

6 Operating Systems

Topic

Operating systems (Windows, Unix, Linux, the Mac OS), Graphical user interface.

Learning objectives

Students will be able:

- to explain what the term operating environment means
- to explain the term software and the difference between system software and application software
- to understand the function of the operating system
- to describe graphical user interface (GUI)
- to list and characterize the most popular operating systems

Key words

operating system, user interface, system software, application software, cursor, prompt, icon, menu, pull-down menu, window, pointer, desktop, command, data, retrieve, handle, network, multitasking, source code, file, folder, user-friendly, scroll bar, menu bar, utility, GUI

Operating environment

Operating environment is the interaction of a computer system with a user. There must be a means of communication between the system and the user – the **user interface** – and between the system hardware and the software.

Software – all the programs that can be run on a computer hardware. It can be divided into:

- **system software** – controls the basic functions of the computer (operating systems, programming software, etc.)
- **application software** – lets us do specific jobs such as writing letters, doing calculations, drawing or playing games.

The user interface provides the means of communication between the user and the computer system. It consists of **cursors, prompts, icons, menus, etc.**

The Graphical User Interface (GUI)

A **GUI** makes use of a WIMP environment: **Windows, Icons, Menus and Pointer.**

This type of interface is **user-friendly**; the system functions are accessed by selecting **icons** and items from **pull down menus**.

Icons are pictures representing programs, files and folders. Double clicking an icon opens a window that contains programs, folders and documents. When you are in a folder, you can launch a program or document by double clicking the icon or you can drag it to another location.

The **pull down menu** is a list of options that appear below a menu bar when the user clicks on it.

The **pointer** is the arrow controlled by the mouse which lets you choose options from menus.

The background screen that displays icons, files and folders is called the **desktop**.

Operating system

The operating system is a complex program that controls the entire operation of the computer and allows people and applications to communicate with the hardware. It accepts **commands** and **data** from the user via input devices, interprets commands, transfers data to memory, retrieves data from memory and sends it to the output devices

Typical functions of the operating system are:

- running programs
- organizing files on disks
- handling input and output operations
- allocating memory for storing programs and data
- giving access to networks
- **multitasking** (a user can run several programs at a time), jobs with different priorities are dealt with in the correct order
- system security (a user can access a certain function only by entering a unique password)

The most popular operating systems are:

- The **WINDOWS** family designed by Microsoft and used on most PCs. The most recent version is Windows 8.
- **Mac OS** created by Apple and used in Macintosh computers.
- **Unix** is a multi-user system, found in mainframes and workstations
- **Linux** was developed under the General Public Licence – anybody can copy its source code, modify and redistribute it. It is used on PCs, appliances and small devices.
- **Windows mobile** – used in most PDAs and smartphones (PDAs incorporating mobile phones).
- **Palm OS** – used on Palm handheld devices

A **file manager** or **file browser** is a computer program that provides a user interface to work with file systems. The most common operations performed on files or groups of files are: **create, open, edit, view, print, play, rename, move, copy, delete, search/find**, and **modify** file attributes, properties and file permissions. Files are typically displayed in a hierarchy.

Vocabulary

	Definition	Translation
application software	programs that let you do specific tasks, such as word processing or database management	aplikační software
command	an instruction for a computer	příkaz, instrukce
cursor	the symbol on a computer screen that indicates the point on the screen that is being used	kurzor
data	information in an electronic form processed by a computer	data
desktop	the working space you see on your monitor when the computer is turned on	plocha

file	a chunk of data having a name that is treated as a single item by the operating system	soubor
folder	another name for a file directory which allows us to organise the files and folders in the computer	složka
GUI	a user interface based on graphics instead of text; uses a mouse as well as a keyboard as an input device	GUI
handle	to have the ability to deal with	řešit, zvládat
icon	a picture representing an object, such as a document, program, folder	ikona
menu	a list of options available to a computer user	
menu bar	a row of words at the top of the screen that open up menus when selected	lišta menu
multitasking	the execution of several tasks at the same time	víceúlohové zpracování
network	a system of interconnected computer devices which can share information and resources	síť
operating system	a set of programs that control the hardware and the software of a computer system	operační systém
pointer	a movable indicator on the screen	ukazatel
prompt	a symbol that appears on the computer screen to indicate that the computer is ready to receive a command	výzva, upomínka
pull-down menu	or drop-down menu, a list of options that appear bellow a menu item when selected	rozbalovací nabídka, roletka
retrieve	get information from a computer memory	vyhledat

scroll bar	a horizontal or vertical bar containing a box that can be clicked and dragged to the desired direction	posuvník
source code	a set of instructions that control the actions of the computer written in a programming language' like C++, C, Java, etc.	zdrojový kód
systems software	the programs that control the basic function of a computer - operating system, device drivers, utilities	systémový software

Summary

The operating system is a complex program that controls the entire operation of the computer and allows people and applications to communicate with the hardware.

The most popular operating systems are the WINDOWS family, Mac OS, Unix, Linux, Windows mobile and Palm OS.

The Graphical User Interface (GUI) is a user interface based on graphics – windows, icons, menus and a pointer.

Tasks

1) Match the words with the definitions

- | | |
|-------------------|--|
| 1) desktop | a) A list of options that appears above the menu item when selected |
| 2) icon | b) A horizontal or vertical bar that is clicked and dragged in the desired direction |
| 3) window | c) The background screen that displays icons and folders |
| 4) pull-down menu | d) A directory that holds data or programs |



4) Explain how to perform the following actions step by step:

You may need these words:

choose click double click drag drop select

- a. How can you create a folder?
- b. How can you start a program?
- c. How can you shut down the system?
- d. How can you display the date?
- e. How can you move an icon?
- f. How can you move/copy a file from one folder to another one?

5) Describe installing the operating system, step by step.

Instructions

First.....

Then.....

Wait until.....

Next.....

As.....

After/Once.....

Before.....

Finally.....

Use imperatives:

Turn on the computer.

Don't open the file.

Use should / shouldn't + infinitive to give advice

You should turn the computer on.

You shouldn't open the file.

Questions

1. What is an operating environment?
2. What is the difference between a system software and application software?
3. What is a GUI?
4. What does the abbreviation WIMP stand for?

5. What is an icon?
6. What is a pull down menu?
7. What is a desktop?
8. What is an operating system?
9. Name the most popular operating systems. Say a few words about each of them.
10. What is a file manager?
11. What are the most common operations performed on files within a file manager:
12. What is a menu bar?
13. What is multitasking?

Literatura

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