

<CH.2>[*Operating Systems*]

- 'Software that runs on a computing device and manages the hardware'
- 'and software components that make up a functional system.'
- 'Schedule programs to run in a multi-tasking manner.'
- 'Provide standard services to users and programs.'

-*Decision Points:*

- 'Role; Function; Stability; Compatibility; Cost'
- 'Life Cycle (Release Cycle, Maintenance Cycle)'
- 'Interface (CLI vs GUI)'
 - 'CLI: Command Line Interface' (command-based)
 - 'GUI: Graphical User Interface' (event-based)

-*Microsoft Windows:*

- 'Not UNIX based.'

-*macOS:*

- 'UNIX with some proprietary code.'

-*Linux:*

- 'UNIX-like'
- 'A distro:'
 - >'Sets up the storage'
 - >'Builds the kernel'
 - >'Install hardware drivers, applications, and utilities'

-*Linux Distro:*

- >'Red Hat' (*Enterprise Linux*)
 - 'fedora' (for devs)
 - 'CentOS Stream' (preview release of RHEL)
 - 'Alma Linux/Rocky Linux' (replacement for CentOS)
- >'SUSE' (*Enterprise Linux*)
- >'Debian' (*Community*)
 - 'ubuntu' (for everybody)
- >'Android'
 - 'Uses Linux and ART (android runtime)'
 - 'ART introduces AOT (ahead-of-time) compilation.'
- >'Raspbian' (for the *Raspberry Pi*)

-*Embedded Systems:*

- 'Linux emphasis on small size and power consumption'
- "DVR's, smart TV'S, etc.."
- "IoT potential (networks, sensors, actuators) and AI integration."