Topics: Files, System Files, the Manual, Buffering

Approach: Write our own versions of Unix programs

Featured Commands:
> who
> cp
> tail

Main Ideas:

> i/o redirection, pipes
> standard directories/files
> the manual tells all
> open, read, write, close
> unix time
> 'expensive' operations
> buffered input/output

Applications:

> who0 : writing a system utility
>   the manual, the header files
>
> who1 : reading and displaying data
>   the utmp file
>   open(), read()
>
> who2 : displaying dates and times
>   localtime(), strftime()
>
> cp : writing data, creating files
>   creat(), open()
>   write()
>   effect of buffer size:
>   efficiency, system calls, buffering
>
> who3 : making who more efficient
>   more buffering
>
> kernel buffering
>   speedier disk access
>
> tail
>   lseek()
>   what it does
>   how it does it