

# *Module III: Introduction To Software*

## *Operating systems*

An operation system is software that controls the operation of a computer. It directs the input and output of data, keeps track of files, and controls the processing of computer programs. Its roles include managing the functioning of the computer hardware, running the applications programs, serving as an interface between the computer and the user, and allocating computer resources to various functions. When several jobs reside in the computer simultaneously and share resources (multitasking), the OS allocates fixed amounts of CPU time and memory in turn. Through a process called time-sharing, a large computer can handle interaction with hundreds of users simultaneously, giving each the perception of being the sole user. Modern computer operating systems are becoming increasingly machine-independent, capable of running on any hardware platform.

One of the most widely used operating system is developed by Microsoft. Most of today's personal computers run on Microsoft's Windows operating system, which grew out of and eventually replaced MS-DOS.

## *Windows and its versions*

Windows is a family of software products developed by Microsoft corp., mainly for personal computers and workstations, which began as a graphical user interface and developed into an operation system.

### *Version 1.0 (1985)*

Version 1.0 (1985) provided a graphical user interface, multitasking, and virtual memory management; it ran on top of MS-DOS and was supported on Intel-based personal computers. Version 3.1 (1992) sold over 3 million copies in its first two months and helped establish Microsoft's dominance of the operating system market for microcomputers.

## *Windows 95 and Windows 98*

Windows 95 and Windows 98 continued its success. Windows NT (1993), which can run on RISC-based computers as well as traditional Intel-based systems, is a high-end version of Windows intended for more powerful personal computers, workstations, and servers.

## *Windows CE(1996)*

Windows CE(1996) is an embedded operating system for palm PCs and other handheld devices. Microsoft continues to release new versions of its operating system: Windows 2000 for corporate-oriented computers, Windows Me (2000) for consumer-oriented computers, and in 2001 a version for both environments, Windows XP.

Today Windows runs on more than 90% of all personal computers.

## *Windows 7*

Microsoft released a new version of Windows in 2010 based on the needs of its users. Windows 7 is designed to do the following:

**Work the way consumers want** – with special attention to performance, reliability, security, compatibility and battery life.

**Make everyday tasks faster and easier** - Jumplists, Previews and the new Taskbar make it easier to operate PCs.

**Offer a better entertainment experience-** easier streaming of music, video and photos.

**Windows 7 will enable people with touch-**screen monitors to use multiple fingers to interact with their PC screens in a more intuitive way. Windows Media Center, available in some editions of Windows 7, with a TV tuner and improved user interface, makes recording TV free and easy.

## *Linux*

Linux is the non proprietary operation system (OS) for digital computers. In 1991 Linus Torvalds of Finland began asking for volunteer programmers over the internet to collaborate on the development of a UNIX-like OS for personal computers; the “1.0” release of Linux was in 1994. A true multiuser, multitasking system, Linux contained features (e.g., virtual memory, shared libraries, memory management, and TCP/IP networking) formerly only found on mainframe computers. With its source code freely available, thousands of volunteers, as well as several companies that sell pre-packaged Linux products, have contributed to the OS. A reliable, fast-performing system with good security features, Linux is popular for corporate computer network and Web servers.

## Free Software

Software that can be easily run and distributed on a computer without much time-consuming installation process is known as Free software. Free software can also be copied, changed and improved upon.

Free software is also

The freedom to run the program, for any purpose (freedom 0).

The freedom to study how the program works, and change it to make it do what you wish (freedom 1). Access to the source code is a precondition for this.

The freedom to redistribute copies so you can help your neighbour (freedom 2).

The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes.

## Software licences

Software licensing is a contract of agreement between the software publisher and the end user, sometimes referred to as the *End User License Agreement*, or EULA. Software licences form part of the installation process. The user can choose to abort the installation process if he/she does not agree to the licensing terms.

Duplication for purposes other than backup, installation on more than one computer, editing the code, or changing the program in any way is usually forbidden. Many licenses state that the publisher will not be held liable for any unforeseen circumstances that might arise as a consequence of using the software. This could refer to anything from a computer crash, loss of data, time or income.

Major software companies include Microsoft, Adobe, NIIT, Wipro, Infosys, HCL etc

A *free software licence* is a software licence which grants recipients rights to modify and redistribute the software, which would otherwise be prohibited by copyright law. A group launched in 1998, Open Source Initiative (OSI) maintains a list of approved licences. The free software licenses were written by Richard Stallman in the mid-1980s.

## Software Tools (applications)

There are many free software programs that promise security and stability. Prominent among them are *DVD Tools* used as a CD burning software, *Open Office* used as an Office software suite, *Bitdefender* is used as an anti-virus software.

## Word, PowerPoint, Excel

These are three application based software developed by Microsoft. *Word* is used for word-processing. Using the latest version of *Word 2007* or *Word 2010*, a user can **bold**, *italicize*, underline characters. A letter or document can have different character styles and images can be inserted anywhere in the document.

In modern times, most employers, students and teachers demonstrate their skills and abilities by presenting their knowledge of a given subject. This is usually done to an audience or classroom. *Microsoft PowerPoint* is software that makes a presentation clear and easy to understand.

A *spreadsheet* is similar to an accounting worksheet. It has a number of cells that make a grid consisting of rows and columns. These cells can be used to calculate data. *MS Excel* software can easily recalculate an entire spreadsheet after a small change has been made in one of the cells. It can also insert charts, pictures and do complex scientific calculations.

## Windows software tools

A collection of the above software is *MS Office*. It includes software to help you publish a project or textbook yourself (*MS Publisher*). An email client software (*MS Outlook*) helps to compose emails. *MS OneNote* helps to organize your work.

Developing software with so many features can be quite expensive. Advertising and marketing the product adds to the expense. Finally, a little bit of profit is added. All these factors make the software expensive. *MS Office Home and Student 2007* edition costs approximately Rs.4,000/-.

## Linux software tools

The prohibitive cost of buying software for every application prompted software developers to collaborate of a software project that would enable different developers to include their expertise. *Open Office* is a wonderful

example of that cooperation. *Open Office* software contains a suite for word processing, spread sheets, presentations, graphics and databases. It is available in many languages and works on all common computers. It stores all your data in an international open standard format and can also read and write files from other common office software packages. It can be downloaded and used completely free of charge for any purpose.

## *Security issues*

Security issues for computers have become very important because we rely so much on technology these days. One major security issue is how valuable data can be protected and preserved, in their both theoretical and practical aspects. Computer Security is a definite branch of study which was introduced in the 1970's. Computer Security is a branch of Computer Science Risk Management. It is also regarded as a form of Security Engineering as because it adequately addresses security issues of Computer. Computer Security's purpose is to secure a particular computer system from any kind of cyber crime. Computer Security, therefore, aims at securing data, keeping them intact and also providing uninterrupted services.

## *Importance of Computer Security Issues*

We cannot deny the fact that we always feel threatened by the fact that any computer genius may use unknown techniques to know and may come to know important details about your financial status and might tamper with it. This is also true in the case of big organization. This is where computer security steps in. It aims to preserve the “integrity, availability and confidentiality” of vital information stored in computers.

## *Viruses*

A program or programming code that duplicates itself and infects the computer is termed a *Virus*. They can be transmitted as attachments to an e-mail note or in a downloaded file, or be present on a diskette or CD. The immediate source of the e-mail note, downloaded file, or disk you've received is usually unaware that it contains a virus.

Some viruses begin their destructive effect as soon as their code is executed; other viruses lie dormant until circumstances cause their code to be executed by the computer. Some viruses are harmless but they can be playful.

Viruses have strange and sometimes even fanciful names in order to catch the attention of the user. *Armageddon*, *Burger*, *Happy Birthday*, *Ludwig* are examples of certain viruses.

A virus that duplicates itself and sends itself as an e-mail attachment or as part of a network message is known as a *Worm*.

## *Antivirus tools*

Viruses and Worms can be removed using Antivirus Software. As soon as an infection is detected, it must be eliminated. Otherwise it will cause great harm to your data. Your data might get corrupted or even eliminated.

*Antivirus tools* can be purchase from the market. They are also provided free of cost by certain companies. Most of them provide the user with an antivirus scanner for 30 days. Afterwards, the customer has to pay. Other companies provide antivirus tools to eliminate a certain number of viruses. In order to remove malicious viruses, the customer will have to pay.