Unit R050: IT in the digital world. Topic Area 2: Human computer interface in everyday life

2.1 Human-Computer Interaction (HCI) is also known as user interface, which is designed to be clear, consistent, simple, user-controlled and provide feedback to help users to quickly learn and use it.

2.1 HCI is used in different areas such as:
- Embedded systems
- Banking
- Entertainment *(Gaming, e-readers, smart TV's, streaming services and cinema)*
- Fitness *(Wearable fitness trackers, smart)*
- Home appliances *(washing machine, cookers microwaves heating systems and fridges)*
- Retail

2.2 Hardware considerations
Main types of display include: Touch screen LCD LED's OLED

2.3 Software considerations:
Operating system can be graphical user interface GUI or command line CLI

Advantages of using HCI
Embedded systems:
- Greater flexibility in use compared to older devices.
- Ability to set preferences such as specific heating levels.

Banking
- Improves security
- Access to personal accounts
- Offers services without bank staff,
- Flexibility in using banking services

Entertainment
- personalised experience
- users can use the same device

Home Appliances
Tailored to meet user requirements Activated or delayed remotely

Disadvantages of using an HCI in banking, entertainment, fitness, and home appliances include:
- Inability to access accounts or personalized experiences if the HCI fails or connectivity is lost.
- Risk of incorrect programming or display of accounts.
- Limited input methods and small screens in fitness devices.

Advantages of GUI Operating system:
- Intuitive and easy to use
- Complicated commands do not have to be learned or remembered
- Help feature is usually included
- The same data can be shared between different software appliances with results seen as what you see is what you get

Disadvantages of using a GUI operating system
- Experienced programmers may find them slow to use and navigate
- Large file size requiring more storage
- High memory and processing power requirements for handling all the graphics and commands.

2.4 User interaction methods
- Touch and gesture
- Keyboards and mouse
- Voice