ICT Level 2 – External Components of a Computer

1 of 19 – Welcome

Welcome to this session on the external components of a computer.

By the end of this session, you will:

* Understand what is meant by external components
* Know a number of different external components that can be used
* Understand how these external components assist a computer

2 of 19 – Introduction to external components of a computer

**What are external components?**

In an earlier session we thought about the internal components of a computer, meaning the internal hardware that keeps a computer up and running. The internal components, as their name suggests, are devices that can be found inside the computer system.

External components are devices that exist outside of the computer system itself, but they are usually connected or added to the system in some way – which is how they work successfully alongside the internal hardware.

External components are usually connected via a cable connection, but there are now wireless options available for certain components too.

3 of 19 – Examples of external components

There are many different types of external components that can be added to a computer system. In fact, many external components are used on a day-to-day basis, so much so that computer users may not even realise how much these external parts are relied on. Some common examples that you are likely to find in your everyday computer use are:

* The monitor or screen
* Speakers
* A keyboard
* Printers and scanners
* A mouse

In the sections that follow we will look at these devices, and one or two others, in a little more detail, to consider how they work alongside the internal elements of a computer.

4 of 19 – Tower

One of the most important external elements of a computer is its tower – also known as the computer case. This is a device that can often be found sitting or standing alongside, or close by, the computer.

While it may not seem like an important device on its own, this external element is actually performing an incredibly important job by housing and protecting all of the internal components that the computer needs in order to run.

The tower is also where the majority of a computer’s ports – such as USB ports and the VGA port, for example – can be found.

The tower is an important external component for a number of reasons. Not only does it keep the internal components protected from knocks and dust particles alike, but it also helps the internal elements to keep cool, as towers are designed with a number of special vents to allow air in and out as necessary. They can also be a useful tool for reducing the noise of a computer system.

5 of 19 – Monitor

The monitor, or screen, is the device that relays messages from the internal workings. While the central processing unit is distributing instructions for other internal elements to run, the monitor is the external device that is waiting to display the end result.

There are two main types of computer monitor available on the technology market now:

* CRT monitors, which project pictures or images from behind the screen
* LCD monitors, which use a combination of crystals and electronic triggers to display the necessary images and pictures

The computer’s monitor is where the internal graphics card can really show off! While the graphics card is working hard to develop high quality and well-developed images and displays, it then relies on the monitor system to relay these images to the user.

6 of 19 – Keyboard

The keyboard, despite being an essential component of a computer system, is still considered as an external one, as it is something that needs to be added or connected in order for it to actually work.

The keyboard itself is made up of letter, number, and symbol keys, and, more often than not, any given keyboard will come complete with a number of special function keys, too.

The reason that a keyboard is an important external component is that it allows for data input to take place. Remember: data input is data that is put into the computer system by the user. When programs ask for certain information, or for a certain key-input, the keyboard is an essential component for delivering the information to the rest of the system.

The keyboard is another external component that can be connected by the use of a cable, although there are wireless keyboards available now as well. They work in much the same way, but some users find them more convenient as there are fewer cables and wires to use.

7 of 19 – Mouse

The mouse is another connectable component that is now being designed with wireless options,

much like the keyboard.

The main function of the mouse is to guide the cursor – typically a small arrow positioned somewhere on the monitor – around the screen, and the mouse can then be used to click on icons, links, and any other elements that require a click input in order for an instruction to be carried out.

The mouse is another device for inputting data, as some programs rely on a series of clicks in order for a certain action to be triggered. The mouse can be used for dragging, selecting, hovering, and highlighting, making it an essential part of day-to-day computer usage.

While some functions of the mouse can be completed by other components (i.e. by using the keyboard instead), the mouse is a convenient alternative that makes computer use slightly easier.

8 of 19 – Speaks and microphone

If you think back to an earlier session where we discussed the internal components of a computer, you might remember that sound is delivered from a computer system due to internal hardware pushing sound signals through to the speakers. So, while the internal components are important to sound distribution, speakers are an essential external component for this process to be completed.

When the hardware pushes sound signals through the internal workings, these signals will eventually arrive at the speaker system of the computer, which is something that can be added to or upgraded if a user feels it necessary. Speakers are a useful tool for data output, as they allow the system to deliver information back to a user.

Alongside delivering sound, computer users can also input sound (another example of inputting data) by using a microphone. Microphones may be used simply for communication purposes, during video chats for example, but they can also be used as a way to control programs by voice command.

9 of 19 – Essential and non-essential components

The internal components of a computer are largely all essential; the computer simply cannot run without the motherboard, the central processing unit, and so on. However, external components work slightly differently.

While a number of the examples we have looked at so far are essential for day-to-day computer use – it would be hard to write an assignment without a keyboard, for example – there are a number of external components that can be added to improve or change the user experience, without really being an essential part of the system.

Examples of non-essential external components are:

* Printers
* Webcams
* Headsets

10 of 19 – Printers and scanners

Printers and scanners are non-essential external components of a computer system. Firstly, they cannot be added to the internal workings of a computer, so they must always be connected outside the main system. Secondly, the computer system can work just fine without either of these devices.

However, printers and scanners can be useful tools on a day-to-day basis for a number of reasons, such as:

* Printing documents, in order to have a hard copy as well as an electronic one
* Printing multiple copies of a document, if it is something that must be shared
* Backing up documents by creating an electronic version, through using a scanner
* Copying documents, again in order to create multiple copies

While these devices are not essential, they are certainly something that many computer users have come to rely on.

11 of 19 – Webcams

Webcams are small devices that can be connected to a computer, typically through a cable being attached to one of the USB ports.

They are not essential components when it comes to a computer system running successfully. However, an increase in their popularity over recent years has now seen them integrated into certain hardware systems – such as laptops, for example – as an internal component, rather than external one.

Many laptops are now being built with a small webcam just above the screen display, which, while non-essential, does mean that webcams can now be both internal and external components.

Webcams, like printers, will not make a computer system run any better, but they may be a convenient tool for individual users. They are particularly useful for communication purposes if, for example, a user is talking to someone through a video chat connection.

12 of 19 – Headsets and joysticks

There are some computers that are designed with certain activities in mind, such as gaming. A gaming computer might have a better graphics card, for example, or additional cooling systems due to the computer running so many instructions through at once, creating extra heat.

Some non-essential external components that might be used in a gaming computer are headsets and joysticks.

A headset is an output device that works in a similar way to headphones or earphones, but rather than simply inserting small buds into the ears of the user, a headset covers the user’s ears entirely, and connects the ear coverings with a band that rests on top of the user’s head.

A headset is another example of a data output device, as it allows data to be delivered from the system to the user.

13 of 19 – Headsets and joysticks continued

A joystick is an electronic device that can be connected to a computer system to allow a user to move around the screen, in a similar way to how the mouse allows the cursor to move. However, joysticks are usually connected to on-screen characters or machines.

For example, if a computer user was running a flight simulation program, a joystick might be used in order to control the plane.

Physically, joysticks resemble the controls that are found on arcade machines and similar devices. However, they are typically constructed with one or two extra buttons attached, to allow for a greater level of use and function. So, while they are non-essential components, they are certainly useful for any users trying to control a character or fly a plane!

14 of 19 – Question 1

External components of a computer can be essential and non-essential.

Categorise the components below into two categories, either **essential** or **non-essential**.

Joystick

Monitor

Mouse

Webcam

Printer

Tower

Scanner

Keyboard

The correct answers are:

Monitor, mouse, tower and keyboard are **essential** components.

Joystick, webcam, printer and scanner are **non-essential** components.

15 of 19 – Question 2

Which external components can be used for data input?

Choose all that apply:

1. Tower
2. Microphone
3. Speakers
4. Keyboard
5. Mouse
6. Processor

The correct answers are B, D and E, microphone, keyboard and mouse.

16 of 19 – Question 3

Read the statements below and decide which ones are true and which ones are false.

A tower or computer case is only useful for reducing the noise made by the internal components.

True

False

The correct answer is: False

Keyboards are often connected to the computer via a cable, although wireless options are now available.

True

False

The correct answer is: True

Speakers are an important external component used for data output.

True

False

The correct answer is: True

Headsets and joysticks are both examples of essential external components.

True

False

The correct answer is: False

17 of 19 – Question 4

Using the following choice of words; **user experience**, **webcams**, **non-essential**, **gaming**, **computer system**, **headset** and **on-screen characters**, fill in the blanks for the paragraph below:

There are some external components that are particularly useful for special computer systems, like those designed for **blank**. If a computer is designed with this activity in mind, then a user might benefit from a **blank**, in order to hear other players, for example, or a joystick, in order to control **blank** or machinery. These are **blank** components that can be used to improve **blank**, without adding anything to the **blank** itself. Other examples of non-essential external components are **blank**, printers, and scanners.

The correct paragraph should read:

There are some external components that are particularly useful for special computer systems, like those designed for **gaming**. If a computer is designed with this activity in mind, then a user might benefit from a **headset**, in order to hear other players, for example, or a joystick, in order to control **on-screen characters** or machinery. These are **non-essential** components that can be used to improve **user experience**, without adding anything to the **computer system** itself. Other examples of non-essential external components are **webcams**, printers, and scanners.

18 of 19 – End

Well done! You have now completed this session on external components of a computer.

In this session we have covered:

* What is meant by external components
* A number of different external components that can be used
* How these external components assist a computer

If you have any questions about any of these topics, make a note and speak to your tutor for more help.