Computer Laboratory
Lecture 3

Basic Concepts of Information Technology
(Software)

Software

- The <u>software</u> or computer program is the instructions that makes the computer work to do a task.

- <u>Software</u> is stored either on your computer's hard disk, CD-ROM, DVD or on a diskette (floppy disk) and is loaded from the disk into the computers RAM when required.

Types of Software

- System software
  - Operating System (OS) Software
  - Utilities
- Application Software

Operating systems software (OS)

- It is a special type of program which is used to control or operate the computer.

- It is loaded automatically when you start your computer.

- OS is a link between the hardware and the user of computer.

- OS controls other hardware devices of computer.
    - Input devices
    - Output devices
    - External ports

- The operating system allows you to use the advanced features of a modern computer.

- Operating software is necessary not only for hardware but also for other software.

- OS are regularly updated and new versions and Service Packs are released by the companies after removing problems/bugs.

Types of Operating System

- Microsoft (MS) Windows
- Apple Mac OS
- Linux

- Unix

MS DOS

Basic Concepts of Information Technology, Software, Lecture 3

Utilities

- Utilities are programs which either
  - improve the functioning of the operating system
  - supply missing or additional functionality.

Examples of Utility Software
- Antivirus
- File Management
- Disk Management
- Compression Tools
- Disk Cleanup Tool

Applications software

- These software help us to solve some specific problems of daily life and make life easy for us.

- We use theses software after the operating system has been loaded.

- These software are for general purpose usage.

- Application Software must be compatible with OS.

- These are easy to learn and use.

The Microsoft Suite — Office, Excel, Word, PowerPoint, Outlook, etc.

Internet Browsers — Firefox, Chrome, Safari, Internet Explorer

Music Software — Pandora, Apple Music, Spotify

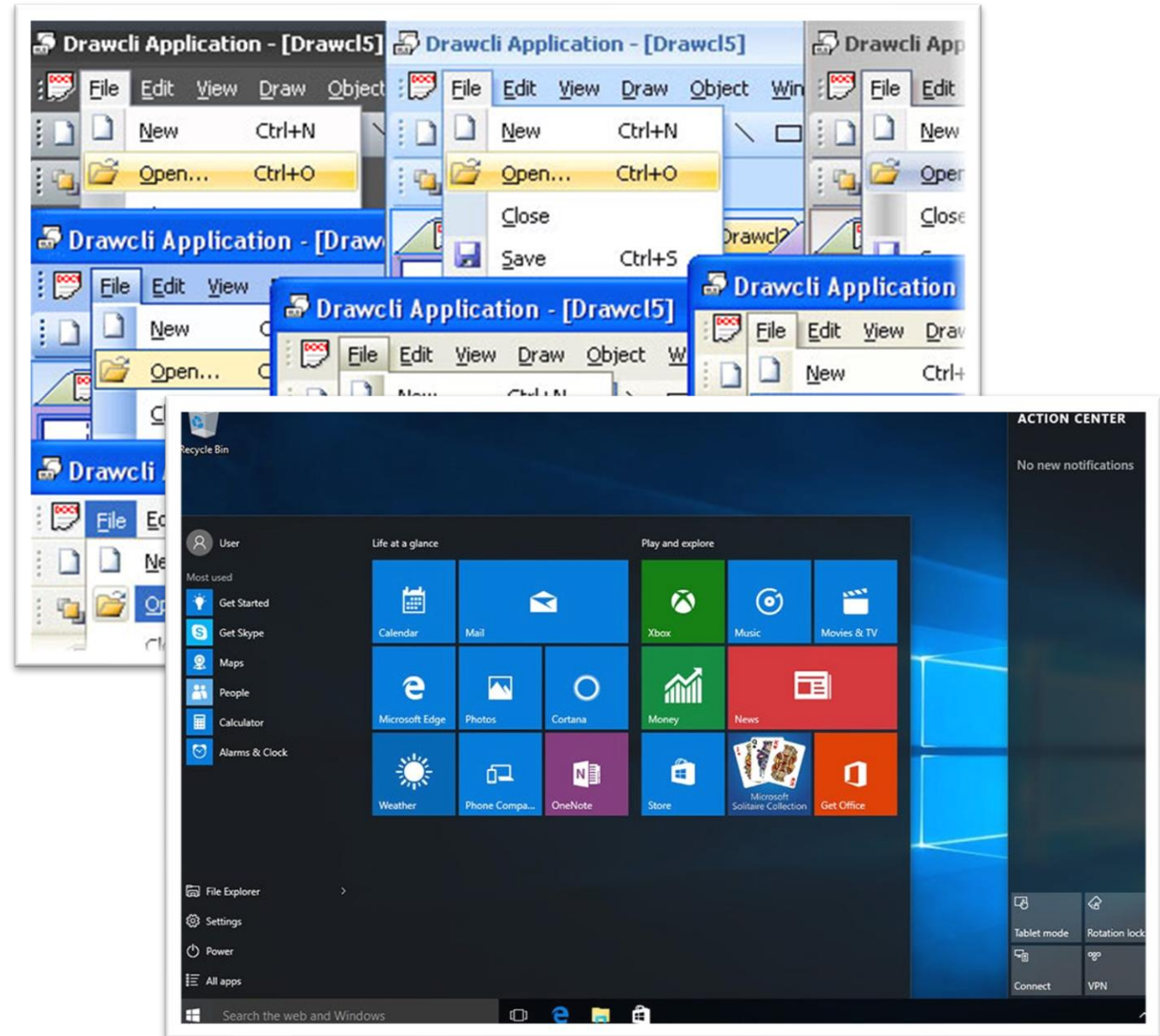**Communication Software** — Slack, Skype, Zoom, Teams

Types of Application Software

- Word Processing
- Spreadsheet
- Presentation
- Database
- Desktop Publishing

- Photo Editing
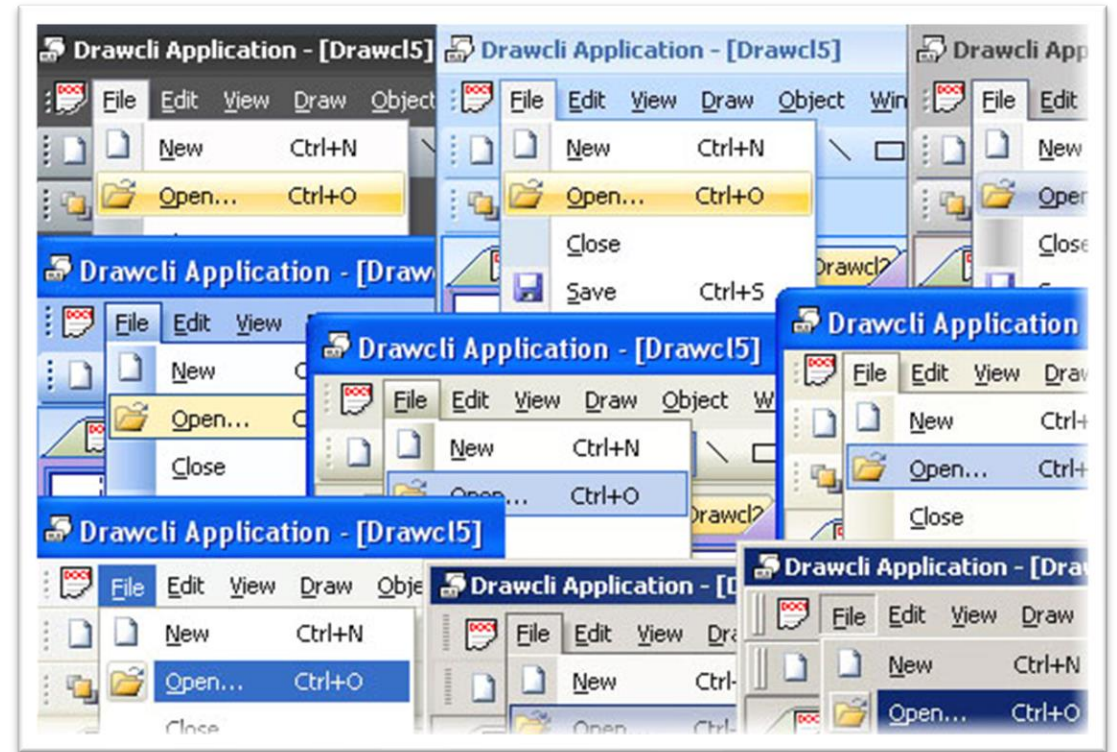- Web Browsing
- Email
- Gaming

Graphical User Interface (GUI)

- A **Graphical User Interface (GUI)** is simply an additional part of the operating system that displays windows and drop-down menus and enables to control or operate computer using a mouse.

- Examples of operating system that use a GUI include:

  - Windows
  - Linux GUI

Main Advantages of Using a GUI Interface

- All programs look similar.

- When you switch from a program to another program, you will easily operate and work in that program.

- Application programs work in the same way as the underlying operating system.

- The GUI also allows programmers to easily write consistent looking programs.

Word Processing

- In these applications, we can type text, format, print or save as a document/file.

- These are used to write letters, documents, etc.

- Common examples are MS Word, Word Perfect etc.

Spreadsheet

- These applications allow text, numbers and calculations to be entered in the form of rows and columns.

- Common examples are MS Excel

Database

- These applications store large amount of data which can be used and manipulated as per requirements.

- Common examples are MS Access, Lotus Approach

Desktop Publishing

- These applications enables user to create drawings, graphics and text in posters, newsletters and Ads etc.

- Common examples is MS Publisher, Adobe Photoshop etc.

Adobe Photoshop

Presentation

- These applications allow to make presentations/slides to show on projector.
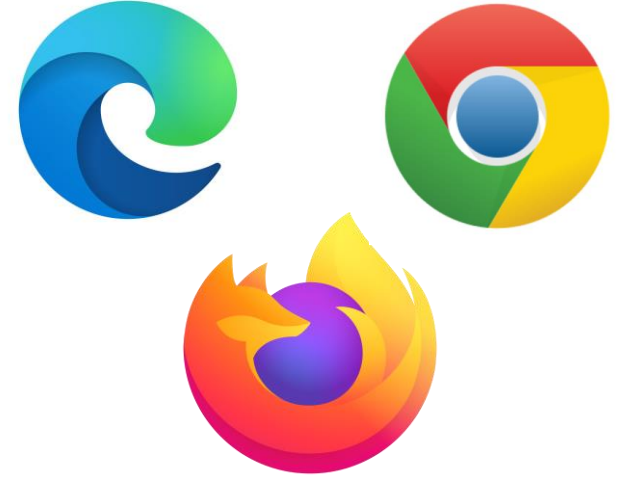
- Common examples MS PowerPoint etc

PowerPoint

Photo editing

- These applications enables to edit photos and apply many features.

- Common examples is Photo Impact.

Web Browsing

- These applications allows to access/view, download and search information on the internet.

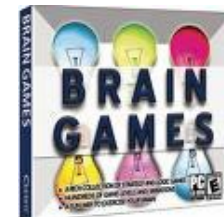- Common examples are MS edge, google Chrome, Firefox etc.

E-mail

- E-mail applications allow user to send and receive email messages and attachments.
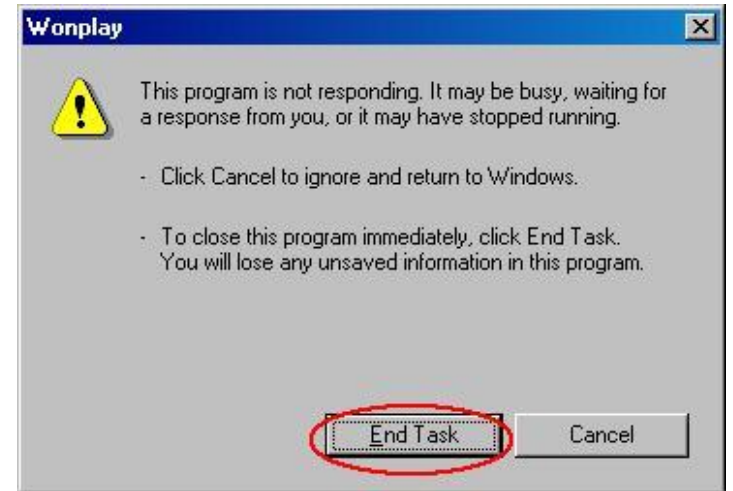
- Common examples is MS Outlook etc

Gaming

- These applications enables user to play video games on a PC.

Problem Solving

- Any problem can occur anytime during the use of computer.

- Problems occur due to operator/user error or due to any problem with hardware or software.

- Due to these problems, screen may be blank, computer may be frozen or any application may not respond.

- Computer will inform about these errors and gives some instructions to solve these problems.

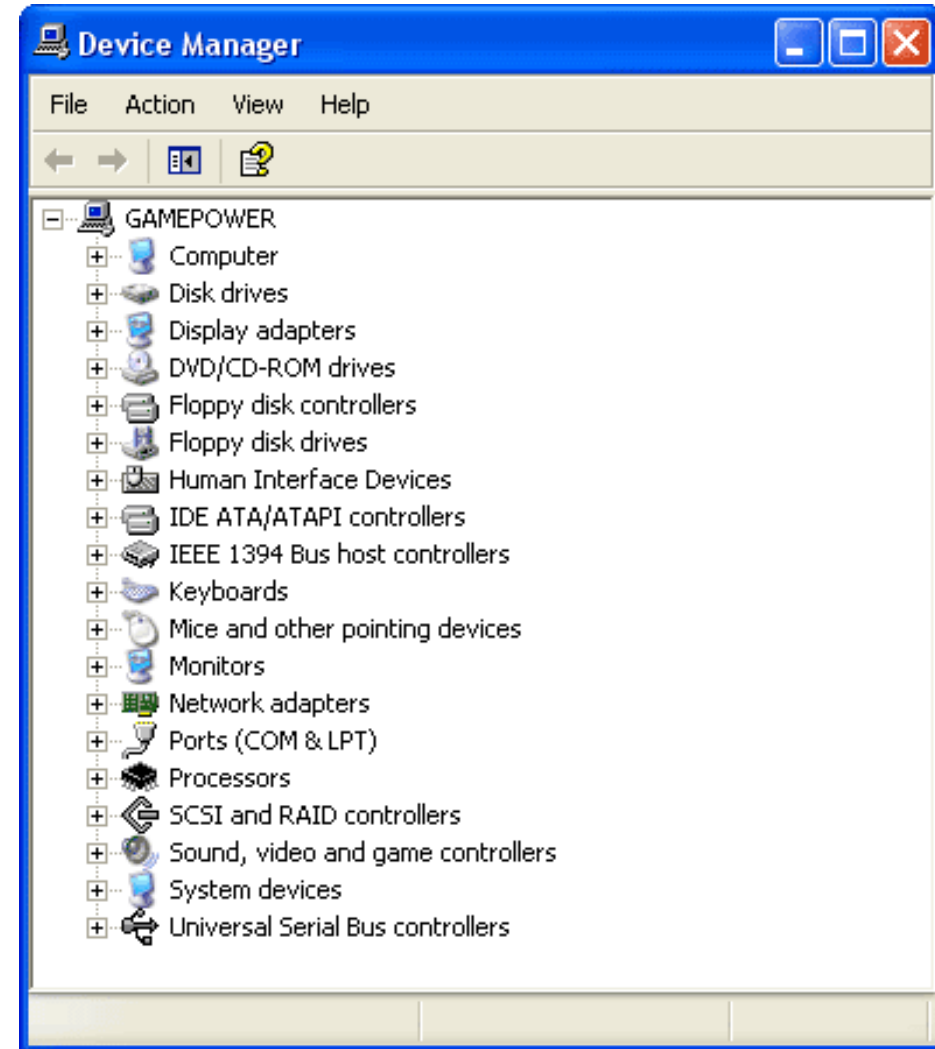- A message like this may appear.

- You can wait to solve the error or you can end the program but in this case all un-saved data will be lost.

- In case of any hardware problem, check all the cables and connections,

- Check the required driver or software to operate the hardware.

- Contact IT support Department to solve the problem.
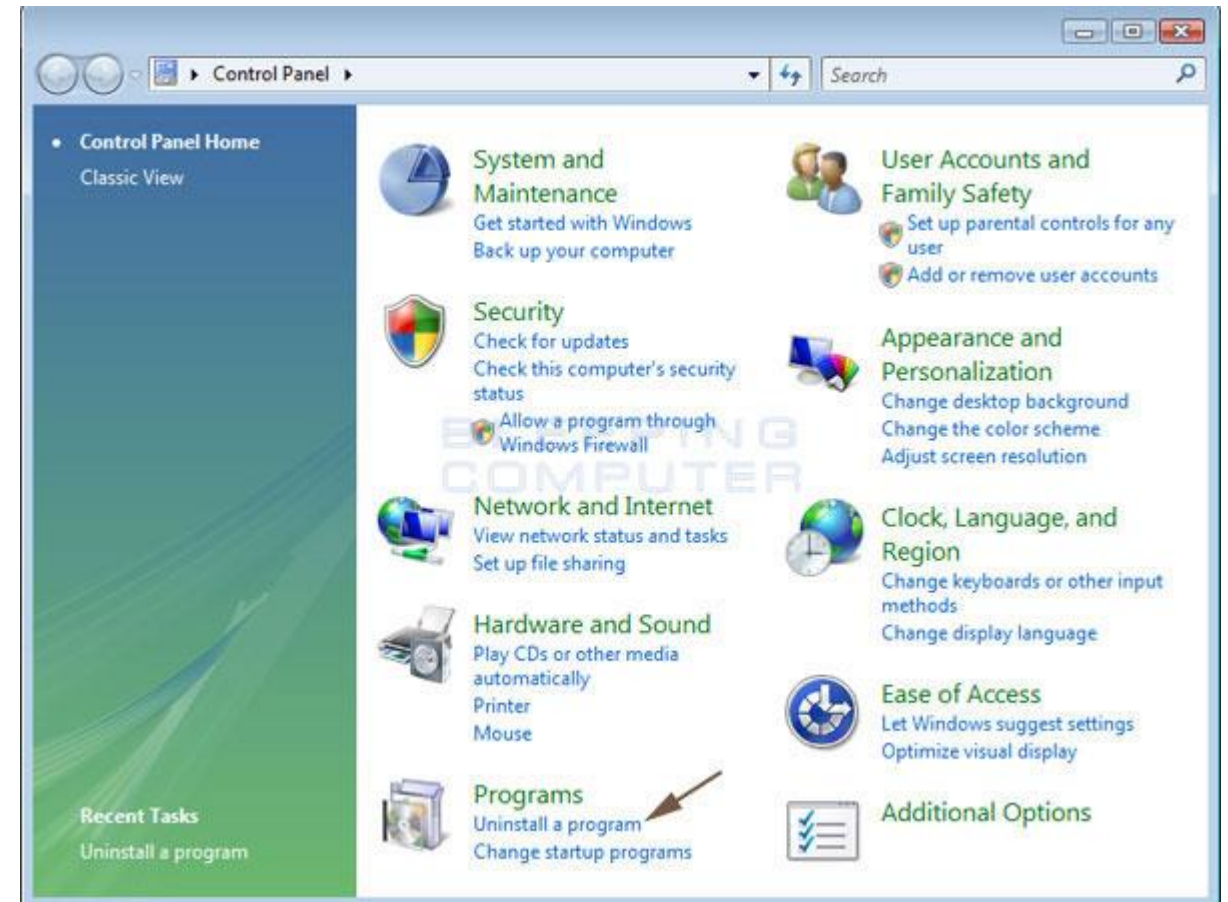
Managing the System

Device Manager

- Device Manager shows all information about the hardware components of the computer.

- In case of any hardware problem, check the Device Manager.

- We can also troubleshoot any hardware problems from Device Manager.

Control Panel

- We can configure computer and manage other hardware parts and devices like printers, modems, network etc are managed from Control Panel.

Task Manager

- Any software that is currently running can be viewed and managed by using Task Manager.

- Task Manager may be displayed by pressing (Ctrl + Alt + Del) keys together.