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**CS 541-01**

**-Please research the purpose and scope of an operating system.**

Please research the purpose and scope of an operating system.

An operating system is the essential software enabling computers to function by managing hardware resources, coordinating software applications, and providing user interfaces.

The purpose of an operating system is to act as an intermediary between the computer hardware and the user/application programs. It serves as a platform for managing and coordinating various system resources to ensure efficient and reliable operation. The scope of an operating system includes several key functions like Hardware Abstraction, Memory Management, Process Management, Device Managements, User Interface, Networking, etc

**-Was there any purpose of an OS that you did not think of before, but discovered via research?**

Operating systems typically operate transparently to users and fulfill the purposes stated above. However, there are some aspects that were unknown to me up until I researched it.

E.g, **Virtualization Support (OS-level virtualization)** which is a feature that supports virtualization, allowing multiple operating systems to run on the same hardware simultaneously. It is commonly used in server environments for efficient resource utilization.