CSE3241: Operating System and System Programming

Class-1

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What is Operating System?

Operating System (OS) is a system software which-

- manages computer resources (harware, software) and
- provides an environment where application software can run in order to full-fill users' demands.

As shown in Fig. 2, an OS acts as a bridge between hardware and software that we run to access hardware.

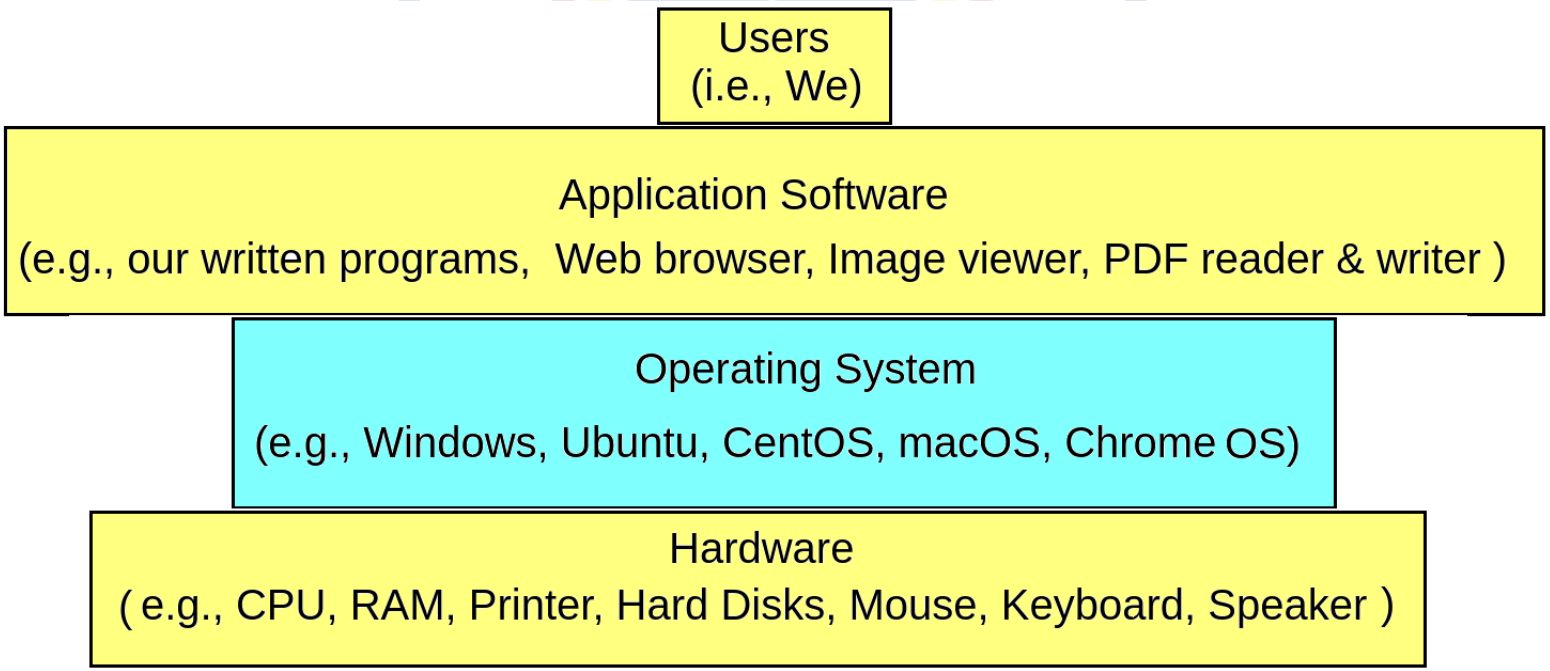

Figure: A computer System

Summary of Syllabus

1. Overview
   - Introduction
   - System Structures
2. Process Management
   - Process Concept
   - Threads
   - CPU Scheduling
3. Process Coordination
   - Synchronization
   - Deadlocks
4. Memory Management
   - Memory-Management Strategy
   - Virtual Memory
5. Storage Management
   - File System
   - Disk Management
   - I/O Systems
6. Protection and Security
   - System Protection
   - System Security

At a Glance

1. In this course, students will-
   - learn very basic things of OS.
   - **be familiar with the Linux kernel based OS (e.g., Ubuntu) via system programming in C.**

2. Recommended books: [1], [2]

3. Tentative Plan:
   - There will be almost everyday one very short lecture either via live lecture or pre-recorded video or by still slides.
   - 1/2 assignment(s) per week.

4. **Trust me: it is a very interesting course. Enjoy it, do not take it as an extra burden on your shoulder.**

Recommended Books

P. B. Galvin A. Silbeschatz and G. Gagne.
Operating System Concepts.
John Wiley & Sons.

A. S. Tanenbaum and A. S. Woodhull.
Operating Systems– Design and Implementation.
Pearson Prentice Hall.