

1.3 Operating systems

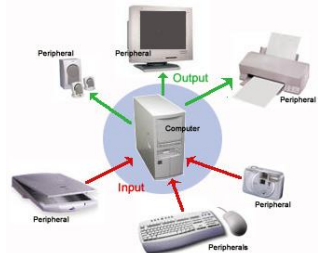
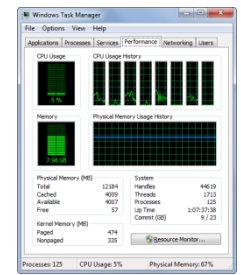
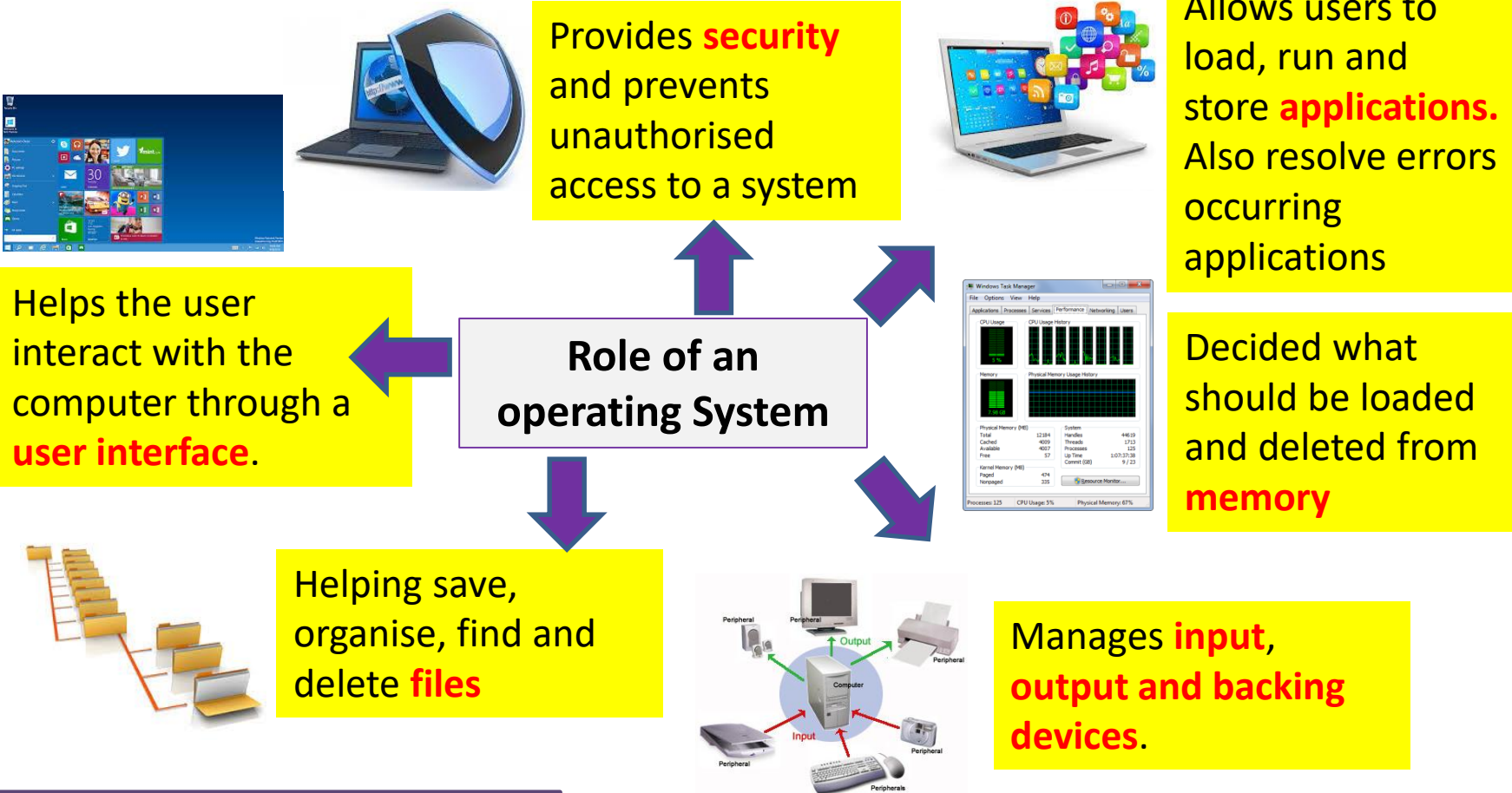
- Define and describe operating systems which contain a Command Line Interface (CLI)
- Define and describe operating systems which contain a Graphical User Interface (GUI)
- Describe the differences, including the benefits and drawbacks, between operating systems which contain a CLI and those which contain a GUI

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Role of an Operating System

An operating system is a system **software** that **manages** the general operation of a computer system:



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Example GUI Operating Systems



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Graphical User Interface (**GUI**)

GUI (Graphical User Interface) is an user interface built around graphics.



Windows – areas for displaying information

Menus - lists of options or applications users can select from



GUI



Icons -small images used to represent files/folders or applications

Pointers –Mouse pointer can be used to select and open files/applications



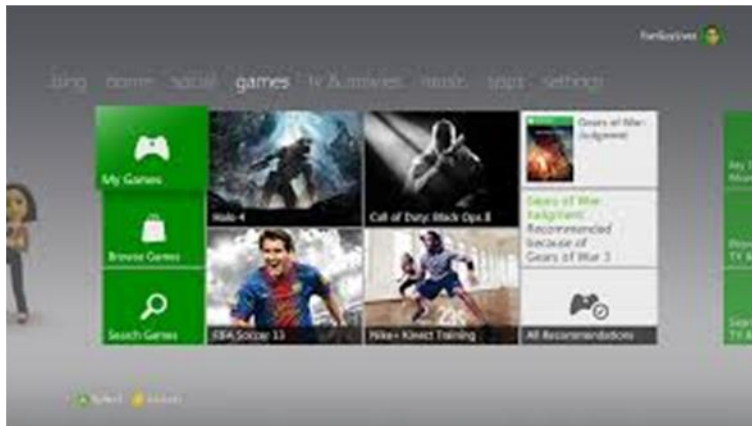
- **GUIs** are quite **easy to use** due to the visual nature of the interface
- The user has lots of visual clues as to what things do.

WIMP

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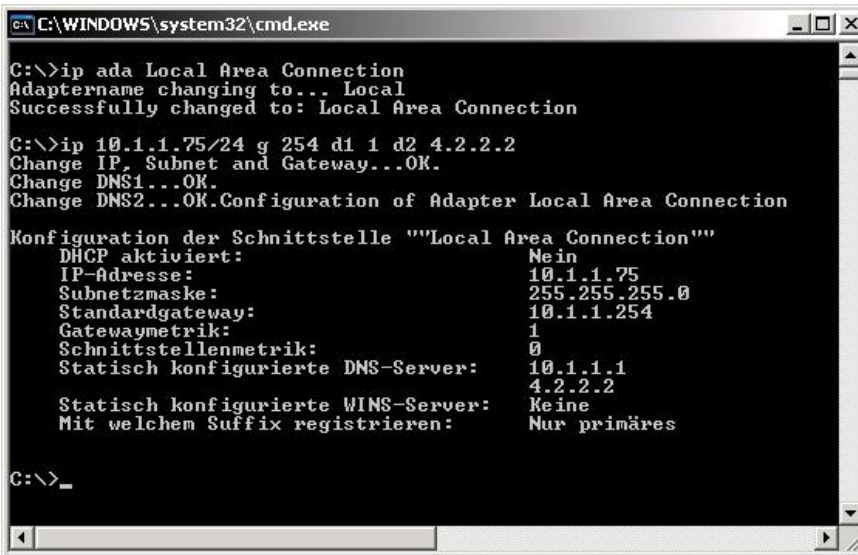
Graphical User Interface (GUI) Examples



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Command Line Interface (CLI)

- **CLI** requires the user to **enter command prompts** to interact with the computer.
- **CLI** are normally used by **expert users as it allows them to is more complicated to use.**
- **CLI** and is not restricted to a number of predetermined options.



```
C:\WINDOWS\system32\cmd.exe
C:\>ip ada Local Area Connection
Adaptername changing to... Local
Successfully changed to: Local Area Connection

C:\>ip 10.1.1.75/24 g 254 d1 1 d2 4.2.2.2
Change IP, Subnet and Gateway...OK.
Change DNS1...OK.
Change DNS2...OK.Configuration of Adapter Local Area Connection

Konfiguration der Schnittstelle ""Local Area Connection""
DHCP aktiviert:                Nein
IP-Adresse:                    10.1.1.75
Subnetzmaske:                  255.255.255.0
Standardgateway:              10.1.1.254
Gatewaymetrik:                 1
Schnittstellenmetrik:         0
Statisch konfigurierte DNS-Server: 10.1.1.1
                               4.2.2.2
Statisch konfigurierte WINS-Server: Keine
Mit welchem Suffix registrieren: Nur primäres

C:\>_
```

Example Command Prompts

- ATTRIB:** Displays or changes file attributes.
- CD:** Displays the name of current directory
- CHKDSK:** Checks a disk and displays a status report
- Copy:** Copies one or more files to another location
- DIR:** Displays a list of files and sub directories

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Main Differences between CLI and GUI

Graphical User Interface (GUI)



Advantages:

- The user does not need to learn any commands.
- The interface is easier to use.
- Can use a pointing device to clicks and select icons or menu options.

Disadvantages:

- Takes up more memory than a CLI interface.
- Requires an operating system to operate.

Command Line Interface (CLI)



Advantages:

- The user has more freedom to use specific command in interacting with the computer.
- It is possible to alter computer settings.

Disadvantages:

- User needs to learn commands
- Commands must be typed in without errors.
- No visual aids.