Use of ICT Technology in College Libraries

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Abstract: - *The technology revolution has brought many changes to the way librarians and library staff can manage their day and provide information to users. The paper outlines some important developments relating to computer hardware, software and networking.*

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1.   Information Technology Need:

1.1   Increased workload: An increased workload can arise from the need to control or access greater number of documents or record. This may arise because an organization is expanding an engaging in more activity, with a need for more record keeping and information from a wider variety of sources. In library in particular the increase in the number of documents being published has made it more difficult to keep alert to new sources of information commonly this increased workload may have to be borne with a constant or decreasing staff.

1.2   Need For Greater Efficiency : The need for greater efficiency and the need to save the staff time and money and thus to cuts the expenditure on the staff records held in a computer may be more accurate require less checking, may be more accessible and can be used for a wider variety of different activity and their equivalent in the manual system. Computer may lead to more rapid and systematic work flow.

1.3   New Services and Functions: Computerization may be seen as a means of offering additional services and functions since records can easily be

rearrange and selected for different functions, new services can be provided.

1.4 **Networking and Co-operation:** The data stored on computers facilitates its communication to other computers and other computer system users. The data may be transferred to other system either by transmitting it down a tale communication link or mounting a disk or tape holding the data on to another computer either of these options may be allowed the transfer of complete data base or only sections of data base. Computer can play a great role in data processing.

2. Current Trends in Information Technology:

The pace of technological changes without any hesitation can be termed as revolutionary. Generation changes in computing have increased computational power by about a factor of ten every five to seven years, producing a total gain for the entire information technology revolution of over 100,000 over the past three decades. The last decade has seen many advances being made on all fronts of IT, viz., hardware, software and networking.

The Internet became the life blood of information sharing not just for libraries, but for commerce, education, government and the general public. High-speed networking availably created an efficient and fast way to move both text and graphics from one server to another in a matter of nanoseconds. The Internet is the most democratic, yet confusing information tool ever devised. On one hand, storage and access issues are eliminated, yet since anyone can place anything they want on the World Wide Web, users frequently find erroneous or false information and use it as "fact". There are now three billion websites on the Internet and that number continues to grow. While the Internet is a wonderful thing, it is not a substitute for the campus library, or more importantly, the librarian. Librarian's guide and teach students and other users how to find the best sources of information, whether print or online. In fact, most of the world's knowledge before 1970 does not appear on the Web in any organized or holistic fashion.

3.1 Computer Hardware:

Among the most notable trends in computer hardware in the last decade has been towards downsizing, with smaller and more powerful machines like microcomputers and minicomputers in some cases being substituted for the larger ones, like mainframes. Although the mainframes are expected to play a continuing role as application servers, the manner in which these applications are used will be different.

The trend towards downsizing is more noticeable in the area of desktop computing, with microcomputers facing a stem challenge not only from portable machines but 'palmtop' and 'notebook' computers. Portables range from those machines weighting anywhere between 15 to 18 pounds, which offer occasional mobility, to 'laptops' which weight from 8 to 14 pounds and which lend themselves yes to use in a number of

locations like trains to planes to armchairs. Palmtop and notebook computers, which can literally fit into human hands, are growing fast in popularity. The current range of machines incorporates PENTIUM Processors (CPU), high resolution colour displays (Monitors), Communication Cards (for networking), Windows Software and hard disk storage capacity of the order of 1 to 2 Gigabytes.

3.2   Input Devices:

The concentration of newer technology is now to produce special purpose data entry devices, such as industrial data collection devices, Optical Character Reader (OCR) devices, Optical Mark Reader (OMR) devices, point of sales terminals, hand held data entry devices and banking devices and terminals, and interfaces system such as mouse, light pen digitizer and image scanner to make the computers more user friendly.

3.3   OutPut Devices:

3.3.1   **Flat panel displays:** The current alternative especially suited for laptop and palmtop computers is the flat panel display in which a compact monitor lies flat instead of standing straight, as is the case with monitors based on CRT display.

These displays employ either the Liquid Crystal Display (LCD) a Light Emitting Diodes (LED) technology the LCD consists of a liquid crystal substance, sealed in a glass cell. The LED in contrast, is a small semiconductor device which emits light when connected to an electric current. The process creates an image the colour or glow of which depends on the semiconductor, material used. The monitors in this category do not show colour

3.3.2   **Plotters:** Plotters are another output devices which are used to print effective graphic images. These could be pen plotters, drum plotters, paper plotters and inkjet plotters.

3.4   Software:

In the field of personal computers the software developers have always been under pressure to develop software which is flexible, adaptable, and portable.

3.4.1   **Windowing software:** Till a few years back, all operating systems were command based. It meant that whatever one wanted from the operating system one would tell the Operating System (OS) by a command statement. In present day popularity has increased for operating environment where instead of giving command statements the user chooses and selects some graphical icons standing on the screen for some actions. This kind of icon based operating environment is called 'Graphical User Interface'.

3.4.2   **CAD/CAM:** CAD is an acronym for Computer Aided Design and CAM for Computer Aided manufacturing products, building projects etc. need to be designed before their manufacture, construction, etc. Designing involves the use of many

geometric shapes like arcs, circles, straight lines and others in various sizes.

CAD is a kind of software which helps engineers to translate their concepts and requirements into digital form and then manipulate the same to test various design options.

CAM describes programs that schedule and control automated factory equipment like machine tools, industrial robots etc and make available up-to-date performance information to the concerned managers.

3.4.3 **Computer Assisted Software Engineering (CASE) :** The urgent need for improved software development and maintenance in less time and at reduced cost, has fuelled the demand for development of CASE tools, CASE tools deal with the process of software development starting from the production of plans and specifications to the delivery of a completed executable system.

3.4.4 **Reusable software :** This is a concept related closely to CASE and to automated programming some problems arises on a regular basis and in dealing with them, it makes sense not to have to re-write the full programme code every time. For software to the reusable, it must be possible to design the code in a way that it can be revised in many different programmes.

3.4.5 **Databases:** A non-redundant collection of interrelated data items, that can be processed by more than one applications is called a database. Non redundant means that individual data items appear only once in the database. Interrelated means that the data is stored in the form of planned and ordered relationship that allows the data to be tied together.

3.4.5.1 **Text- Based Management Systems (TBMS):** Unlike traditional DBMS, which deal only with structure information, TBMS are able to manage free from text. This is efficient in a variety of ways, depending on the system, but it can include such features as key word searching, the inclusion of image as well as text.

3.4.5.2 **Hypertext:** Hypertext applies a combination of both document and database system to the management of information. This system provides true multimedia capability through the integration of text, pictures, sounds, data, and knowledge. Hypertext can now be used on a personal computer. Its current applications include on-line help, workgroup coloration, iterative publication and problem resolution.

3.4.5.3 **Groupware:** GroupWare is a combination of computer hardware and software that enables a number of individuals to work as a team using a network of personal computers. It models the organization by having the system build up its own files and maintain a directory of users, plus the

database of applications it manages. It regulates work content and controls workflow between individuals, work groups, divisions and even countries.

3.5   Networking:

3.5.1   Internet:

Internet is inter networking, i.e., networking of networks. It is worldwide network of networks which is a agglomeration of smaller network and other computer, the spreading over the entire globe creating a virtual web like structure and other computer.

Creating a virtual web like structure. It is the resource of information, which is accessible to public from any computer connected to internal. Hence Internet is popularly known today as the information.

Features:

(a)   **E-mail:** E-mail stands for electronic mail or which is the modem base world's latest communication wave where text, MIS reports, data, agenda, minutes and other massages are sent worldwide. It is the most used features in the Internet. It conveniently replaces postal services, couriers services, telex and fax with for more speed accuracy and privacy at a much cheaper price.

(b)   **FTP (File Transfer Protocol) :** FTP as the name suggest to copy files from remote host to our host and vice-versa. Hundreds of systems connected to Internet has filed library, archives accessible to

public there are also libraries of documents as well, a copy of historical documents songs, lyrics, poem, can be down loaded from internal memory. FTP sites without establishing any account with them, are called anonymous sides.

Getting Files Using FTP

File transfer means copying files from one system to another. On the Internet, everyone uses the FTP system for transferring files. Transferring a file requires two participates:

- FTP client program and;
- FTP server program.

The FTP client is the program that we run on computers. The FTP server is the program that runs on the huge mainframe somewhere and stores tens of thousands of files. The FTP server is similar to an online library of files. The FTP client can upload (send) files to the FTP server or, more commonly, download (receive) files from the FTP server.

There are thousands of publicly accessible FTP servers, and they store hundreds of thousands of files. Many of the files are freeware or shareware programmes. Some FTP servers are so popular that they cannot handle the number of file requests they receive. when FTP servers are inundated, other FTP servers, called mirrors, with copies of the same files, are set up to handle the overflow traffic.

(c)   **Search Engines :** There is plenty of interesting material available on the Net. There are different kinds of indexes and

directories for different kinds of material. Unfortunately, because they tend to be organized by the kind of Internet service they provide, web resources is find our place, gopher resources in another place and so on because most of what we want to access is on the web and on gopher, they are the main places that win be discussed here. All the directories and .indexes described below rail in the broad category called search engines

(i) **Yahoo:** Yahoo is a large, well-indexed directory of web pages. It began as a student project at Stanford and is now commercially supported. It organizes its information in categories and subcategories, like a library. It is one of the best places to begin any search now it also induces Reuters headlines and some other 'real world' information. Yahoo's URL is: http //www.yahoo.com

(ii) **Lycos :** Lycos is a largely automated 'web crawler' that collects pages from all over the Net that you can search by keyword. It begins as a project at Carnegie-Mellon University and, like yahoo, has gone commercial. Lycos, URL is : http://WWW.lycos.com

(iii) **Webcrawler :** WebCrawler is an automated index that crawls around the web cataloguing and indexing every page it comes across. It is owned by America online (AOL), but one need not have an AOL account to use WebCrawler. W

WebCrawler' s URL is : http://www.webcrawler.com

(iv) **Infoseek:** Info seek is an index rather than a directory. Give it some keywords to look for, and it finds the pages that match best Info seek has a smaller database than some of the other indexes, but because it searches much faster, it is often the quickest way to find a page. lnfoseek's URLS are :

> http://www.infoseek.com/(paid)
> http://www2.infoseek.coml(free)

(V) **WAIS :** WAIS stands for wide-Area information service is a ful1 text-search system available on the Net. full text means that, for the documents it handles, it looks through the entire document to match the search words specify. Because WAIS uses a clever statistical matching technique, unlike other search programmes, it works better it give more terms rather than fewer. There are specialized WAIS client programs for UNIX and Windows, but unless plan to do an immense amount of WAIS searching, it is easier to go in through the world wide web.
AltaVista, CDSI, Dejanews, Excite, Open Text, WebCrawler are also example of search engines.

3.5.2 **Intranet:**

Intranet is an in-house computer network within a company/ enterprise or a closed user group, that uses the standard Internet

technologies, software and protocols. It is used for intercommunication between various persons and entities with each other. Intranets are easy to install and great way to provide access to corporate information and collaboration.

3.5.3 Wireless Networks:

Wireless LANs are useful in cases where mobile workers can keep in constant contact with corporate networks over short distances. indeed, wireless mobility is infiltrating a variety of settings including: hospitals, airports, railways, and college campuses to help students and professors to access databases, e-mail, printers, and other network services from classrooms.

Wireless LANs may be temporary or semi-permanent. semi-permanent networks are often used by companies that move frequently or in buildings where wire installations is impractical. They may remain in use for months or even years. Temporary LANs, on the other hand, may exist for less than a day.

Conclusion:

The role of the academic librarian in the information age is to promote access to appropriate and accurate information to serve the needs of users. This has been the librarian's mission for generations. However, the information age has made this mission much more challenging and complex. It has also demanded that librarians and library support staff bring or develop new technical skills to promote information access.

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