ICT Level 2 – Key Terms 1

1 of 18 – Welcome

Welcome to this session on key terms.

In this session you will:

* Revisit a number of key terms
* Consider their specific meanings
* Understand how these terms work in technology systems

2 of 18 – Introduction to key terms

**What are key terms, and why are they important?**

Inside each individual subject there are a number of new terms being introduced to you. It might seem like a lot of new information to take on board, especially if you try to remember all of them at once.

However, it is important that we understand what these key terms mean – and what job they perform inside a certain area of technology – as this will help us to understand the bigger topics better as well.

In the next few sections, we’ll go back over a number of key terms that have been mentioned and consider what they really mean, and what jobs they perform.

3 of 18 – Computer aided design/computer aided manufacture

You might remember computer aided design (CAD) and computer aided manufacture (CAM) from an earlier session, where these terms were mentioned as useful tools in the manufacturing sector.

Computer aided design specifically refers to software that can be used in the design process, and there are loads of these systems currently available on the market.

Using this software means that everything can be designed (analysed and edited too) on a computer before it is sent elsewhere for the production element.

There are many different CAD systems available depending on your needs. ArchiCAD is useful for architects who are planning builds, while AutoDesk MAYA is mostly used by illustrators and animators.

Computer aided manufacture (CAM) programs are where the designs made with CAD eventually get sent, in order for the designs to be made into real life objects.

In its most common usage, computer aided manufacturing means using machines – or robots – that are controlled by computer software in order to construct a final product.

This is sometimes thought of as a safer alternative to using human operators, depending on what product is being built, and it can be more cost effective for a company too.

**Remember:** CAD and CAM are both practical examples of how technology systems are used in the manufacturing sector.

4 of 18 – Point of sale (PoS)

You might remember, from talk of how technology is used in the retail sector, that a lot of companies are now using different systems to monitor their stock levels. Point of sale (PoS) systems are an example of this.

A point of sale system is something that talks directly to a company’s stock database – this is a database put together with the specific job of monitoring stock levels.

The PoS system, through the use of computer-controlled tills, is able to update the database with sales of specific items, which allows the company to monitor their stock more easily.

5 of 18 – Question 1

What does CAD stand for?

1. Computer actualised design
2. Computer aided design
3. Computer artist design
4. Computer artwear design

The correct answer is B, computer aided design.

6 of 18 – Question 2

Computer aided design and computer aided manufacture are examples of how technology systems can be used in which sector?

1. Retail sector
2. Health sector
3. Manufacturing sector
4. Financial sector

The correct answer is C, manufacturing sector.

7 of 18 – Question 3

What is a point of sale system?

1. A system that allows customers to buy their products without a human helping or serving them
2. A system that talks directly to a company’s stock database in order to update stock levels as items are sold
3. A system that monitors sales to let companies know which products are most popular

The correct answer is B, a system that talks directly to a company’s stock database in order to update stock levels as items are sold.

8 of 18 – Sustainability and malware

Sustainability and malware are both terms that we need to remember when we’re thinking about how technology systems are used, and what their environmental and security issues are.

Sustainability broadly means taking steps that allow us to take care of natural resources. Technology systems in a sense allow us to do this by reducing our need to travel. For example, consider how much petrol and pollution someone might save by ordering their food shopping online each week.

While sustainability is an environmental topic, malware is very much a security one, as this key term refers to any software that is designed with the ability to damage technology systems.

It’s important to remember that malware isn’t just one virus, but more like an umbrella term that can cover viruses, spyware, and many other systems that can negatively affect how your computer works.

9 of 18 – Force feedback device

Force feedback devices are useful for outputting. Remember, outputting is when information is transmitted out of your technology system.

These devices provide something called touch output, which broadly refers to something that makes a temporary physical change to the condition of the device.

For example, consider how your game controller might vibrate if you hit something, or veer off-course, during gameplay.

That vibration is an example of touch output, making the controller itself the force feedback device.

10 of 18 – Actuators

Actuators are another device that can be used for outputting information. An actuator is a motor that can be moved or manipulated by a controlling technology system. For example, think of how large car parts are pieced together by the use of a robot-arm.

In that situation the actuator is the motor that is being used to move the arm, and it is following instructions from an operator in charge of the motor through the use of additional technology.

11 of 18 – Solid state drives and optical media

Solid state drives (SSD) and optical media are two different ways of storing data from your technology system.

A solid state drive – sometimes referred to as a solid state disk – works by storing your data on something called solid-state flash memory. These drives have no moving parts – which is what makes them slightly different from hard disk drives – but they can still safely store huge amounts of data.

Optical media is another umbrella term which covers all discs that can be read by some kind of laser. Examples of this type of storage are things such as CDs and DVDs (and the modern variations of these, like Blu-Ray), which can store information by having them ‘burnt’ onto the disc.

12 of 18 – Automated system

Automated systems use both technology and control systems in order to provide a service, or complete a job, and to monitor performance rates for that service.

These systems are usually employed in place of a human operative, and they often go on to be used without any human assistance either.

Automated systems are generally thought of as a good thing, particularly for customer service and company costs, amongst other positive effects.

Remember, self-service checkouts are a good example of this technology in practice.

13 of 18 – Radio frequency identification systems (RFID)

You might remember radio frequency identification systems from talk of technology devices, and the different ways in which they can capture, store, and even transmit data.

Radio frequency identification systems rely on non-contact, wireless communications. These communications happen through radio waves between the system itself, and the tag – sometimes called a bar code, or a smart label – that the system has attached to an object, person, or animal.

Through this method, data is transferred from the attached tag back to the controlling system.

Remember, in practice this system is mostly used for tracking and automatic identification.

14 of 18 – Question 4

Using the following choice of words; **vibration**, **touch output**, **games controllers**, **output** and **force feedback**, fill in the blanks for the paragraph below:

A **blank** device is something that can **blank** information from your technology system. It provides **blank**, which means there is a temporary physical change to the device. An example of touch output would be a **blank** like those experienced when using **blank**.

The correct paragraph should read:

A **force feedback** device is something that can **output** information from your technology system. It provides **touch output**, which means there is a temporary physical change to the device. An example of touch output would be a **vibration** like those experienced when using **games controllers**.

15 of 18 – Question 5

Indicate whether the following statements are true or false.

An actuator is a motor that can be controlled using a technology system.

True

False

The correct answer is: True

Solid state drives aren’t very useful if you’re looking to store large amounts of data.

True

False

The correct answer is: False

Optical media is a storage system that protects your data using an eye scanner.

True

False

The correct answer is: False

A self-service checkout is a good example of an automated system.

True

False

The correct answer is: True

16 of 18 – Question 6

Radio frequency identification systems rely on wireless communications. How do they transmit data?

1. The system attaches a tag to an object or person which then transmits data through radio waves
2. The system attaches a tag to an object or person, and the tag is later connected to a computer for a data transfer

The correct answer is A, the system attached to a tag to an object or person which then transmits data through radio waves.

17 of 18 – End

Well done. You have completed this session on key terms.

In this session you have:

* Re-visited a number of key terms
* Considered their specific meanings
* Considered how these terms work in the topic of technology systems

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