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Computers, the Internet and E-mail — Lesson 1

Educational handout for training use — Sunrise Technology.

1. Introduction to the Computer System: Hardware and Software Concepts

To use a computer, smartphone or any other digital device consciously, it is essential to understand the basic structure that makes it work. Every computer system is based on the continuous cooperation between physical components and logical instructions, managed centrally by the operating system.

1.1 The Difference Between Hardware and Software and the Role of the Operating System

The architecture of any computer is divided into two large complementary categories: hardware and software.

Hardware: is the set of all physical, mechanical and electronic components. Hardware includes the elements visible from the outside, such as the monitor, keyboard and mouse, as well as all the boards and integrated circuits located inside the computer or the body of the smartphone.

Software: is the set of programs, applications (the *apps* we use on the phone) and instructions that tell the hardware what to do.

> ***The book metaphor:*** *the hardware is the printed paper, the hard cover and the binding that you can touch; the software is the words, sentences and stories written on it that give meaning to that book.*

The **Operating System** (such as *Windows* for PCs, *Linux*, *macOS* for Apple computers, or *Android* and *iOS* for the smartphones that almost all of us use every day) acts as the "conductor" of the entire system. Its main task is to make the hardware communicate with the various programs. Without the operating system, individual programs or apps would not know how to communicate with each other or how to access physical resources (for example how to send audio to the speakers, take a photo with the camera or connect to the Internet), because it provides the common rules that all applications must follow.

1.2 The Essential Physical Components: CPU, Memory, Video Card, Motherboard

The internal structure of a computer or smartphone is based on key hardware elements:

CPU (Processor): is the "brain" of the device, responsible for performing calculations and processing instructions. The more powerful the CPU, the faster the computer or phone is at carrying out operations.

RAM: is the very high-speed working memory used to temporarily hold the data of ongoing operations (just like when we keep many "background apps" open on our smartphone). RAM is "volatile": **once the device is turned off, everything in RAM is erased**. It differs from long-term storage (the PC's hard drive or the phone's internal memory), which is instead used to save files and photos permanently.

Video Card (GPU): is the component that processes information and turns it into images, videos and text to display on the screen.

Motherboard: is the large printed circuit board that physically connects the CPU, RAM, video card and all the other parts, allowing data to pass between them.

Sound Card, Network Cards (LAN/WiFi/Bluetooth), USB, Other Cards: responsible for handling audio streams, connections and operations of various kinds.

2. The Graphical Interface and Information Management

The operating system's graphical interface is designed to simplify interaction between the user and the device through immediate visual elements.

2.1 The Desktop as a Digital Desk and the Role of Icons

When the computer starts, the main screen is called the **Desktop** (or *desk*). The Desktop — **similar to the "Home" screen of our smartphone or tablet** — is the primary workspace where you place shortcuts to the programs and files you use most often.

On the PC Desktop (as well as on the phone's home screen) and inside folders we find **icons**:

Visual identification: an icon is a small picture or logo that visually identifies a program, an app or a file (for example a browser's logo or the WhatsApp icon on the phone).

Immediate recognition: it lets you instantly recognize the nature of the object without having to read its full name every time.

2.2 Anatomy of Digital Information: Identifying Files and Folders

Inside the computer and the smartphone, everything is organized into files and folders:

Item	Definition and Features	Examples (PC and Smartphone)
File	It is the single digital "sheet" or container of information. The basic unit of storage.	A photo taken with the phone, a song, a text document, a message.
Folder	It is the container (shown as a yellow icon on the computer, or as a group of apps on the smartphone) that holds no data of its own but is used to group files or other subfolders to keep things tidy.	A "Personal Documents" folder, a "Bills 2026" folder.

2.3 The Default Organization of the Computer (and Mobile Devices)

When a Windows computer is turned on for the first time, the system already creates some standard folders to help us keep everything in order:

Documents: for texts, letters and spreadsheets.

Pictures: for photographs and graphic files.

Downloads: the folder where all files downloaded from the Internet automatically end up (exactly like the "Download" or "Recent files" folder on our Android smartphone or iPhone).

Music and Videos: for multimedia files.

3. Mastering Input Devices: Mouse, Touch and Keyboard

3.1 Anatomy of the Mouse and Equivalents on Touchscreen Devices

The traditional mouse has two buttons and a wheel:

Left Button — Single click: used to select an item or to place the cursor in a text.

Left Button — Quick double click: used to open a file or folder, or to launch a program.

Left Button — Drag (holding down): to highlight files/folders or text and to move objects.

Right Button — Single click: opens the **context menu** (a small drop-down menu with the quick actions available at that moment, such as *Copy*, *Paste*, *Delete*, *Rename*).

Center Wheel (Scroll): used to quickly scroll web pages or documents up and down.

> ***The parallel with the Smartphone (Touchscreen):*** *on mobile devices (Android or iOS smartphones and tablets) the mouse's physical buttons do not exist, but we use our fingers with equivalent gestures. The mouse's* ***left click*** *corresponds to a* ***single tap*** *of the screen with a finger; the* ***right click*** *(the one that opens menus with options) corresponds to a* ***long press*** *(holding your finger still on the screen for 2-3 seconds, for example when we want to copy text from a chat or move an app on the phone).*

3.2 Window Controls

Every program or folder on the computer opens inside a frame called a **window**. In the top right corner there are three essential buttons:

The X (Close): shuts down the program and closes the window.

The Square (Maximize / Restore Down): expands the window to full screen or shrinks it, allowing you to resize it by dragging its edges.

The Dash (Minimize): hides the window, "pausing it" on the bar at the bottom, without closing it. When you click it again, the window reopens exactly as it was.

- O*n the phone this concept is handled by the "Recent Apps" button (via the Square and Circle buttons) or by the swipe gesture to switch from one open application to another -*

3.3 Typing on the Keyboard and Handling Errors

Cursor: is the blinking vertical bar that indicates the exact spot on the screen where the letter we type will appear.

Shift Key: held down together with a letter, it makes it uppercase; pressed together with the number keys, it activates the upper symbol (e.g. parentheses or question marks).
- *On phones it is activated by tapping the upward arrow on the virtual keyboard -*

Alt Gr key: located to the right of the space bar, it is used to type special symbols such as the at sign (@) or the euro symbol (€).

Space Bar: the long key at the bottom for inserting spaces between words.

Enter Key: used to confirm an action or start a new line in a text.
- *On a smartphone keyboard it is the key with the enter arrow or the "Enter" checkmark -*

How to correct typing errors (on PC and mobile):

Backspace key (left-pointing arrow, above Enter): deletes the character to the **left** of the cursor (the classic "delete backwards", identical to the X with an "x" inside that we use to delete a message on the phone).

Del / Delete key: deletes the character to the **right** of the cursor.

4. Practical Guide to Basic Document Operations

4.1 Creating a simple document with "Notepad"

Notepad is the simplest Windows program for writing text without complex formatting.

To open it: click the search bar at the bottom (magnifying glass), type **Notepad** and click the program to launch it, or find it among the installed programs.
- *On a smartphone or tablet, the basic equivalent is to open the preinstalled "Notes" app -*

4.2 The Copy and Paste Procedure for Text

It is a fundamental operation we perform all the time, on both computers and smartphones (for example, to copy a code or an email address):

1. Select the text: place the mouse at the beginning of the text, hold down the left button and drag to the end. The text will turn light blue/highlighted. *(On a phone: hold your finger on the text for a couple of seconds and drag the selection handles to extend the selection).*

2. Copy: right-click the highlighted text and choose **Copy** from the menu that appears. *(On a phone: a bubble appears with the word "Copy").*

3. Position: move the cursor to the exact spot where you want to insert the text and left-click. *(On a phone: a single tap on the desired spot).*

4. Paste: right-click and choose **Paste**. *(On a phone: the "Paste" button appears).*

4.3 The Key Difference Between "Save" and "Save As"

As long as a file is open on the screen, it is in RAM and is lost if the computer is turned off. You need to save it to the hard drive:

Save As: used the very first time you save a file. It lets you choose *where* to store it (e.g. in the Documents folder) and *what name* to give it. *(On modern phones this often happens automatically, but the concept of "Save As" or "Export" exists when we save an attachment or a document).*

Save: used while working to update the existing file with the latest changes, keeping the same name and location.

5. Managing Files with File Explorer

5.1 What Is File Explorer

It opens by clicking the yellow folder icon on the bar at the bottom. It lets you browse all the folders and files on the computer. To enter a folder, just **double-click quickly** with the left mouse button. *(On a phone, the exact equivalent is the app called **"Files"**, **"Archive"** or **"File Manager"**, where a simple tap of the finger opens the inner folders).*

5.2 Creating and Renaming a Folder

Create a folder: inside a File Explorer window, right-click an empty space → hover over **New** → click **Folder**. Type the desired name right away and press **Enter**. *(On a smartphone too, inside the Archive app, there is always a "Create folder" option or a " + " button to group files).*

Rename an item: right-click the existing file or folder, choose **Rename**, type the new name and press **Enter**. *(On a phone, press and hold the item or tap the three dots to find the "Rename" option).*

5.3 Moving Files: Copy, Cut and Paste

Copy and Paste: creates a duplicate of the file (the original stays where it is and a new copy appears elsewhere).

Cut and Paste: physically moves the file (the original is removed from the old folder and placed in the new one).

> ***Procedure (PC):** Right-click the file → Copy (or Cut) → Enter the destination folder → Right-click an empty space → Paste.*

5.4 Customizing the View

In the **View** menu at the top of File Explorer you can choose how to see your files: from large previews (ideal for photos) to **Details** mode, the most useful because it shows the name, the date last modified and the exact size of each file in a table format.