Learning Guide Unit 6

Reading Assignment

As you go through the readings and watch the video, consider the following:

1. How do I/O systems facilitate data flow between a computer and its peripheral devices, and what are the key components involved in this process?
2. What is the role of device drivers in an operating system, and how do they enable seamless communication between the OS and hardware devices?

Read:

1. Arpaci-Dusseau, R. H., & Arpaci-Dusseau, A. C. (2018). Operating systems: three easy pieces (1.01 ed.). Arpaci-Dusseau Books.
   https://pages.cs.wisc.edu/~remzi/OSTEP/

   - View the online book
   - Read Chapter 36: I/O Devices (pp. 425 till pp. 435)

   In the realm of computer systems, I/O devices serve as the crucial interfaces that connect users and applications to the underlying hardware, facilitating seamless interaction and data exchange. This chapter delves into the various types of I/O devices, ranging from input devices like keyboards and mice to output devices such as printers and monitors. By exploring the fundamental functions and architectures of these devices, readers will gain a comprehensive understanding of how I/O systems operate within a computer.

Watch:

1. Computer Science Learners. (2020, April 28). *4.12 Application IO Interface in IO Management* [Video].

   - This video provides an in-depth exploration of the interaction between I/O hardware and software within an operating system, highlighting the essential components that enable effective data transfer. Viewers will gain insights into how device drivers function as critical intermediaries, facilitating seamless communication between the OS and various peripheral devices.

2. Magic Spangle Studios. (2020, June 18). *What is computer drivers? Animated E learning Explainer Video* [Video].

   - This animated e-learning explainer video provides a clear and engaging overview of computer drivers, detailing their essential role in enabling communication between the operating system and hardware devices. Viewers will learn how drivers function as intermediaries, ensuring that software and hardware work together efficiently for optimal system performance.

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What is computer drivers? Animated E learning Explainer Vi...

3. Neso Academy. (2017, August 24). *Basics of OS (I/O structure)* [Video].

- This video lecture focuses on Device Drivers and Block I/O in the operating system, providing an in-depth look at how device drivers facilitate communication between the OS and hardware components.

Basics of OS (I/O Structure)