

F-1.5
ICT SKILL DEVELOPMENT

UNIT I: Introduction to Computers

- a) An Introduction to Computer, Need, Importance, Nature and Advantages
- b) Importance of Computer Education in Indian Schools (Elementary, Secondary and Higher Level)
- c) Information & Communication Technology: Concept, Need and Scope

UNIT II: Elements of Computer

- a) Computer hardware fundamentals (anatomy, input devices, output devices, storage devices, display devices), types of computers and Computer Network
- b) Software – Meaning and types; System software and Application software
- c) Off-line Learning (Meaning, Importance), On-line Learning-(Synchronous and Asynchronous)

UNIT III: Operating System

- a) Operating system: types and importance (Dos & Windows)
- b) Introduction to office applications (Word processing, Spreadsheet, Presentations, Databases, Drawing tools, Multimedia tools, File formats and conversion, utility tools)
- c) Virus: Meaning, Types and Causes

UNIT IV: Internet and Networking

- a) Internet: its need and Importance
- b) Networking: its types and importance of Networking
- c) Social Sites: Blog its need, Importance and Advantages

UNIT I: Introduction to Computers

INTRODUCTION

A computer is a programmable machine designed to perform arithmetic and logical operations automatically and sequentially on the input given by the user and gives the desired output after processing. Computer components are divided into two major categories namely hardware and software. Hardware is the machine itself and its connected devices such as monitor, keyboard, mouse etc. Software are the set of programs that make use of hardware for performing various functions.

CHARACTERISTICS OF COMPUTERS

The characteristics of computers that have made them so powerful and universally useful are speed, accuracy, diligence, versatility and storage capacity. Let us discuss them briefly

Speed -Computers work at an incredible speed. A powerful computer is capable of performing about 3-4 million simple instructions per second.

Accuracy- In addition to being fast, computers are also accurate. Errors that may occur can almost always be attributed to human error (inaccurate data, poorly designed system or faulty instructions/programs written by the programmer)

Diligence- Unlike human beings, computers are highly consistent. They do not suffer from human traits of boredom and tiredness resulting in lack of concentration. Computers, therefore, are better than human beings in performing voluminous and repetitive jobs.

Versatility- Computers are versatile machines and are capable of performing any task as long as it can be broken down into a series of logical steps. The presence of computers can be seen in almost every sphere – Railway/Air reservation, Banks, Hotels, Weather forecasting and many more.

Storage Capacity- Today's computers can store large volumes of data. A piece of information once recorded (or stored) in the computer, can never be forgotten and can be retrieved almost instantaneously

Importance

Modernizing Education

Education has benefited from the inclusion of technology and computers by making it easier for students to keep up while helping teachers by improving the way lessons can be planned and taught. Students who use computers learn to use word processors for work, and subsequently they learn computer jargon and strengthen grammatical skills. Students can also look up lessons on websites or through email rather than lugging heavy textbooks with them every day.

Improving Student Performance

Students who use computers have been shown to attend school more steadily and perform better than students who do not use computers. Along with getting higher grades on exams, students also stated they felt more involved with their lessons and work if they used a computer. Using computers gets students to become more focused on their work at home, in collaborative projects with other students and on their own.

Learning Job Skills

Computers play a vital role in the modern business world, and many of even the most basic jobs involve technology and computers. Teaching students how to use computers helps them prepare for any number of possible careers, and classes based on computer education can get even more specific. Many classes teach students to use office suite programs, create presentations and data sheets, and learn any number of programming languages such as C++ or Java.

Efficiency

Computers make the learning process a lot more simple and efficient, giving students access to tools and methods of communication unavailable offline. For example, students can check their grades or lesson plans online, and also communicate directly with their teachers via email or educational platforms such as Blackboard. Students can also send work to their teachers from home or

anywhere else, letting them finish work outside the constraints of school hours and teaching them about procrastination and personal responsibility.

Research

Technology has made research far easier than in the past. Decades ago, students learned history by going to the library and thumbing through history books and encyclopedias. Today, many of those same books are available in digital format and can be accessed online. As the Internet has grown, so too has the available research options. Students can research topics in minutes rather than the hours it used to take

Computers in Education

Computer technology has had a deep impact on the education sector. Thanks to computers, imparting education has become easier and much more interesting than before. Owing to memory capacities of computers, large chunks of data can be stored in them. They enable quick processing of data with very less or no chances of errors in processing. Networked computers aid quick communication and enable web access. Storing documents on computers in the form of soft copies instead of hard ones, helps save paper. The advantages of computers in education primarily include:

1. Storage of information
2. Quick data processing
3. Audio-visual aids in teaching
4. Better presentation of information
5. Access to the Internet
6. Quick communication between students, teachers and parents

Computer teaching plays a key role in the modern education system. Students find it easier to refer to the Internet than searching for information in fat books. The process of learning has gone beyond learning from prescribed textbooks. Internet is a much larger and easier-to-access storehouse of information. When it comes to storing retrieved information, it is easier done on computers than maintaining hand-written notes.

1.Computers are a brilliant aid in teaching.

Online education has revolutionized the education industry. Computer technology has made the dream of distance learning, a reality. Education is no longer limited to classrooms. It has reached far and wide, thanks to computers. Physically distant locations have come closer due to Internet accessibility. So, even if students and teachers are not in the same premises, they can very well communicate with one another. There are many online educational courses, whereby students are not required to attend classes or be physically present for lectures. They can learn from the comfort of their homes and adjust timings as per their convenience.

2.Computers have given impetus to distance education.

Computers facilitate effective presentation of information. Presentation software like PowerPoint and animation software like Flash among others can be of great help to teachers while delivering lectures. Computers facilitate audio-visual representation of information, thus making the process of learning interactive and interesting. Computer-aided teaching adds a fun element to education. Teachers hardly use chalk and board today. They bring presentations on a flash drive, plug it into a computer in the classroom, and the teaching begins. There's color, there's sound, there's movement - the same old information comes forth in a different way and learning becomes fun. The otherwise not-so-interesting lessons become interesting due to audio-visual effects. Due to the visual aid, difficult subjects can be explained in better ways. Things become easier to follow, thanks to the use of computers in education.

3. Computer software help better presentation of information.

Internet can play an important role in education. As it is an enormous information base, it can be harnessed for retrieval of information on a variety of subjects. The Internet can be used to refer to information on different subjects. Both teachers and students benefit from the Internet. Teachers can refer to it for additional information and references on the topics to be taught. Students can refer to web sources for additional information on subjects of their interest. The Internet helps teachers set test papers, frame questions for home assignments and decide project topics. And not just academics, teachers can use web sources for ideas on sports competitions, extracurricular activities, picnics, parties and more.

4. Computers enable access to the Internet which has information on literally everything.

Computers enable storage of data in the electronic format, thereby saving paper. Memory capacities of computer storage devices are in gigabytes. This enables them to store huge chunks of data. Moreover, these devices are compact. They occupy very less space, yet store large amounts of data. Both teachers and students benefit from the use of computer technology. Presentations, notes and test papers can be stored and transferred easily over computer storage devices. Similarly, students can submit homework and assignments as soft copies. The process becomes paperless, thus saving paper. Plus, the electronic format makes data storage more durable. Electronically erasable memory devices can be used repeatedly. They offer robust storage of data and reliable data retrieval.

5. Computer, hard drives and storage devices are an excellent way to store data.

This was about the role of computers in education. But we know, it's not just the education sector which computers have impacted. They are of great use in every

field. Today, a life without computers is unimaginable. This underlines the importance of computer education. Knowledge of computers can propel one's career in the right direction. Computers are a part of almost every industry today. They are no longer limited any specific field. They are used in networking, for information access and data storage and also in the processing and presentation of information. Computers should be introduced early in educat

Summary:

- A computer can be described as an electronic calculating device that accepts raw data as input, processes it and produces meaningful information i.e. output as result.
- A computer system is made up of both hardware and software components.
- Hardware consists of the physical components of a computer system like input devices, output devices, processing device (CPU) and the storage device.
- Software represents the set of programs and instructions that govern the operation of a computer system.
- A computer is fast, accurate, versatile, reliable, diligent, and has high speed.
- The need for counting and simple computations has led to the development of several computing devices like Abacus, Napier's Bones, Slide Rule, Blaise Pascal's Adding Machine, Stepped Reckoner, Punch Card System, Hollerith's Machine etc.
- The evolution of computers can be divided into five generations. Each generation represents technological evolutions over the period of time.
- A computer has four functional units Input unit, output unit, central processing unit (CPU) and secondary storage unit.
- Input unit is used to provide data, information and instructions to the computer so that it can perform processing on data/information according to the instructions given by the user.
- Examples of input devices are include keyboard, mouse, joystick, scanner etc.
- Output devices are used to display the result of the processing done by CPU on the input provided by the user.

- Examples of output devices are monitor, printer, plotter, speaker etc.
- Printer is an output device that is used to get the hard copy of the output in the form of printed papers.
- Printers are of two types - impact printers and non-impact printers.
- Impact use electromechanical mechanism which makes mark on the paper by physically striking a head or a needle against an ink ribbon.
- Dot matrix printers, Daisy wheel printers and Drum printers are examples of impact printers.
- Non-impact printers do not make a striking or hitting action on a ribbon to print. They use thermal, electrostatic chemical, laser beam and ink jet technologies for printing on paper.
- Inkjet and laser printers are examples of non-impact printers.
- They are used to create high resolution graphs, images charts, blueprints, maps, circuit diagram and other line based diagrams.
- There are two kinds of plotter- Drum plotter and Flat-bed plotter.
- CPU is referred to as the brain and heart of the computer system which is responsible for all the processing done on the data entered by using input device.
- CPU consists of three units Control Unit (CU), Arithmetic & Logical Unit (ALU) and Main/Primary storage unit.
- Control Unit is responsible for interpreting the instructions provided by the user and directing the sequence of operations accordingly.
- ALU performs arithmetic and logical operations on the data. It performs four basic mathematical operations i.e., addition, subtraction, multiplication and division, three comparative or logical operations i.e., 'greater than', 'less than', 'equals to' to compare numbers, letters or special characters between data items.
- Main memory holds instructions and data currently being processed by the CPU, the intermediate results produced during the course of calculations and recently processed data.
- Main memory is of two kinds Random Access Memory (RAM) & Read Only Memory (ROM).
- Random Access Memory is a volatile memory and temporarily holds software, programs and instructions before and after processing.

- Read Only Memory is non-volatile memory whose contents are not lost even after the loss of electric power. It contains startup instructions.
- Secondary memory is also known as external memory or auxiliary memory, and is required to supplement the limited capacity and volatile characteristics of primary memory.
- A Computer has few limitations like they don't have IQ, they don't have emotions, they lack decision making power etc.
- Computers play a vital role in every sphere of our life like education, home, entertainment, communication, research, banking, medicine and health and so on.
- On the basis of purpose computers can be divided into two categories - General Purpose Computers and Special Purpose Computers.
- On the basis of technology used by them, computers can be divided into three categories i.e. Analog, Digital and Hybrid computer.
- On the basis of size and capacity, computers are of four kinds – super computers, mainframe computer, minicomputer and microcompute

Information & Communication Technology

"Globalization and technological changes have created a new global economy powered by technology, fueled by information and driven by knowledge." The emergence of this new global economy has serious implications for the nature and purpose of educational institutions. As the access to information continues to grow rapidly, schools cannot be contented with the limited knowledge to be transmitted in a fixed period of time. They have to become compatible to the ever expanding knowledge and also be equipped with the technology to deal with this knowledge.

Information and communication technologies (ICTs) — which include radio and television, as well as newer digital technologies such as computers and the Internet — have been proven as potentially powerful tools for educational change and reform. When used appropriately, different ICTs can help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping make teaching and learning into an active process connected to real life.

DEFINITIONS

"ICT stand for information and communication technologies and is defined, as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information." "ICT implies the technology which consists of electronic devices and associated human interactive materials that enable the user to employ them for a wide range of teaching - learning processes in addition to personal use." These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony. "ICT is that technology which uses the information to meet human need or purposes including processing and exchanging." "Information and communications technology (ICT) in education is the processing of information and its communications facilities and features that variously support teaching, learning and a range of activities in education." All these definitions combine Communication technology and Information technology that have thin line between them but cannot do away without each other. When these technologies are applied n the field of education, it is termed as ICT in education. The term too can be used as the connotation to the term Educational; technology because it also uses any hardware and software approaches that can enhance yield better learning outcomes. In the era of Computer technology the term ICT mainly focuses on the infrastructure, devices and sources of computer technology and thus it is imperative to discuss about the use of ICT in education by focusing mainly on Computer based technology.

CHARACTERISTICS OF ICT IN EDUCATION

ICT in education is any hardware and software technology that contribute in the educational information processing. In the context of present era, ICT mainly comprises of Computer technology with its hardware, like, Personal computer machine, infrastructure required for setting up Internet facility and also software like, CD ROM including various programed packages, E-learning strategies etc. ICT in education is any Information Technology that focuses on the acquisition, storage, manipulation, management, transmission or reception of data required for the educational purpose. For

example, the information about students' records, their admissions, updates of their auricular and co-curricular activities. ICT in education is any technology that deals with the exchange of information or in other words communication in the teaching learning process. Uses of Electronic learning technology like, Teleconferencing, power point presentations, CD ROM are Communication Technology which is the part of ICT. ICT in education is any educational technology that is applied in the educational process. It encompasses Hardware approach like use of machines and materials, Software approach like use of methodologies and strategies of teaching learning and Systems approach that uses the management technology that deals with the systematic organization of the hardware and the software. Different software packages for the use in different department of education; e.g. library software, administration software, software related to managing the entire teaching learning process. ICT in education is the support material in the hands of the human resource involved in the educational process in order to enhance the quality of education. ICT in education comprises of the application of science of On-line, Offline learning with the help of the computer technology.

USES IN EDUCATION

ICT is being utilized in every part of life. Due to the increasing importance of the computer, students-the future citizens cannot afford to keep themselves aloof from this potential medium. In education, use of ICT has become imperative to improve the efficiency and effectiveness at all levels and in both formal and non-formal settings. Education even at school stage has to provide computer instruction. Profound technical knowledge and positive attitude towards this technology are the essential prerequisites for the successful citizens of the coming decades.

IT CAN BE USED FOR THE FOLLOWING PURPOSES :

- To broadcast material, online facility or CD-ROM can be used as sources of information in different subjects;
- To facilitate communication for pupils with special needs;
- To use electronic toys to develop spatial awareness and psycho-motor control;
- To use the Online resource like, email, Chat, discussion forum to support collaborative writing and sharing of information.
- To facilitate video-conferencing or other form of Tele conferencing to involve wide range of students from distant Geographic areas.

- For Blended learning by combining conventional classroom learning with E-learning learning systems
- To process administrative and assessment data.
- To exchange and share ideas -among teachers for the professional growth.
- To carry out internet-based research to enhance , educational process

ADVANTAGES OF THE USE OF ICT IN EDUCATION:

ICT encompasses all those gadgets that deal with the processing of information for better and effective communication. In education, communication process takes place between teachers, students, management and administrative personnel which requires plenty of data to be stored for retrieval as and when required, to be disseminated or transmitted in the desired format. The hardware and software like OHP, Television, Radio, Computers and related software are used in the educational process. However ICT today is mostly focused on the use of Computer technology for processing the data. In this context, advantages of ICT in education can be listed down as follows :

QUICK ACCESS TO INFORMATION : Information can be accessed in seconds by connecting to the internet and surfing through Web pages.

EASY AVAILABILITY OF UPDATED DATA: Sitting at home or at any comfortable place the desired information can be accessed easily. This helps the students to learn the updated content. Teachers too can keep themselves abreast of the latest teaching learning strategies and related technologies. **CONNECTING GEOGRAPHICALLY DISPERSED REGIONS:** With the advancement of ICT, education does not remain restricted within four walls of the educational institutions. Students from different parts of the world can learn together by using online, offline resources. This would result in the enriching learning experience. Such collaborative learning can result in developing...

- divergent thinking ability in students,
- Global perspectives
- respect for varied nature of human life and acculturation.
- Facilitation of learning 40

ICT has contributed in shifting the focus on learning than teaching. ICT helps students to explore knowledge to learn the content through self study. Teacher can help the students by ensuring the right direction towards effective learning.

Situational learning, Programmed learning, many Online learning courses are some of the example of self learning strategies that are being utilized with the help of ICT.

CATERING TO THE INDIVIDUAL DIFFERENCES:ICT can contribute in catering to individual needs of the students as per their capabilities and interest. Crowded class rooms have always been a challenge for the teacher to consider the needs of every student in the class.

WIDER RANGE OF COMMUNICATION MEDIA: With the advent of ICT, different means of communication are being introduced in the teaching learning process. Offline learning, on line learning, blended learning are some of the resources that can be used in educational institutions. Collaborative learning, individualized learning strategies can enhance the quality of group as well as individual learning. with the real society. This can ensure the applicability of knowledge.

WIDER LEARNING OPPORTUNITIES FOR PUPILS Application of latest ICT in education has provided many options to the learners to opt for the course of their choices. Many Online courses are available for them to select any as per their aptitude and interest. Students can evaluate their own progress through different quizzes, ready to use Online tests. This can ensure fulfillment of the employment required in the job market thus minimizing the problem of unemployment. It can also provide more efficient and effective citizens to the society as per the changing needs.

SCOPE OF ICT IN TEACHING-LEARNING PROCESS, RESEARCH AND ADMINISTRATION.

We are living in a constantly evolving digital world. ICT has an impact on nearly every aspect of our lives - from working to socializing, learning to playing. The digital age has transformed the way young people communicate, network, seek help, access information and learn. We must recognize that young people are now an online population and access is through a variety of means such as computers, TV and mobile phones.

As technology becomes more and more embedded in our culture, we must provide our learners with relevant and contemporary experiences that allow them to successfully engage with technology and prepare them for life after school.

It is widely recognized that learners are motivated and purposefully engaged in the learning process when concepts and skills are underpinned with technology and sound pedagogy. Education Scotland provides advice on resources for practitioners, parents and pupils to engage with these technologies in order to inform and enhance the learning experience.

These resources include, but are not limited to:

- Glow - the world's first national schools intranet which provides access to a range of tools and resources for pupils and practitioners
- examples of innovative uses of technology in practice, including game based learning through computer games and the use of mobile technologies
- support and advice on internet safety and responsible use for all
- video material on iTunes
- communication via social media tools such as Twitter and Facebook.

ICT use at School

Schools seem to be very unevenly equipped with ICT: in some schools computers are concentrated in ICT Labs or School Libraries, in others computers seem to be scattered around the school area

“ There are computers in the ICT Lab, in the classrooms (one computer in each classroom) and in the School Library”

“We have computers and the internet in the School Library, but if we bring our computers to the school we have wireless access”

2. INTEGRATING ICT IN TEACHER EDUCATION.

Information and Communication Technologies (ICT) that are becoming increasingly pervasive in societies around the world are also reaching schools. With numerous global advancements in ICT it is essential that educators have a thorough working knowledge of these media and their influence on the performance and engagement of their students. There is no firm agreement on the definition of ICT, as these technologies evolve almost daily. Here we assume that ICT includes, but is not limited to, personal computers, laptops, printers, LCD projectors, palm devices, iPods, fax machines, cell phones, Internet, and Intranet. Also we employ what the National (US) Higher Education ICT Initiative (2003) describes as the ICT proficiency in the higher education context:

the ability to use digital technology, communication tools, and/or networks appropriately to solve information problems in order to function in an information society. This includes the ability to use technology as a tool to research, organize, evaluate, and communicate information and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

This definition encompasses three areas of ICT literacy, namely cognitive, technical, and social. It recognizes that in the technologically connected world, one does not live in isolation and therefore needs ‘soft’ as well as ‘hard’ skills to confidently, reliably, and responsibly use ICT.

This course comprises a mixture of theory and practice as it covers most influential theories related to implementation of ICT in education as well as the actual applications of ICT in schools. In the theoretical part of the course, students read and reflect on five articles on topics such as, research on ICT use in education; ICT literacy; and social issues in ICT implementation. In the practical part of the course, students acquire both hardware and software knowledge and skills.

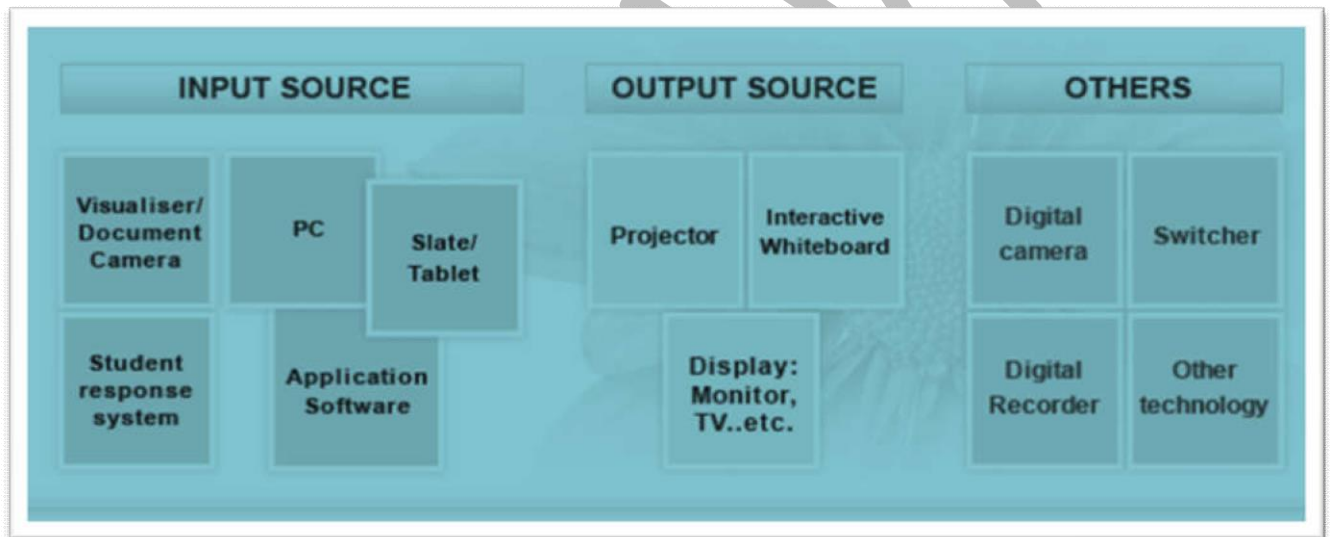
Course Delivery Methods

This course utilizes a blend of online and in-class delivery methods. Activities in the course include:

1. Face-to-face discussions on readings, designed to develop students' critical thinking and facilitating skills,
2. Online discussions, used mainly for formative evaluation and sharing students' reflections during their practice teaching in schools,
3. Tech workshops, for sharing ICT knowledge and skills the students already have or have just gained, and
4. Final group projects, done in a digital format and relevant to ICT in education.

TOOLS OF ICT.

Educational ICT tools can be divided into 3 categories: Input source, Output source and Others



"ICT" is the Information and Communication Technologies. "ICT in Education" means "Teaching and Learning with ICT".

1. images can easily be used in teaching and improving the retentive memory of students
2. teachers can easily explain complex instructions and ensure students' comprehension.

3. teachers are able to create interactive classes and make the lessons more enjoyable, which could improve student attendance and concentration.

MAIN DISADVANTAGES OF ICT TOOLS FOR EDUCATION

1. Setting up the devices can be very troublesome.
2. Too expensive to afford
3. Hard for teachers to use with a lack of experience using ICT tools.

UNIT II: ELEMENTS OF COMPUTER

Hardware

Computer hardware is the collection of physical elements that constitutes a computer system. Computer hardware refers to the physical parts or components of a computer such as the monitor, mouse, keyboard, computer data storage, hard drive disk (HDD), system unit (graphic cards, sound cards, memory, motherboard and chips), etc. all of which are physical objects that can be touched.

Input Devices Input device is any peripheral (piece of computer hardware equipment to provide data and control signals to an information processing system such as a computer or other information appliance. Input device Translate data from form that humans understand to one that the computer can work with. Most common are keyboard and mouse

Example of Input Devices:-

1. Keyboard
2. Mouse (pointing device)
3. Microphone
4. Touch screen
5. Scanner
6. Webcam
7. Touchpads

8. MIDI keyboard

9. 10.Graphics Tablets

11.Cameras

12.Pen Input

13. Video Capture Hardware

14.Microphone

15.Trackballs 16.Barcode reader 17.Digital camera 18.Joystick 19.Gamepad
20.Electronic Whiteboard 21.

Central Processing Unit (CPU)

A CPU is brain of a computer. It is responsible for all functions and processes. Regarding computing power, the CPU is the most important element of a computer system. The CPU is comprised of three main parts :

* **Arithmetic Logic Unit (ALU):** Executes all arithmetic and logical operations. Arithmetic calculations like as addition, subtraction, multiplication and division. Logical operation like compare numbers, letters, or special characters

* **Control Unit (CU):** controls and co-ordinates computer components. 1. Read the code for the next instruction to be executed. 2. Increment the program counter so it points to the next instruction. 3. Read whatever data the instruction requires from cells in memory. 4. Provide the necessary data to an ALU or register. 5. If the instruction requires an ALU or specialized hardware to complete, instruct the hardware to perform the requested operation.

* **Registers :**Stores the data that is to be executed next, "very fast storage area".
Primary Memory:- 1. RAM: Random Access Memory (RAM) is a memory scheme within the computer system responsible for storing data on a temporary basis, so that it can be promptly accessed by the processor as and when needed. It is volatile in nature, which means that data will be erased once supply to the storage device is turned off. RAM stores data randomly and the processor accesses these data randomly from the RAM storage. RAM is considered "random access" because

you can access any memory cell directly if you know the row and column that intersect at that cell. 2. ROM (Read Only Memory): ROM is a permanent form of storage. ROM stays active regardless of whether power supply to it is turned on or off. ROM devices do not allow data stored on them to be modified.

Secondary Memory:- Stores data and programs permanently :its retained after the power is turned off 1. Hard drive (HD): A hard disk is part of a unit, often called a "disk drive," "hard drive," or "hard disk drive," that store and provides relatively quick access to large amounts of data on an electromagnetically charged surface or set of surfaces.

2. Optical Disk: an optical disc drive (ODD) is a disk drive that uses laser light as part of the process of reading or writing data to or from optical discs. Some drives can only read from discs, but recent drives are commonly both readers and recorders, also called burners or writers. Compact discs, DVDs, and Blu-ray discs are common types of optical media which can be read and recorded by such drives. Optical drive is the generic name; drives are usually described as "CD" "DVD", or "Bluray", followed by "drive", "writer", etc. There are three main types of optical media: CD, DVD, and Blu-ray disc. CDs can store up to 700 megabytes (MB) of data and DVDs can store up to 8.4 GB of data. Blu-ray discs, which are the newest type of optical media, can store up to 50 GB of data. This storage capacity is a clear advantage over the floppy disk storage media (a magnetic media), which only has a capacity of 1.44 MB.

3. Flash Disk A storage module made of flash memory chips. A Flash disks have no mechanical platters or access arms, but the term "disk" is used because the data are accessed as if they were on a hard drive. The disk storage structure is emulated.

Output devices

An output device is any piece of computer hardware equipment used to communicate the results of data processing carried out by an information processing system (such as a computer) which converts the electronically generated information into humanreadable form.

Example on Output Devices:

1. Monitor

2. LCD Projection Panels
3. Printers (all types)
4. Computer Output Microfilm (COM)
5. Plotters
6. Speaker(s)
7. Projector

CLASSIFICATION OF COMPUTERS:

Most commonly the computers are classified into following categories:

(1) CLASSIFICATION OF SIZE : In this classification ,computer is classified according to size ;

(a) Minicomputer: Microcomputer is a low cost,small,digital computer.It contains a microprocessor as its CPU,memory unit ,an input device and an output device.Microcomputers have a wide range of applications .A few examples are general purpose calculations home appliances ,commercial equipment control,fuel injection control of a car ,office automation etc.Personal computers are microcomputers for general purpose computations .

Advantages:

- 1 They are small and portable.
- 2 They are relatively inexpensive.
- 3 They work as soon as they are switched.
- 4They have excellent graphics capabilities.
- 5They do not occupy much space.
- 6They do not consume much power.

DISADVANTAGES:

- 1 They are relatively slow.
- 2Limited storage capacity.

(b) Minicomputer: Minicomputer work faster has more powerful CPU than microcomputers use Motorola 68030 or 68040 CPU. Some minicomputers have uniprocessor system whereas some have multiprocessor system. Examples of minicomputers are: IBM AS/ 400/B60, VAX 8842, VAX stands for (Virtual address Extension) Vaxcoputers are manufactured by Digital data corporation.

Advantages:

- 1 It can support all high level language .
- 2 It has a transfer rate of about for million bytes per seconds.
- 3 Its price range is well within the buying power of a business firm.

Disadvantages:

- 1 They are slower ,with smaller memories.

(c) Mainframe computer: The mainframe computers are very large general purpose computers. They are faster and more powerful than minicomputers. Mainframe computers are used in research ,large business ,banks and airline reservations where large database is required.

Advantages:

- 1 The storage capacity of about 10 MEGA words.
- 2 They are able to accept any high level language.
- 3 A mainframe can support anything between 100 to 500 terminals.

Disadvantages:

- 1 Maintenance cost is very very high.
- 2 They require large room space.
- 3 Consumptions of electricity is very high.

(d) Super computer: Supercomputers are much faster and more powerful than mainframe computers. Their processing speed lies in the range of 400MIPS to 10000 MIPS (Mega instruction per seconds). Supercomputers contain a number of

CPUs which operate to make it faster. Supercomputers used for weather forecasting, weapons research and development.

Advantages:

1 They are used for the weather forecasting, supersonic aircraft design, calculation and such work that requires billions of calculations.

2 They have a word length of sixty four bits.

(2) CLASSIFICATION BY PRINCIPAL: Based on their working electronic computers can be classified into the three categories:

(a) Analog computer: An analog computer is simpler in construction and capable of solving complex time-dependent problems. The physical quantities such as pressure, temperature etc. is represented in the form of volts and processed by operational amplifiers, i.e. all the operations are done on a continuously varying quantity and not discrete level. It has limited memory since it receives and gives the information not in the form of varying quantities it lacks perfection and flexibility.

(b) Digital computers: A digital computer like an adding machine counts than measures. It deals with discrete signals and words with high precision and at tremendous speed. It has very large memory that can store huge quantities of data. Thus a digital computer can be used for both data processing and scientific applications. Therefore all modern computers are of digital type.

(c) Hybrid computer: A hybrid computer is a combination of both analog and digital computers. All the good qualities of the analog and the digital are possessed by the hybrid computer. A hybrid computer contains some special devices by the use of which the analog values or data could be converted into the digital and vice versa so that the desired outputs can be accomplished. Computers used for process controls of space vehicles, space ships etc.

Laptop and Smartphone Computers

LAPTOP: A laptop is a battery or AC-powered personal computer that can be easily carried and used in a variety of locations. Many laptops are designed to have all of the functionality of a desktop computer, which means they can generally run

the same software and open the same types of files. However, some laptops, such as netbooks, sacrifice some functionality in order to be even more portable.

Netbook: A netbook is a type of laptop that is designed to be even more portable. Netbooks are often cheaper than laptops or desktops. They are generally less powerful than other types of computers, but they provide enough power for email and internet access, which is where the name "netbook" comes from.

Mobile Device: A mobile device is basically any handheld computer. It is designed to be extremely portable, often fitting in the palm of your hand or in your pocket. Some mobile devices are more powerful, and they allow you to do many of the same things you can do with a desktop or laptop computer. These include tablet computers, e-readers, and smartphones.

Tablet Computers: Like laptops, tablet computers are designed to be portable. However, they provide a very different computing experience. The most obvious difference is that tablet computers don't have keyboards or touchpads. Instead, the entire screen is touch-sensitive, allowing you to type on a virtual keyboard and use your finger as a mouse pointer. Tablet computers are mostly designed for consuming media, and they are optimized for tasks like web browsing, watching videos, reading e-books, and playing games. For many people, a "regular" computer like a desktop or laptop is still needed in order to use some programs. However, the convenience of a tablet computer means that it may be ideal as a second computer.

Smartphones: A smartphone is a powerful mobile phone that is designed to run a variety of applications in addition to phone service. They are basically small tablet computers, and they can be used for web browsing, watching videos, reading e-books, playing games and more.

SOFTWARE

Software is a generic term for organized collections of computer data and instructions, often broken into two major categories: system software that provides the basic nontask-specific functions of the computer, and application software which is used by users to accomplish specific tasks.

Software Types

A. System software is responsible for controlling, integrating, and managing the individual hardware components of a computer system so that other software and the users of the system see it as a functional unit without having to be concerned with the low-level details such as transferring data from memory to disk, or rendering text onto a display. Generally, system software consists of an operating system and some fundamental utilities such as disk formatters, file managers, display managers, text editors, user authentication (login) and management tools, and networking and device control software.

B. Application software is used to accomplish specific tasks other than just running the computer system. Application software may consist of a single program, such as an image viewer; a small collection of programs (often called a software package) that work closely together to accomplish a task, such as a spreadsheet or text processing system; a larger collection (often called a software suite) of related but independent programs and packages that have a common user interface or shared data format, such as Microsoft Office, which consists of closely integrated word processor, spreadsheet, database, etc.; or a software system, such as a database management system, which is a collection of fundamental programs that may provide some service to a variety of other independent applications.

Comparison Application Software and System Software

System Software Application Software Computer software, or just software is a general term primarily used for digitally stored data such as computer programs and other kinds of information read and written by computers. App comes under computer software though it has a wide scope now. Application software, also known as an application or an "app", is computer software designed to help the user to perform specific tasks.

Example: 1) Microsoft Windows 2) Linux 3) Unix 4) Mac OSX 5) DOS 1) Opera (Web Browser) 2) Microsoft Word (Word Processing) 3) Microsoft Excel (Spreadsheet software) 4) MySQL (Database Software) 5) Microsoft PowerPoint (Presentation Software) 6) Adobe Photoshop (Graphics Software) Interaction: Generally, users do not interact with system software as it works in the background. Users always interact with application software while doing different

activities. Dependency: System software can run independently of the application software. Application software cannot run without the presence of the system software.

Off-line Learning (Meaning, Importance),

On-line Learning-(Synchronous and Asynchronous)

UNIT III: Operating System

A) INTRODUCTION TO OPERATING SYSTEM

The operating system (OS) is a collection of programs that control all hardware and other resources in the computer system. A computer system is useless without it. It is an operating system that operates and controls the CPU memory various I/O devices such as keyboard, mouse, video display unit, and printers etc. It is responsible for the smooth and efficient operation of the computer when you want to run a program like a word processor or a spreadsheet program the PC has to do following jobs:

- (i) Locate the program file required to run the program on the floppy or the harddisk drive.
- (ii) Find out the vacant space in the memory where the program file may be loaded.
- (iii) Load the program file in the memory
- (iv) While the program is running, keep the resources required by the program reserved on permanent or a time sharing basis
- (v) Manage and control user's interaction with the

Input / output devices

All these tasks are known by the operating system. nowadays, operating systems are very complex besides controlling and managing the computer's resources, the operating system also does the following jobs.

- (i) File management : the operating system creates and manages the directory system on the secondary storage devices . it also has command to copy , rename , move and delete files and directories on the secondary storage devices .
- (ii) It contains a text editor that can be used to create simple text file , the text editor can be used to create program files or simple letters.
- (iii) It maintains an internal real –time clock known as the system clock , this clock is used to display the current date and time. This clock is also used to mark the date and time of creation or modification of files , this is also called time stamping of files ,
- (iv) It acts as an interface between the user and the computer , it accepts commands and instructions from the user and executes them , if it is unable to execute any command or the computer develops an error while executing any command , the operating system displays suitable error messages.

B. FEATURES OF GUI (MS-WINDOWS) AND CLI (MS-DOS)

DOS (DISK OPERATING SYSTEM)

Dos is an operating system that controls the functioning of the hardware parts of the computer. When instructions are keyed it tells the computer as to what to do . it is an interpreter that joins both the hardware and the software . the instructions are given with the help of keyboard and are converted into such signals which only computer can understand.

Microsoft DOS (disk operating system) is a command line user interface. MS-DOS was released in 1981 for IBM computer and the latest version of MS-DOS is 6.22 released in 1994. While typing command or CMD in window still can access it from window.

Main commands in DOS

A command is an instruction given to the computer in accordance with the operating system to perform a specific task . the main command in DOS are:

Directory commands of DOS

With this command all the files which exist on a floppy disk/hard disk can be displayed.

LOADING DISK OPERATING SYSTEM (DOS)

Different versions of DOS , such as 2.0 , 3.0, 4.0, 5.0 , 6.0, 6.2, and 7.0 are available . the higher versions have more feature and commands however the basic commands and feature are drive or hard disk drive . loading the operating system on a computer is also called booting up the computer . complete the following steps to load DOS in your PC. There are two types of commands (i) Internal commands (ii) external commands

Internal commands

Internal commands are automatically loaded in the memory when operating system Dos is loaded into the memory. They are loaded during booting process. Dos internal commands are permanent part of resident portion of memory . these commands can be used with needs of any Dos file. Internal commands are always available for the user and these commands are not seen when user views the directory by using DIR commands on screen. No external command is required to run these commands . the internal commands are easy to run and operate . some commonly used internal commands are:

External commands :

These commands are not permanent part of memory . to execute or run these commands an external file is required . the external file for execution of external file required. The external are EXE, COM, BAT, the external commands are used for relatively complex jobs such as copying an entire diskette to another diskette , to sort the disk , to hide /unhide the file and to optimize the memory space etc.

Edit 2) Find 3) Move

VIRUS: MEANING, TYPES AND CAUSES

Computer Viruses*

Viruses: A virus is a small piece of software that piggybacks on real programs. For example, a virus might attach itself to a program such as a spreadsheet program. Each time the spreadsheet program runs, the virus runs, too, and it has the chance to reproduce (by attaching to other programs) or wreak havoc.

- E-mail viruses: An e-mail virus travels as an attachment to e-mail messages, and usually replicates itself by automatically mailing itself to dozens of people in the victim's e-mail address book. Some e-mail viruses don't even require a double-click -- they launch when you view the infected message in the preview pane of your e-mail software [source: Johnson].

- Trojan horses: A Trojan horse is simply a computer program. The program claims to do one thing (it may claim to be a game) but instead does damage when you run it (it may erase your hard disk). Trojan horses have no way to replicate automatically.

- Worms: A worm is a small piece of software that uses computer networks and security holes to replicate itself. A copy of the worm scans the network for another machine that has a specific security hole. It copies itself to the new machine using the security hole, and then starts replicating from there, as well.

What are some tips to avoid viruses and lessen their impact?

- * Install anti-virus software from a reputable vendor. Update it and use it regularly.

In addition to scanning for viruses on a regular basis, install an "on access" scanner (included in most anti-virus software packages) and configure it to start each time you start up your computer. This will protect your system by checking for viruses each time you run an executable file.

Use a virus scan before you open any new programs or files that may contain executable code. This includes packaged software that you buy from the store as well as any program you might download from the Internet.

If you are a member of an online community or chat room, be very careful about accepting files or clicking links that you find or that people send you within the community.

Make sure you back up your data (documents, bookmark files, important email messages, etc.) on disc so that in the event of a virus infection, you do not lose valuable work.

INTRODUCTION TO OFFICE APPLICATIONS

An 'Office Suite' – also known as 'Office Software Suite' or 'Productivity Suite' – is nothing but a collection of programs that improve the productivity (hence the name) of the user. Office productivity software really is just the sum of its parts. If you've ever used a word processing program, spreadsheet application software or a presentation making software, you already have experience working with productivity software. And this is true for most of us – because in this day and age, working without these applications is almost impossible. They might not seem to be the most exciting software on the market, but they're absolutely indispensable – be it for organisations, corporations or individuals. Be it for work, school or any other venture, the applications in your office software suites are extremely crucial since you're likely to use them day in and day out. To give you a gist, even this article is being typed out on word processing software. Among a few possible uses of office software is its ability to draft a letter, make a presentation, write a report or create a budget. Considering that the software is employed not only by offices, but also by schools, families and individuals – the name, Office Suite is somewhat a misnomer, and hence the term 'Productivity Suite' might be more apt to describe such a software package.

So which software would you find in a typical office suite? Though the features could differ in each suite, (almost) every credible productivity suite includes some basic applications. Other applications, though not a staple of every suite, are still important inclusions in many available office suites.

Basic applications include:

- Word processing software
- Spreadsheet building software
- Presentation creating software

Other applications include:

- Database manager
- Email client
- Publishing platform
- Project management software
- Collaboration software

We'll cover the important features and details of some of these applications in the next chapter. As a primer, let us explain just the basics of what each application does.

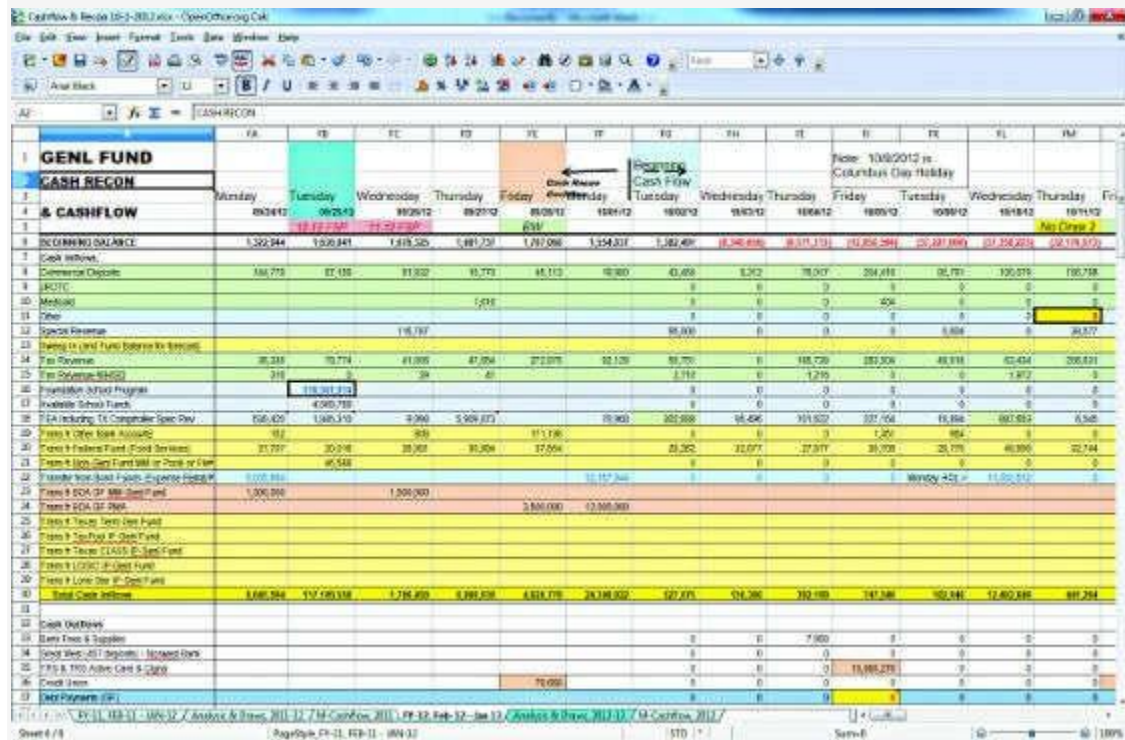
Word processing software

'Word processing' is the act of typing, editing and printing textual/graphical information using a word processor. In the olden days, this was done mechanically using a typewriter. Typewriters are now slowly becoming extinct, and almost everyone does word processing electronically through their computers. The biggest advantage of this shift is the quick and easy creation of error-free documents thanks to the rewrite option, conspicuous by its absence in mechanical word processors. Sometimes abbreviated as WP, a word processor is capable of creating, storing and printing documents that can be saved for modification later and accessed from any other computer using the same word processor. A word processor shouldn't be confused with a text editor. The latter only allows editing and creation of plain text documents. Word processors usually come with features such as password protection for files, track changes and grammar checking abilities.

Spreadsheet software

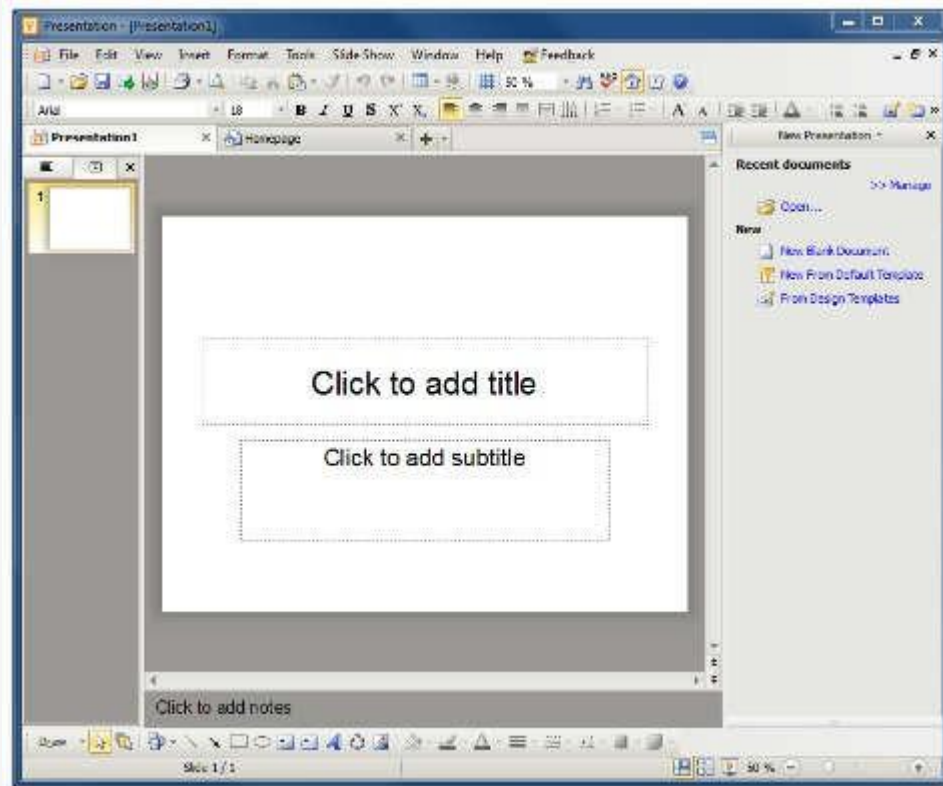
A 'spreadsheet', technically, is a table of values arranged in rows and columns with each value having a possibility of having a predefined relationship with other values. Spreadsheet applications (usually referred to

simply as spreadsheets) are computer programs that simulate physical spreadsheets by capturing, displaying, and manipulating data arranged in rows and columns. In a spreadsheet application, each value resides in a cell, which is at the intersection of the corresponding column and row.



Apache OpenOffice spreadsheet

The spreadsheet is one of the most popular uses of the personal computer. In fact, it has been deemed to be the original killer app for personal computers – early spreadsheet programs were largely responsible for the growth in popularity and usage of computers as business tools. Thanks to their ability to perform mathematical operations, spreadsheets are often used to store financial data. Spreadsheets are also used to include graphing or charting data for identifying trends, or to sort and filter data to find specific information.



LibreOffice impress - a presentation application

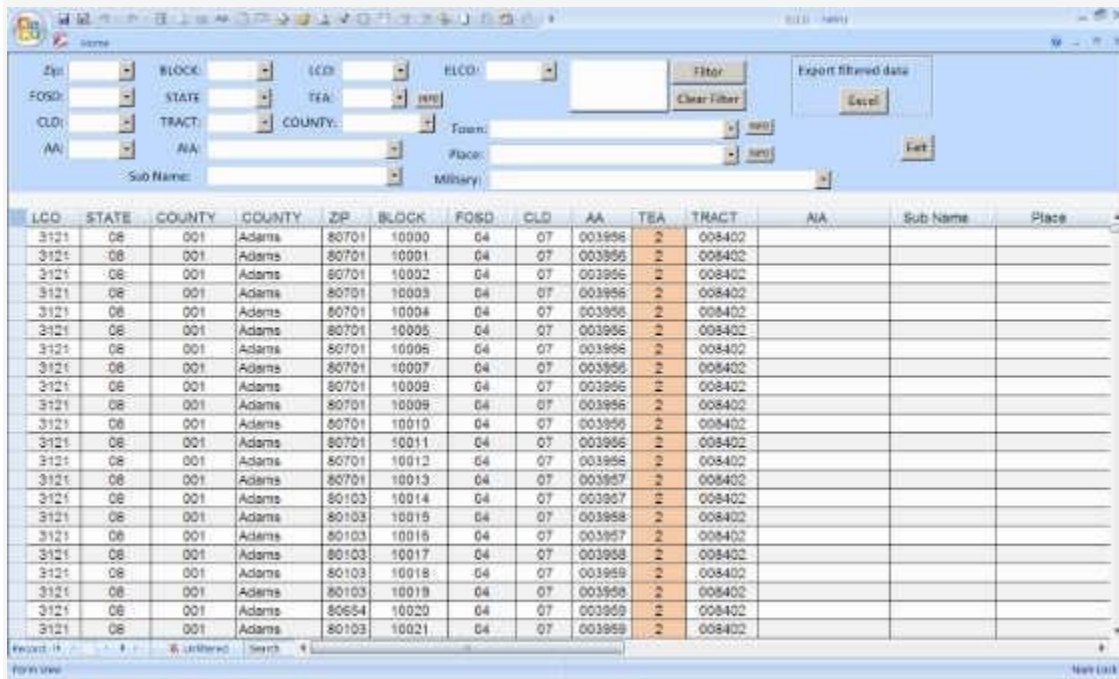
Presentation software

Presentation software allows you to create (No prizes for guessing!) presentations. They help to create sequences of words and pictures that act as visual aid, help tell a story, support a speech etc. during a public presentation. Before presentation software reigned supreme, presenters would take the aid of large flip charts or blackboards to present information to their audiences. This limited the amount of information that could be displayed, and wasn't as visually appealing, or were extremely tedious to make. With presentation software however, even a layman can create a presentation with charts, graphic images, animations and multimedia files to help get the speaker's point across. The speaker also has the freedom to move around the place, since he isn't forced to stay in front of the slideshow to change it physically. An absolutely integral part of every business, presentations is also used by students and teachers to aid them during their projects/seminars. The software's ease of use is its biggest

advantage – one of the main reasons why most blackboards are being replaced by projector screens these days.

Database management systems

Databases are a powerful and convenient way to organise information. Using tables, they offer an organised mechanism for storing, managing and retrieving information. Spreadsheet users will already be accustomed to storing data in tabular form, and will find it easy to make the switch to databases.



LCO	STATE	COUNTY	COUNTY	ZIP	BLOCK	FOSD	CLD	AA	TEA	TRACT	AIA	Sub Name	Place
3121	08	001	Adams	80701	10000	04	07	003998	2	008402			
3121	08	001	Adams	80701	10001	04	07	003996	2	008402			
3121	08	001	Adams	80701	10002	04	07	003995	2	008402			
3121	08	001	Adams	80701	10003	04	07	003996	2	008402			
3121	08	001	Adams	80701	10004	04	07	003996	2	008402			
3121	08	001	Adams	80701	10005	04	07	003996	2	008402			
3121	08	001	Adams	80701	10006	04	07	003996	2	008402			
3121	08	001	Adams	80701	10007	04	07	003996	2	008402			
3121	08	001	Adams	80701	10009	04	07	003995	2	008402			
3121	08	001	Adams	80701	10009	04	07	003996	2	008402			
3121	08	001	Adams	80701	10010	04	07	003996	2	008402			
3121	08	001	Adams	80701	10011	04	07	003996	2	008402			
3121	08	001	Adams	80701	10012	04	07	003996	2	008402			
3121	08	001	Adams	80701	10013	04	07	003997	2	008402			
3121	08	001	Adams	80103	10014	04	07	003997	2	008402			
3121	08	001	Adams	80103	10015	04	07	003998	2	008402			
3121	08	001	Adams	80103	10016	04	07	003997	2	008402			
3121	08	001	Adams	80103	10017	04	07	003998	2	008402			
3121	08	001	Adams	80103	10018	04	07	003999	2	008402			
3121	08	001	Adams	80103	10019	04	07	003998	2	008402			
3121	08	001	Adams	80664	10020	04	07	003999	2	008402			
3121	08	001	Adams	80103	10021	04	07	003999	2	008402			

MS Access - Microsoft Office's Database software

Similar to spreadsheet tables, database tables consist of rows and columns, with each column containing a different attribute and each row corresponding to a single record. However, though they might seem to be mighty similar, databases are much more powerful than spreadsheets. Spreadsheets might be more streamlined than databases, but they generally don't offer the ability to structure and label data items as fully as a database;

neither do they allow you to query a database. Databases allow you to update records in bulk, cross-reference records in different tables and

retrieve all records that match certain criteria – all extremely tough or impossible functions in a spreadsheet.

Email client

An email client is a computer application capable of accessing and managing your emails. The application runs on your desktop and enables you to send, receive and organise your email. It's called a client because this email system is based on client-server architecture. The clients send the mail to a central server, which re-routes the mail to its intended destination. Typically, email clients require an email address to be set up and configured before users can start using their email services through the client. The client is activated when a user runs it.

From then onwards, whenever you want to create and send mail, the email client will automatically handle the task by linking to your email account. Email clients often include scheduling calendars and/ or a task-monitoring system.

Word processor

Word processing applications are the cornerstone of all office suites and knowing your way around them is a must for everyone using a computer. From drafting letters to writing full length novels, a good word processor can help you make the most of your computer to do any writing related work. And even though today's software marketplace is littered with a variety of options from the subscription-based MS Office 365's Word to cloud-based Google Docs, they're all built with the same basic set of tools.

Spreadsheets

Office suites come bundled with some very powerful software that is rarely ever used by most people. Spreadsheets are perceived as simple table making tools, occasionally handy when designing charts and graphs. But the power of most spreadsheet applications is rarely understood as they

make dealing with large quantities of data easy. Spreadsheets organise numerical data in the form of rows and columns to create useful models that can be converted into easy-to-understand graphics as well as calculate results for complex data sets. The design and layout of the many spreadsheet applications such as Microsoft Excel, Google Doc Spreadsheets and iWorks Numbers may differ but their core functionality remains the same.

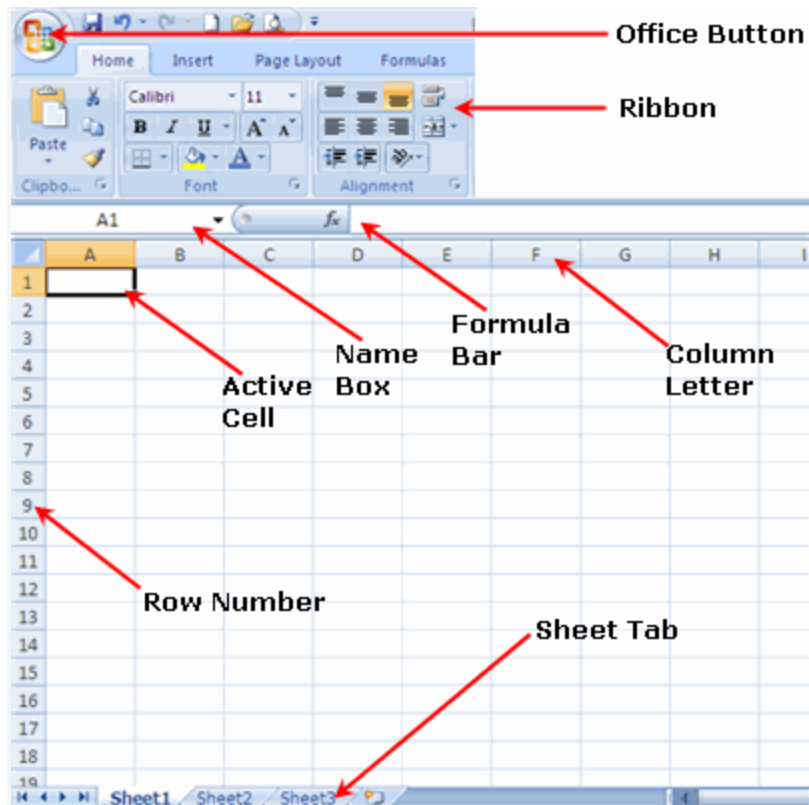
Look and feel

Just like word processing applications, the Title Bar at the very top of the screen displays the name of the spreadsheet document known as a 'workbook'. By default, the name of the workbook is usually "Book1" or "Untitled Spreadsheet". Below the title bar is located a unique set of tools and components which are organised for effective usage. This Control Bar runs horizontally across the screen.

Exploring the tabs

The Control Bar that organises the necessary tools for working with spreadsheets is usually in the form of tabs or a dropdown menu. The default set regardless of style will be explained in detail in the subsequent sections. For now, let's take a look at the other tabs which broaden the strength of the application within the 'Insert' Tab.

SAD



The terminology of a spreadsheet

For spreadsheets, the primary content is numerical data which may or may not have labels describing the association of the numbers. The Insert tab allows you to quickly add various graphical elements to illustrate the function of the numerical data sets. The Table option quickly organises the data from the spreadsheet into a neatly formatted table.

The next section within the Insert Tab is filled with Illustration options such as Pictures, Clip Art and Shapes that can enhance the understand ability of the data sets being used. The most useful form of illustrations in spreadsheet applications are Charts. Spreadsheet applications convert the data inserted in the worksheets and display it in an organised way in visual illustrations to show the relationship between the different data variables.

The most commonly used charts are usually accessible from this Control Bar or can be found in the Menu options. It can include Columns, Line charts, Pie charts and Bar charts among many other options. These tools

help you to not only convert numerical data into chart displays but also format your data sets to use the most suitable chart for your purpose. The Insert tab also has web content assistance, which makes including hyperlinks easier and tidier. The final section in this tab has text-based tools, which allow you to change the appearance and format of text within your spreadsheets.

Another essential tab or menu option included holds a set of tools that are the real power centre of the application - mathematical functions. Since spreadsheets are created to work with numerical data, this section of the menu provides easy and direct access to mathematical tools or functions, with which you can manipulate your data to arrive at solutions. The Functions menu includes all the essential mathematical tools such as 'Auto Sum' - which can automatically total any set of cells from the spreadsheet - along with other functions such as Average, Compound Interest, Logical functions, Trigonometric functions, Statistical functions and Engineering-related functions. The use of all these various mathematical tools is contingent on the user, making spreadsheet software an indispensable tool for many people, from using it to do your homework to simply calculating the average balance on your bank statement.



A typical ribbon consists of such buttons **Controls** and **tools**. The default set that appears in the main menu is the most frequently required sets of tools in a spreadsheet application.

- **Clipboard/Menu:** This button is the shortcut to the Cut-Copy-Paste options from your clipboard. It may also include basic formatting options with which you can change the appearance of your workbook and worksheet.
- **Text formatting:** Since spreadsheets display numerical data associated with variables in the form of text, there exist basic tools for altering text. The Font options allow you to change the font type/size/colour/format (bold, italics and underline) and text highlight colour.
- **Alignment:** The next sub-component is concerned with how the text is oriented on the spreadsheet. Text orientation, Indent, Wrap Text, Merge and options for the vertical and horizontal alignment of the text within the spreadsheet cells are all grouped together. The Merge options are especially useful as they allow you to combine adjacent cells to create a better defined organisation of your data.
- **Numbers formatting:** Numbers included in any spreadsheet can require a wide variety of formats depending on their origin; for example, currency is presented in a manner different from weights and measurements. The Numbers menu in the Control bar allows you to set the formatting of numbers in the spreadsheet to their appropriate style as well as easily set the maximum decimal point value across the data set. These options may or may not be part of the default view but will definitely be accessible through the menu options.
- **Styles:** The manner in which the data appears in the spreadsheets will determine how easy it is to access, organise and manipulate. So more than just serving up "style", the Styles options prove to be of great functionality. Different spreadsheet applications offer varying degrees of flexibility to alter the worksheet style, but basic features such as setting up a group of cells as a table or colour coding them is almost always included.
- **Editing/Proofing:** The last essential set of tools in the Control bar is to do with the detailing and accuracy of the worksheet. The Editing menu includes text-based features, but the options mostly to do with how you modify the data set. Here, you have Sort option and Filter option with

which you can rearrange the same data set to focus on different aspects of the information.

The Worksheet

The main component of a spreadsheet application is the worksheet that takes up most of the screen's real estate. The seemingly infinite scrollable cells arranged in rows and columns are horizontally preceded by a thin bar called the Function field. It is in this space that all the operational and mathematical functions of any given cell are displayed. This display lets you look at the actual content of the cell while the spreadsheet only shows its representative content. To put it simply, a cell may show a specific number but that number is the result of a function that has been prescribed for that cell by the user. While the cell will display the number outcome of any user prescribed function from sums to interest calculations, the Function field constantly displays what function was prescribed for any selected cell. The rest of the worksheet is just a display of cells, which are used to insert and organise data along rows and column. Below this workspace is another set of tabs that allow you to move between different worksheets within the same spreadsheet workbook and a scrollbar that lets you scroll horizontally across each worksheet. And at the very bottom lies the Status Bar of the worksheet which ends with Display options such as Page View styles and Zoom View sliders.

SAL

Expense report1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

COMPANY NAME

COMPANY NAME

EXPENSE REPORT

EMPLOYEE: Kim Abercrombie AUTHORIZED BY: _____

DEPARTMENT: Sales

WEEK ENDING: 3/7/2013 DATE: _____

MILEAGE RATE: \$0.67

	FRIDAY	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	TOTAL
TRANSPORTATION	3/1/2013	3/2/2013	3/3/2013	3/4/2013	3/5/2013	3/6/2013	3/7/2013	
Miles Drive	145							145
Miles Reimbursement	\$97.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$97.15
Parking And Tolls				\$17.00				\$17.00
Auto Rental	\$79.00			\$79.00				\$158.00
Toll/Tune								\$0.00
Other (Rail or Bus)								\$0.00
Airfare				\$235.00				\$235.00
TOTAL	\$176.15	\$0.00	\$0.00	\$321.00	\$0.00	\$0.00	\$0.00	\$507.35
LODGING & MEALS								
Lodging	\$145.00							\$145.00
Breakfast	\$11.49							\$11.49
	\$12.00							\$12.00

Expense Report

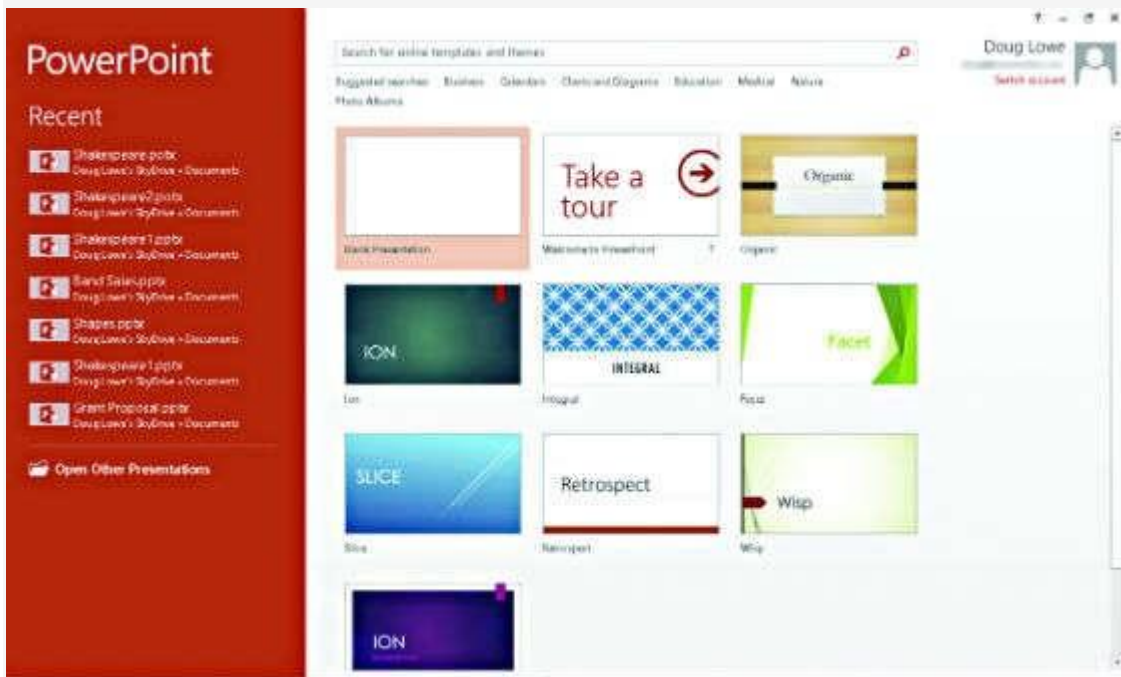
Spreadsheets can do some intense calculations

The spreadsheet is essentially an automated Math book, where data can be inserted and then automatically processed using a large number of operations. The knowledge needed to translate analogue data to the formats necessary for the spreadsheet application to process it, however, is learnt separately and tutorials on how to do this aren't necessarily provided with any spreadsheet application.

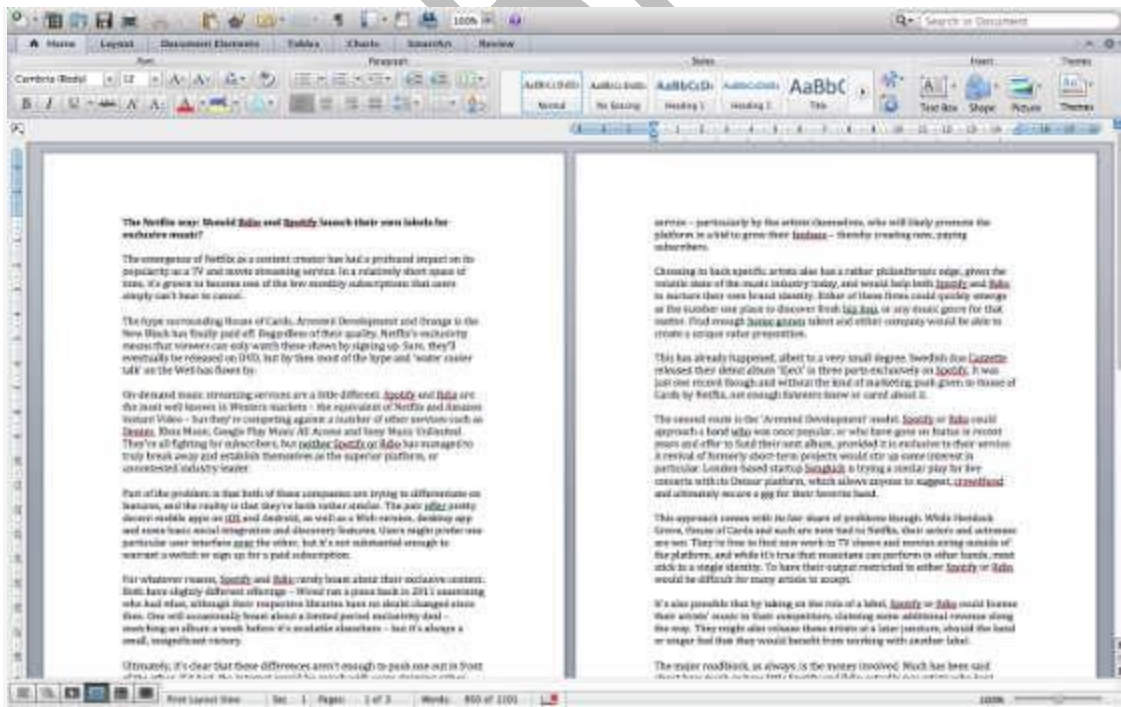
Presentation maker

The presentation maker application of any office suite is designed to dynamically enhance the visual style and appearance of your data. The closest generational technology that was used prior to presentation making application were analogue overhead projectors on which transparent plastic sheets containing printed or written information would be laid. The ability to display information to an audience using easy and efficient software

helps the user better focus his energy on deciding the best way to make a powerful impact.



PowerPoint offers a lot of templates for presentation



This is what a generic word processor looks like

UNIT IV: INTERNET AND NETWORKING

INTERNET :INTRODUCTION,ADVANTAGES AND DISADVANTAGES.

INTRODUCTION: Internet is the abbreviation for inter work. It is a set computer network made up of large number of smaller network, which uses different protocols .It is a gift of information technology given to the present world. Every is very much anxious to know about it and its uses.

Internet is the worlds larger computer network consisting of over three millon computers that support over thirty million users and in almost more than two hundred countries .It is a network of networks.It is a learning tool for a group of people with different educational background.By internet anyone can gain and enjoy instant access to the worlds most advanced research facilities and can hold video-conferences throughout the world.

MEANING OF INTERNET: Internet is a term used to describe thousands of computer spanning over 65 countries linked together.Some state that this single entity,but this is not true.

Internet began in 1969 as an experimental four computer network called ARPANET(Advance Research project Administration network).Which was designed by the DOD (Department of defense) of united state so that research Scientists could communicate each other.

But 1989 when the network created for military use was replaced by NSFNET (National Science Foundation Network).nificant growth of internet has started since 1990.

MERITS OF INTERNET:

***FLEXIBILITY:** Flexibilty in the mean ,there is no binding of space and time.Anyone can learn or down load the nay type of information ,any time,in any corner of the world location does not matter.

*INDIVIDUALITY: On line education acts on the principle of individuality. Some students/teachers are fast learners while some are slow .On line education is beneficial to all.Students can learn according to their own speed.All can learn according to their abilities and requirements.

*COST EFFECTIVE: Different websites are available and they provide the facility of free downloading.It is cheaper than purchasing the books and save huge printing,papers,labour and other goods indirectly. Information can be transmitted at free of cost by following some measures we can access the information fast and save money.

*SHARING RESOURCES:Universities and college have limited resources.Sometime books are not available in libraries.Adequateequipments are not available in labs.This entire thing can be shared with other universities.

*GLOBAL EXPERIENCE: Student can easily link with the whole world. They can make contact with the experts of all over the world .It is a live collaboration.Students get the information and find global expert at their service.

DEMERITS OF INTERNET:

*First download all the related information in hand disk,floopies and CDs with the help of CD with the help of CD writers .This helps you in saving time and money both.Whenever there are technical problems in searching or you will get free time you can access the information and organize it in your way.

*There are different websites.They have different type of information .Some of them have contents while others have graphics.See all the websites and collect information as well as graphics.Without graphics information looks incomplete and difficult to understand also refers books for diagrams.

*The performance review you can cheek the performance yourself.It will tell you that up to what extent you have done your job efficiently .You can take the opinion of your friends experts or by reading it again and again.

*Try to use internet ½ to 1 hours daily not more to avoid physiological and locomotors problems and also social problem.

WHAT IS A NETWORK?

A network consists of two or more computers that are linked in order to share resources (such as printers and CDs), exchange files, or allow electronic communications. The computers on a network may be linked through cables, telephone lines, radio waves, satellites, or infrared light beams.

Two very common types of networks include:

- Local Area Network (LAN)
- Wide Area Network (WAN)

You may also see references to a Metropolitan Area Networks (MAN), a Wireless LAN (WLAN), or a Wireless WAN (WWAN).

Local Area Network

A Local Area Network (LAN) is a network that is confined to a relatively small area. It is generally limited to a geographic area such as a writing lab, school, or building.

Computers connected to a network are broadly categorized as servers or workstations. Servers are generally not used by humans directly, but rather run continuously to provide "services" to the other computers (and their human users) on the network. Services provided can include printing and faxing, software hosting, file storage and sharing, messaging, data storage and retrieval, complete access control (security) for the network's resources, and many others.

Workstations are called such because they typically do have a human user which interacts with the network through them. Workstations were traditionally considered a desktop, consisting of a computer, keyboard, display, and mouse, or a laptop, with with integrated keyboard, display, and touchpad. With the advent of

the tablet computer, and the touch screen devices such as iPad and iPhone, our definition of workstation is quickly evolving to include those devices, because of their ability to interact with the network and utilize network services.

Servers tend to be more powerful than workstations, although configurations are guided by needs. For example, a group of servers might be located in a secure area, away from humans, and only accessed through the network. In such cases, it would be common for the servers to operate without a dedicated display or keyboard. However, the size and speed of the server's processor(s), hard drive, and main memory might add dramatically to the cost of the system. On the other hand, a workstation might not need as much storage or working memory, but might require an expensive display to accommodate the needs of its user. Every computer on a network should be appropriately configured for its use.

On a single LAN, computers and servers may be connected by cables or wirelessly. Wireless access to a wired network is made possible by wireless access points (WAPs). These WAP devices provide a bridge between computers and networks. A typical WAP might have the theoretical capacity to connect hundreds or even thousands of wireless users to a network, although practical capacity might be far less.

Nearly always servers will be connected by cables to the network, because the cable connections remain the fastest. Workstations which are stationary (desktops) are also usually connected by a cable to the network, although the cost of wireless adapters has dropped to the point that, when installing workstations in an existing facility with inadequate wiring, it can be easier and less expensive to use wireless for a desktop.

See the [Topology](#), [Cabling](#), and [Hardware](#) sections of this tutorial for more information on the configuration of a LAN.

Wide Area Network

Wide Area Networks (WANs) connect networks in larger geographic areas, such as Florida, the United States, or the world. Dedicated transoceanic cabling or satellite uplinks may be used to connect this type of global network.

Using a WAN, schools in Florida can communicate with places like Tokyo in a matter of seconds, without paying enormous phone bills. Two users a half-world apart with workstations equipped with microphones and a webcams might teleconference in real time. A WAN is complicated. It uses multiplexers, bridges, and routers to connect local and metropolitan networks to global communications networks like the Internet. To users, however, a WAN will not appear to be much different than a LAN.

Advantages of Installing a School Network

User access control.

Modern networks almost always have one or more servers which allows centralized management for users and for network resources to which they have access. User credentials on a privately-owned and operated network may be as simple as a user name and password, but with ever-increasing attention to computing security issues, these servers are critical to ensuring that sensitive information is only available to authorized users.

Information storing and sharing.

Computers allow users to create and manipulate information. Information takes on a life of its own on a network. The network provides both a place to store the information and mechanisms to share that information with other network users.

Connections.

Administrators, instructors, and even students and guests can be connected using the campus network.

Services.

The school can provide services, such as registration, school directories, course schedules, access to research, and email accounts, and many others. (Remember, network services are generally provided by servers).

Internet.

The school can provide network users with access to the internet, via an internet gateway.

Computing resources.

The school can provide access to special purpose computing devices which individual users would not normally own. For example, a school network might have high-speed high quality printers strategically located around a campus for instructor or student use.

Flexible Access.

School networks allow students to access their information from connected devices throughout the school. Students can begin an assignment in their classroom, save part of it on a public access area of the network, then go to the media center after school to finish their work. Students can also work cooperatively through the network.

Workgroup Computing.

Collaborative software allows many users to work on a document or project concurrently. For example, educators located at various schools within a county could simultaneously contribute their ideas about new curriculum standards to the same document, spreadsheets, or website.