FACTFILE:
GCSE
DIGITAL TECHNOLOGY

Unit 2
DIGITAL AUTHORING CONCEPTS

Digital Development Considerations

Learning Outcomes

Students should be able to:

- Describe and evaluate the following interfaces for operating digitally developed packages:
  - Graphical user interface (GUI)
  - Natural Language interface
  - Motion tracking interface
  - Touchscreen
- Describe issues associated with accessible design when developing a digital application
- Describe issues associated with developing packages that are compatible across a variety of platforms

Content in Representing Data

- Interfaces
- Accessible design
- Compatibility

Graphical User Interface

A GUI (pronounced gooey) is a graphical user interface. It is the most common type of user interface used today. It makes use of pictures, graphics and icons – hence why it is called 'graphical' and is considered a user friendly interface.

A GUI uses a WIMP interface because it makes use of:

- **W**indows – each application opens in its own window
- **I**cons – a picture or symbol which is used to represent a software application or hardware device
- **M**enus – a list of options from which the user can choose what they require
- **P**ointers – this helps you make a selection on screen e.g. a mouse
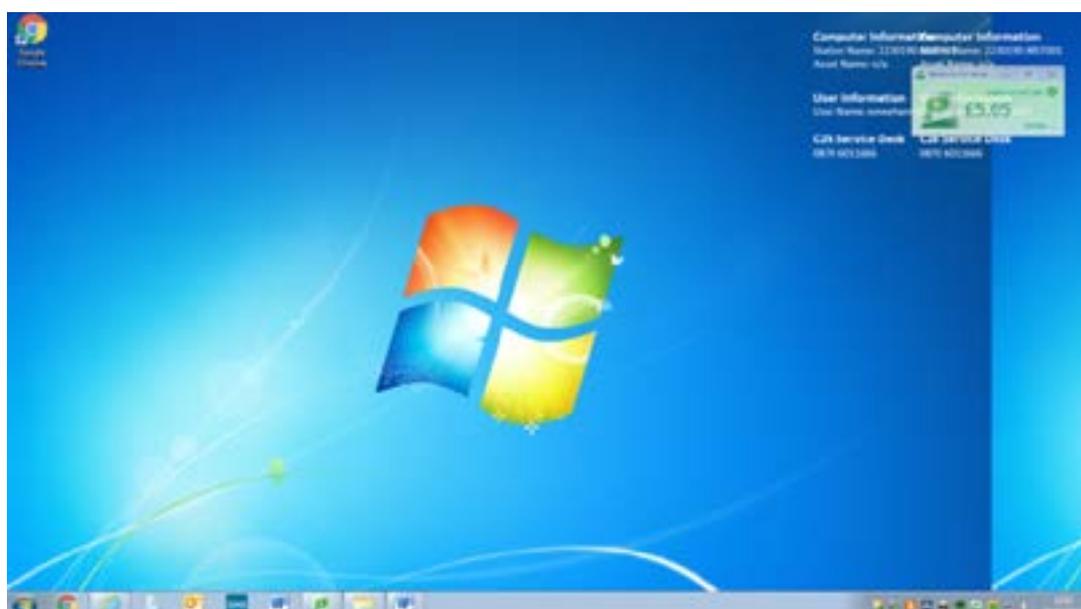
Advantages	Disadvantages
Accessible for users of all abilities	More experienced users find this type of interface slower to use
Intuitive	Takes up a lot of storage space
Don't have to learn complicated instructions to use it	Requires more processing power than other interfaces

Natural Language Interface

In this interface the user speaks or types in their normal everyday language in order to interact with the computer.

For example, some applications such as speech recognition software accept spoken words and convert them into text on the computer. These applications have a much wider vocabulary than the dialogue interface.

Advantages	Disadvantages
No training required to use the interface	The interface can only understand commands that it has been programmed to understand
More flexibility than a dialogue interface	Difficulty understanding different accents and slang
Suitable for people with disabilities	A voice interface might need training in order to get the software to recognise what the user is saying

Motion Tracking Interface

This type of interface uses sensors to monitor head and hand movements. It works with virtual reality and is a relatively new technology. It digitises your movement for use in software.

Advantages	Disadvantages
Gives real life experience of a situation	Require the necessary technology such as headsets and handsets to llow the user to interact with it
Easy to use as it allows for natural movements	Health and safety can be an issue – users need to be aware of the space around them when wearing a headset

Touchscreen

Touch screens can be found on many mobile devices such as a smart phone or a tablet computer.

They work by using your finger to touch the screen. The interface detects where the pressure is applied on screen and follows out the corresponding instruction. As well as tapping, the screen can sense swiping and pinching actions.

Examples: ATMs have a touch sensitive screen where you can use your finger to select a service such as withdrawing cash, seeing your balance or ordering a statement.

Photo Printing Kiosks have touch sensitive screens to allow you to print photos from a device. You can select different sizesof photograph, the paper used and quantities required.

Advantages	Disadvantages
Easy to use for both experienced and inexperienced users	Can get dirty especially when used in public places
Can be used in a range of different places	Can only offer limited options
More secure in public places than keyboards and mouse	Need to understand the meaning of icons

Describe issues associated with accessible design when developing a digital application

No matter what interface is being designed or used, it is important that users can use it. An interface should be user friendly for users of all abilities.

Issues that should be considered:
• Feedback – allowing the user to know if they are using the interface correctly
• Intuitive – using obvious icons or symbols so that users can easily guess what action it will carry out
• Consistency of design – allow users to transfer their skills from previously used applications

Describe issues associated with developing packages that are compatible across a variety of platforms

Software compatibility is the ability for software to run on different types of operating systems. When developing software, it is important to keep in mind that users could be viewing the software on numerous different platforms.

Bibliography

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