

Topic 19 Software – Summary

Vocabulary

software (n): the set of programs run by a computer system

system software (n): the operating system and utility software

application software (n): software that runs on top of system software and performs a task that would otherwise be done by the user, perhaps with pen and paper

operating system (n): software designed for particular hardware, used to manage other software's access to the hardware, and provide an interface for the user; it is a type of system software

utility software (n): a type of system software designed to analyze, configure, optimize or maintain a computer's operation

application programming interface (API) (n):

graphical user interface (n):

command line interface (n):

scheduling (n):

paging (n):

graphical user interface (GUI) (n):

Concepts

Software Hierarchy

Diagram page 188. Hardware → Operating system → Utility and Application Software.

Operating System

The operating system is software that acts as the essential layer between the computer's hardware and the user. It performs core functions, providing:

- **a user interface (UI)**, often a *graphical user interface (GUI)* and/or a *command line interface (CLI)* allowing users to interact with and control the computer.
- **a stable environment** for application software to run.
- **security**, protecting data through user accounts and access rights, including restriction of making changes to software, especially system software.
- **resource management** – memory, files, and processor time, as well as other hardware such as video cards, network interface cards, and peripheral devices (mouse, keyboard, printers). This includes memory management, which includes memory **paging**, and the illusion of multitasking through the use of **scheduling**.