Monday 25th January, 2016 — Notes

CSE 450 Operating Systems

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Monday & Wednesday 3:30 — 5:17 pm

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What Computer System Structure

- Computer system can be divided into four components

    – Hardware — provides basic computing resources

        ∗ CPU, memory, I/O devices

    – Operating System

        ∗ Controls and coordinates use of hardware among various applications and users

    – Application programs — define the ways in which the system resources are used to solve the computing problems of the users

        ∗ Word processors, compilers, web browsers, database systems, & video games

    – Users

        ∗ People, machines, & other computers

What is an Operating System?

- An operating system (OS) is a collection of software that manages computer hardware resources and provides common services for computer programs.

    – The OS is a vital component of the system software in a computer system.

    – Application Programs usually require an OS to function

    – A program that acts as an intermediary between a user of a computer and sthe computer hardware.

- Operating System **goals**:

    – Execute user programs and make solving problems easier.

    – Make the computer system convient to user.

    – Use the computer hardware in an efficient manner.

Computer-System Operation

- I/O devices and the computer execute concurrently

- Each device controller is in charge of a particular device type

- Each device controller has a local buffer

- CPU moves data from/to main memory to/from local buffers

- I/O is from the device to local buffer of controller

- Device controller informs CPU that is has finished its operation by causing an *interrupt*