS core course
- Operating system principles
 - centralized
 - distributed
- Promise: advanced beginner in field including demonstrated ability to program distributed systems

Tour of Course Web Site

- Policy central
- Communications central
- <http://cne.gmu.edu/pjd/cs571>
- NOTE assignment section
- NOTE resources section
- NOTE reading practices handout
<http://cne.gmu.edu/pjd/cs571/RES/reading.pdf>

Formation of Teams

- Project phases:
 - awakening
 - increasing
 - containing
 - completing
- Identify your strongest and weakest
- Form teams of 3 balancing first three
- Declare chief architect of team
- Declare team leader
- Declare regular team meeting time

Form teams now.

OS Development History

| Era | Technology | Business |
|------------|---|---------------------------------|
| 1950s | batch | electronic brain |
| 1960s | 3G: time sharing, processes, virtual memory, file systems, protection | engine powering the corporation |
| 1970s | software engineering | applications |
| 1980s | PC, modem, LAN | corporate databases through LAN |
| 1990s | Internet, search eng | Dot-com, portal |
| 2000s | Grid, E-commerce | E-business, LS comp |

Technologist view: "technology driving business and society"

Business view: "marketplace driving technology development"

Two views of same phenomenon: business and technology moving together in synergy.

Convergence of views starting to happen.

Functional Map of OS

- OS built from layers of functions.
- Each layer manages specific objects.
- Layer can invoke lower level functions and objects, but not higher level
- Lowest layers on single machine
- Highest layers span multiple machines
- Microkernel: smallest set of layers that must operate in supervisor mode
- <http://cne.gmu.edu/pjd/cs571/RES/levels.pdf>