CSE 3320 Notes 9.18.2019

Exam 1: Ch 1-5 (4-5: Palm, Mac)

- Basic concept
- Kernel, shell
    - Shell is not part of Kernel, since linear starts
    - May be hidden in Windows/MAC
- No Definition
- PCB: address point to PCB, address in PCB, Data
    - Address of memory

Sample Questions:

1. Run Program
   Scanf, chdir, if, opendir, redir, system("name"), time

2. Linux supports BC, not MAC:
    - 15 graph control works on linux (NO- that's HW comp)
    - Application runs on the HW
3. 5 windows open: at least 5 PCB
4. PCB:
    - File
    - Device Controller
    - Data Structure
    - Memory

5. Ctime returns string (give ineger and return date and time)

   Not a system call. A system call related (time)

6. Time returns integer (number of seconds since beginning of time)
7. UI direct call Kernel
8. System function creates a new shell and pas new things?
9. Readir returns a pointer to a structure (file name, type)
10. Next system call does not exist
11. Processes start with either call to system or system call, or shell

12. C runs on raspberry, a.out___ remove from omega(run in linux) runs not, for different binary code (instruction set)API/ABI not the same
13. User cannot use assignment to TS can run another copy of TS over and over
14. CPM have BIOS to separate rest of Kernal (BDOS), move around OS without worries
15. Virtual Box vs Java VM:
16. Soime process from run to wait, waiting for IO, wait for timer, kkey to be hit, etc…
17. Chdir(cmd) → system("Cd cmd"), would not work ddirectly for when the system leaves new shell(changes directory in new shell).

Overlays controlled by OS
CPM has 128 byte sector
26 sectors/track
77traks
2 Surfaces

Total: 512 (all minus OS – Util- BS)

-OS-Util-Boot Sector-
Dir size in sector
64 entries,

200 bytes file on a disk: directory entries 64
200K bytes files on a disk: 2 (512/200K)
PALM OS process before completing, ready wait: when something else need to run (timer…)

PALM: Multitasking, portable (originally came before smartphone):

- Cheaper version of PDA (Compare to Apple Newton)
- Smaller, inspired by Newton
- Bitmat Screen (Newton: without keyboard, with handwriting input- mostly inaccurate)
- Palm with Text Input Area (Grafiti)
    - Letters and Number area
- Learn handwritinhg from user (less keystrokes)
- Switch keys for processes switch

Architecture View of PALM(PDA):

- CPU: 32 bit
- Batteries (Rechargable option)
- Battery Life: 1-2 months
- Slot on top:
    - Small Expansion:
        - Memory
        - Camera attachment
- Memory:
    - RAM: things for changes
    - Virtual Disk:
        - flash memory: persistent memory
        - ROM (Programmable)

OS:

(CPM: 1 task at a time)

- PDA: Multitasking, Multiple Processed (Preferable)

Applications:

- Notes
- Schedule

- Calendar
- Contacts
- Games

CPU only allowed one core for one processor

  - All above is in waiting queue, some in ready queue

CPU Scheduling

- Process (traditional multi-processes)
  - Create, Switch
  - Ready→ Run
  - Under user control, occasionally done from wait queue
- Memory (RAM)
  - Files
  - Not enough memory
- Disk/Flash
  - Fragmentation.

RAM Full (RB)

Fragmentation:

Multitasking problem?:

Switch

Memory management

Backup storage

Intro to Apple:

- 8 bit CPU memory (1,2,3)
- Apple OS/MacOS
- 8 bit Apple customed Case
- MAC

    - Xerox Sun: Palo Alto Research Center
    - Alto: Muse BM display, 32, 64 bit CPU, memory

MAC: (Single tasking single user to multitasking OS)

- Was One process, One user
    - Allowed Process Switch
- Developed to allow multiple processes
    - Yield: allow other processes to take over left over processes after completion (yield())
        - Cooperative Multiprocessing
- CPU 16→32→IMB→Intel (CPU Change)
- Backward Compactibilty
    - Run old on new OS without changes (Not MAC)
    - Ms got the idea from IBM