CS 744 Lecture 17

pthread API — API for user space threads!

- file systems (file abstraction)
- network IO
- containerization
- virtual machines
- networked/ distributed systems.

pthread_create — ~ fork
pthread_exit — ~ exit
pthread_join — ~ wait

pthread_spinlock
pthread_spin_unlock
pthread_mutex_lock
pthread_mutex_unlock
pthread_barrier
pthread_cond_wait
pthread_cond_signal

clone system call.

CLONE_VM
special flag to create a new process with thread-semantics.

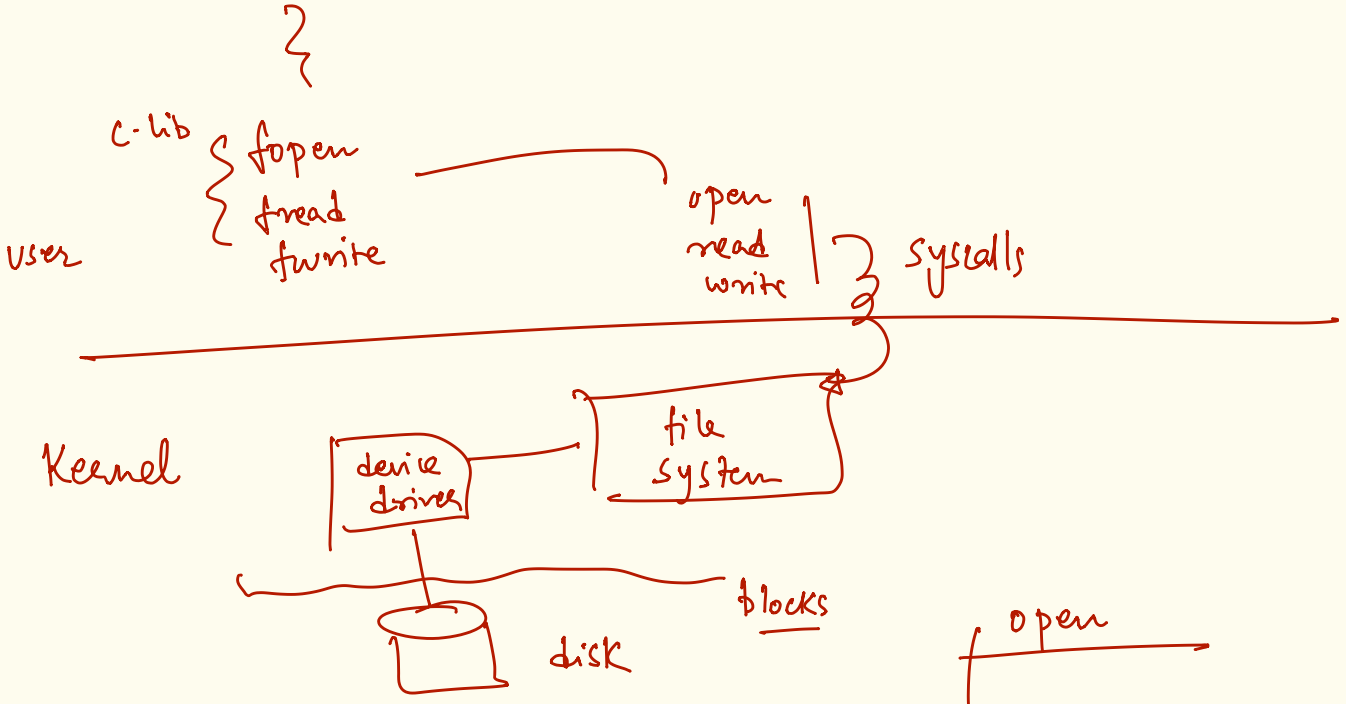
- share code, data, heap
- custom stack & context

* check code examples on course page.

* implement producer-consumer w/ pthreads!

the file abstraction

- sequence / stream of bytes
- persistent
- accessed via offset.
- named, access permissions.



open

intent to access file

user interface

<fd, offset>

number

fd = open(———);

read (fd, buf, size);

inode

metadata object for the file abstraction.

hw.txt → 23,64

