Internet and library

Dissertation By :-

Name	Roll No.
Truptesh T. Gauns	03
Maheshwar R. Gawas	04
Shubham G. Vazarkar	11

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Introduction

Today's generation are living in the information age. Information became crucial for all our day-today activities. It is generated from all kinds of human activities and achievements. Both individuals and organisations are involved in the generation of information. R&D organisations, carry out research and generate new information. Government organisations through their different activities, such as governance, administration, census and surveys, generate new information. Individuals, like researchers, inventors, innovators, discoverers, thinkers, authors, planners and policy makers, judges, etc. are all involved in the creation of information. Thus information generated, is processed and recorded in a variety of sources and formats, and is made available to public for different uses. Large amount of information is created every year in the different forms such as print, films, electronic and optical storage media and is disseminated through various channels like print, telephone, radio, television and Internet. The availability of Printed information is available in a variety of primary sources (like periodicals, theses, research reports, patents, standards, etc.), secondary sources (like indexing and abstracting periodicals, books, dictionaries, encyclopaedias, handbooks, etc.) and tertiary sources (like directories, bibliography of bibliographies, guide books, etc.). Electronic information is also available for all the print versions in the form of e-resources, such as e-books, e-journals, etc.

Library play a very important role for systematically collect, process, store and disseminate this recorded knowledge and information to their users. Libraries build their collections as per the needs and goals of the organisation they serve. library's role of making materials available ranks among the most important contributions ever made to human culture and technology. Libraries is having the vast number of stored materials that enable ideas, knowledge and experiences to be passed on from generation to generation. In day-to-day life, the library materials play's a very important role to serve as important resources in education, work and recreation of millions of people. For

the different students, the library is a place where they can find information that help them to carry out their school or college work. It is also a place where they can gain various knowledge outside their classrooms and beyond their textbooks. Professional Peoples are depends on special library materials for information they need for their work. Before going to a court for a legal case, a lawyer may spend hours in a law library finding and studying cases to prepare for arguments. Doctors use medical libraries to obtain information they need in order to treat unusual and complicated cases. Many business executives also find materials in the library to be of great value for their work and to expand their business. In current scenarios' libraries have extended library services far beyond making materials available. They offer many different forms of assistance services to library users, which can broadly be grouped as Reference and Information Services. These services promote the use of library material, connect the users with the library resources and help to meet the different information requirements of the users.

Rapid advances in information technologies have changed the role of libraries. As a result, libraries face new challenges, competitors, demands, and expectations. Libraries are changing the flow of services and information products to add value to their services and to satisfy the changing information needs of the user community. Traditional libraries are still handling largely printed materials that are expensive and bulky to store in the library. In today's changing environment Information seekers are no longer satisfied with only printed materials. They want to supplement the printed information with more dynamic electronic resources. Demands towards digital information are increasing day by day. Digital age has brought a rapid change in the way information is stored and accessed. It is marked by three distinct features: abundance, currency and easy access of information. This has brought about a change in the concept of libraries, their collection and services. Many new terms i.e. 'digital libraries', 'libraries without walls', 'virtual libraries', ;hybrid libraries' are emerging to describe the libraries of present day age.

Library

“Library -- from the Latin liber, meaning "book." In Greek and the Romance languages, the corresponding term is bibliotheca. A collection or group of collections of books and/or other print or nonprint materials organized and maintained for use (reading, consultation, study, research, etc.). Institutional libraries, organized to facilitate access by a specific clientele, are staffed by librarians and other personnel trained to provide services to meet user needs. By extension, the room, building, or facility that houses such a collection, usually but not necessarily built for that purpose. Directory information on libraries is available alphabetically by country in World Guide to Libraries, a serial published by K.G. Saur. Two comprehensive worldwide online directories of library homepages are Libdex and Libweb. See also the UNESCO Libraries Portal. Abbreviated lib. See also: academic library, government library, monastic library, new library, proto-library, public library, special library, and subscription library

Definition of library

George Eberhart offers this definition:
"A library is a collection of resources in a variety of formats that is organized by information professionals or other experts who provide convenient physical, digital, bibliographic, or intellectual access and offer targeted services and programs with the mission of educating, informing, or entertaining a variety of audiences and the goal of stimulating individual learning and advancing society as a whole."

ALA (American Library Association) glossary of library and information science “Library as a collection of materials organised to provide physical bibliographical and intellectual access to group with a staff that is trained to provide services and program related to information needs of the target group.”

UNESCO defines library as, “any organised collection of printed books and periodical or any other graphic or audio-visual material with a staff to provide and facilitate the use of such materials as are

required to meet the informational research, educational and recreational needs of users."

S. R. Ranganathan defines library as " A library is a public institution or establishment charged with the care of books, the duty of making them accessible those who require the use of them".

Role of the Library

Currently, libraries are gradually being transformed into knowledge resource centres. They are no longer limited to collection of books and periodicals. Users now require access to numerous kinds of materials and expertise. The modern library acts as a networking that collects, manages and disseminates information and knowledge beyond just providing access to a collection of books and other publications. Libraries are in a key position to take advantage of these new trends, which demonstrate the shift from an emphasis on collections to a focus on connections and to become focal points for a variety of types of information.

Some indexes and databases on the web provide free access to text or at least allow one to search their holdings but always in consent with other library resources. These free on-line databases are a tremendous asset to researchers and are excellent tools for locating new supplementary material. However, they are no replacement for the resources of a library, nor do they come close to the skills of a professional librarian. Finally, a library is not merely a collection of books, or some vast warehouse of words, books, and journals but it is a part of cultural, historical and scientific memory too. With the advent of the web, libraries are now connecting and sharing their collections and resources with each other. Thus, an individual academic or public library can be the access point for people to

explore their world and their history, and to enlist the aid of information professionals to help guide them through their journey.

Types of library

- **Academic library :-**

"libraries are the heart of any Academic Institution" rightly quoted by Dr. S. Radhakrishnan, former president of India. Academic library serve the information needs of the students and teachers of its parents institution. An academic library is library is a library that is attached to a higher education institution and serves two complementary services: to support the curriculum, and to support the research of the university faulty and students. It is unknown how many academic libraries there are worldwide. In the past, the material for class readings, intended to supplement lectures as prescribed by the instructor, has been called reserves. In the period before electronic resources become available, the reserves were supplied as actual books or as photocopies of appropriate journal articles. Modern academic libraries generally also provide access to electronic resources.

Academic libraries must determine a focus for collection development since comprehensive collections are not feasible. Librarians do this by identifying the needs of the faculty and student body, as well as the mission and academic programs of the college or university. When there are particular areas of specialization in academic libraries, these are often referred to as niche collections. These collection are often the basis of a special collection development and may include original papers, artwork, and artifacts written or created by a single author or about a specific subject. There is a great deal of variation among academic libraries based on their size, collections, and services. The university of California operates the largest academic

library system in the world, it manages more than 34 million items in 100 libraries on ten campuses.

➢ Public library :-

Public libraries play a very important role in dissemination information to the people of the community. The public library is established to provide materials, which communicate experience and ideas from one person to another and make them easily and freely available to all people. The public library is a local centre of information that makes all kinds of knowledge and information readily available to its users. It is established, supported and funded by the community, either through local, regional or national government or through some other form of community organizations. It provide access to knowledge, information and work of imagination through a range of resources and services. It is equally available to all members of the community regardless of race, nationality, age, gender, religion, language, disability, employment status and user qualification.

People in all works of life use the public library resources, facilities and available services. These users include pupils, students, teachers, scholars, scientists, business executives, government officials and even dropouts. Large number of people also turn to public libraries to satisfy their desire for knowledge or to obtain material for some kind of leisure-time activities. A library may meet user's information needs by acquiring, organising and making available relevant information resources backed by appropriate facilities and delivered by means best known to them, which could be manual or through Information and communication technologies (ICT). For any public library to perform well and meet the needs of the users on this modern time, it is necessary for the public library to embrace the use of Information and communication technology. The role of ICT in the effective

utilization of libraries has been stressed in literature, particularly in academic libraries.

➢ Special library :-

The libraries that are run by private businesses and public organizations, including hospitals, museums, research laboratories, law firms and many government departments and agencies, fall into this category. Branches of a large academic or research libraries dealing with particular subjects are also usually called "special library": they are generally associated with one or more academic departments.

Definition :-

The special library is concerned with the literature of a particular subject or group of subjects. According to R. Astall, "special libraries serve a specialist clientele, located within a single establishment or group, and all engaged in working towards one common purpose". The Association Of Special Libraries And Information Bureau (ASLIB) defined special as "a department / faculty responsible for the acquisition, indexing and distribution (dissemination) of recorded knowledge directly concerned with the work of a specialized organization or a special group of users".

In simple, a special library exists as a service unit within an organization having non-library objectives. Special library may be designated in different ways such as scientific library, technical library, etc. It may also be designated by subject as agriculture library, medical library, etc. In relation to its parent institution as research organization, government agency and similar others.

➢ Health Science Library :-

A health or medical library is designed to assist physicians, health professionals, students, patients, consumers, medical researchers, and

information specialists in finding health and scientific information to improve, update, assess, or evaluate health care. Medical libraries are typically found in hospitals, medical schools, private industry, and in medical or health associations. A typical health or medical library has access to MEDLINE, a range of electronic resources, print and digital journal collections, and print reference books. The influence of open access (OA) and free searching via Google and PubMed has a major impact on the way medical libraries operate.

The united states national library of medicine (NLM) is the largest biomedical library in the world, and collects and provide access to some of the best health information in the world (due to its linkage to the national institute of health). The NLM maintains numerous medical and genomic databases, searchable via its Entrez search systems, including MEDLINE (PubMed) and OMIM (a genetic traits database).

➢ Corporate Library :-

A corporate library is a special library serving the staff at a corporation. The information services provided by corporate libraries save employees time, and can aid in competitive intelligence work.

By offering a corporate library to employees, the corporation is able to encourage learning and give people opportunities for growth and development that may not be offered elsewhere. Corporate libraries also offer the opportunity for employees to share ideas in regards work related tasks or special projects needing to be completed.

Corporate begin to establish their own specialized libraries around the year 1900

Other forms of library :-

Recent Advances in Information & Communication Technology has given new dimensions to traditional libraries, changing their way of functioning and being known as different names such as Electronic Library, Virtual Library, Hybrid Library, Gateway Library, Library of the Future, Digital Library, Library without Walls or Bionic Library. Now a day's each and every library is slowly getting digitized. A digital library Includes digital collections, services and infrastructures to support lifelong learning, research, scholarly communication as well as preservation and conservation of recorded knowledge. It is also a process of democratization of information.

Due to IT, world becomes a global village. The revolution in the IT sector influencing the information industry too. Libraries are also changing to meet user need. New internet generation demand information on their finger tips by one click. The information is for use and for all, so libraries become universal & open for all those who seek for information. By considering this view a number of large organizations have already more or less switched over to digital mode worldwide

Recently, libraries of research and higher learning institutes are increasingly being digitized. These libraries are not fully digital, but hybrid libraries: having both digital and print collections. This material might include student electronic portfolios, classroom teaching materials, the institution's annual reports, video recordings, computer programs, data sets, photographs, and art works, pre-prints and other works-in-progress, peer-reviewed articles, monographs, conference papers, electronic thesis and dissertations, and gray literature —virtually any digital material that the institution insists to preserve.

➢ Electronic Libraries :-

An electronic library is a library in which collections are stored in both print and electronic formats (magnetic tapes, microfilm roles, CDs, DVDs, microform, or other media) and accessible by any medium such as computer, laptops, I-pads, CD player, DVD player

etc. When automated libraries go for LAN (Local Area Networking) and CD-ROM networking and started procuring E-journals and other similar kinds of publications then it is known as electronic library. The electronic information or material may be stored in an offline server or online which may be accessed remotely via computer networks. Electronic information can be termed as all those digital or electronic contents, which include a number of analog formats that require electricity to use.

The process of automation i.e. uses of electronic media in libraries makes libraries are able for transformation from traditional libraries to electronic libraries. Using computers and library management software, libraries become electronic libraries in which data is stored in computers and efficiently retrieved, whenever required. When routine work and housekeeping operations are automated, that saves manpower and could be used for proper management of libraries and making out policy decisions for effective management of library and building modern libraries. The automation phase is crucial and essential for the further growth, many libraries have completed the task but many are on the path of completion. Without automation it is not possible to modernize the libraries. Automation has many fold advantages like automating housekeeping operations, developing databases, saving manpower and maintenance etc. This could lead to Digital Libraries (DL).

➢ Virtual Libraries :-

The concept of virtual library also emerged simultaneously with electronic library and digital library. This emergence is perhaps because all the information uses are at present through networked libraries at the desktop which is quite virtual (practical) without the physical existence of books on shelves. A virtual library can be simply defined as the internet-based digital library or a library without walls. The concept of virtual library is that any person who has a computer and connection to the library networks can access not only the resources of that library but also a variety of information available through national and international networks like internet and intranet without being physically present in the library

A virtual library is a system by which users can access information that resides only in electronic format on computer networks or systems without any physical boundary of the information. The virtual library exists independently on the amount or nature of the electronic information to which it provides access. There are no restrictions on the extent, content, formats or cost of data in a virtual library. Its definition is shaped by individual or organizational need.

Use of internet and virtual imaging is progressing and advancement in web technology makes use of library modern. The real imaging is playing an important role and application of technology, in the field of library helps in data and information transfer over the net quickly. Use of web tools for teaching and learning are benefited. Virtual libraries are benefited in collecting information instantly. Thus information technology helps LIC‘s and libraries of special, university, academic, and colleges are to be modernized and get the benefit of technology.

It is also necessary in the era of information explosion that every library has to take the advantages of IT for providing economic, useful and resourceful information services to users through the collection of a set of libraries in their area. It is observed that library professionals are constantly facing the challenge of the technological change in their profession, Professionals are being trained and shifting their practices to keep abreast of the changes in the profession and use technology for betterment of the libraries and to provide services to the users.

In short, Virtual library does not physically exit, a library with distributed collections and services that appear and act as one. Typical example is a website with pointers and links to other sites.

- **Hybrid Libraries :-**

Hybrid libraries evolved in the 1990s with the emergence of “information technology”, the electronic resources became more

easily available and widely accepted for libraries to acquire for public and academic use. These digital materials were easily accessible to material distributed on media such as CD's, DVD's or specialized online offline databases. Now, with the easily availability of electronic content, it includes Internet resources and documents which are online, such as e-journals, e-documents, etc.

Hybrid library is a combination of traditional and digital library, having both print as well as digital collection. Actually it is a transitional state between print and digital environment Hybrid libraries consist of conventional print material such as books, magazines, journals as well as nonconventional or electronic based material such as audio books, electronic journals, e-books, etc. "Hybrid library" term was first coined by Chris Rusbridge in 1998 in an article for D-Lib Magazine. Hybrid libraries are the new and emerging term for the most public and academic libraries because with the existing services and collection they can easily provides electronic services or online services and easily build digital collections.

It was designed to bring a range of technologies from different sources together in the context of a working library and to explore integrated systems and services in electronic and printed environments. It reflects the transitional state of the library, which today can neither be fully printed nor fully digital. A hybrid library requires staffs that are professionally trained in the operation of electronic machines such as computers, scanners, etc. and in searching of the vast amount of information available in the digital age.

The hybrid library can be considered as a transitional phase between the conventional and
digital library, where electronic and paper-based information sources are used alongside each other. The challenges associated with the management of hybrid library is to encourage end-user resource discovery and information use, in a variety of formats and from a number of local and remote sources in a seamlessly integrated way.

The hybrid library should be designed to bring range of technologies from different sources together in the context of a working library. In effect, a hybrid library maintains all or a major parts of its collections in computer-processible form as an alternate or to supplement or to complement the conventional printed materials that exist in the libraries. It has a web-enabled computerized catalogue (WebOPAC) accessible through the Internet and most of other in house services like acquisition, books processing, circulation are computerized. A hybrid library has a strong presence on the Internet with a Home Page for the Library providing an integrated access interface, not only to digital collections available locally, but also to other commercial and non-commercial web-based digitized collections accessible to the library across the world.

These days, most libraries are hybrid type libraries since the resource that they hold in their collections are in print as well as in electronic and digital format. Hybrid library is also about creating a single user interface to access electronic resources and all other resources in a variety of formats.

➢ Digital Libraries :-

The Digital Library Federation defines digital libraries as "Organizations that providethe resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily available for use by a defined community or set of communities" (Shiri 2003)
The collection of electronic materials in a library is called a digital library. It is a later stage of electronic library. In digital library high speed optical fiber are used for LAN and the access is over WAN and provide a wide range of Internet based services i.e. audio and video conferencing and like other. The majority of the holding of a digital library is in the computer readable form and also acts as a point of access to other online sources. A digital library is a library in which collections are stored in digital formats (as opposed to print,

microform, or other media) and accessible by computers. The content may be stored locally, or accessed remotely. A digital library is not a single entity. It requires technology link the resources of many collections. The links between digital libraries and their resources are transparent to users. Digital library collections are not limited to document surrogates (bibliographic records. They are the actual digital objects such as images, texts and so on. Digital library provides collection and services in digital form.

In the modern library, collection may be in any form but ensure efficient access to the best material from the collection. Automated libraries have developed fast using technology. Now libraries are trying to move towards advanced stages, crossing the levels of automation. The trends in LIS are now shifting towards digital library developments (not purely digital but Hybrid Libraries or multimedia libraries in countries even like India) and the print material is shifted to digital media because of its benefits. The digitization process and born digital material is growing day by day. The advantages gained due to shifting to DL are maximum use of e-publications, internet resource usage, resource sharing, library network development, online searching etc.

Digital library can be defined as computer based information systems for acquiring, processing, storing, organizing, searching and distributing knowledge. A digital library is a library consisting of digital materials and services. Digital materials are items that are stored, processed and transferred via digital (binary) devices and networks. s. Digital services are services (such as reference assistance) that are delivered digitally over computer networks

Internet

History of the Internet

The history of the Internet started in the United States in the early 1960s. This was the Cold War period, when the world was bi-polar: The United States and the Soviet Union were competing in expanding their influence in the world, viewing each other with great caution and suspicion. On October 4, 1957, the Soviet Union launched the first space satellite, Sputnik. The Sputnik success The Internet and its architecture have grown in evolutionary fashion from modest beginnings, rather than from a Grand Plan. The ingenuity of the Internet as it was developed in the 1960s by the ARPA scientists lies in the packet switching technology. Until ARPANET was built, most communications experts claimed that packet switching would never work. In 1965, when the first network experiment took place, and for the first time packets were used to communicate between computers, the scientists did not imagine the multiple usages of this technology on society. In the initial stages, the Internet was promoted and funded, but not designed, by the U.S. government. Allowing the original research and education network to evolve freely and openly without any restrictions, selecting TCP/IP for the NSFnet and other backbone networks, and subsequently privatizing the NSFNET backbone, were the most critical decisions for the Internet's evolution. The Internet's design was unprecedented because it was conceived as a decentralized, open and neutral network of networks. The open architecture of the Internet allows free access to protocols from anywhere in the world and is capable to accept almost any kind of computer or network to join in. The choice of any individual network technology is not dictated by particular network architecture but rather could be selected freely by a provider and made to interwork

with other networks through a meta level “Internetworking Architecture.” At the beginning of the 21st Century, the Internet embraces some 300,000 networks stretching across the planet. Its communications travel on optical fibers, cable television lines, and radio waves as well as telephone lines. The traffic continues to grow in a rapid pace. Mobile phones and other communication devices are joining computers in the vast network. The result is the most impressive web of communications in the history of humanity. Millions of people around the globe cannot describe their lives and function as they wish without the Internet.

By the turn of the century, information, including access to the Internet, will be the basis for personal, economic, and political advancement. The popular name for the Internet is the information superhighway. Whether you want to find the latest financial news, browse through library catalogue or exchange information with colleagues, the Internet is the tool that will take you beyond telephones, faxes, and isolated computers to a burgeoning networked information frontier. The emergence of computer and telecommunication technologies in recent decades has had a great impact on libraries. Many of these technologies have been integrated into library operations such as acquisition, cataloguing, circulation, interlibrary loan, and reference services. Today's library activities are no longer confined within their physical territories. Many libraries are electronically networked and rely heavily on computer and telecommunication technologies as a means of providing library and information services. Information can be stored in various electronic forms and transmitted at high speed over electronic networks to wherever there are computer facilities to receive it. Internet has become an integral part of library and information centres that helps in meeting the information requirements of the users in a timely manner. "In fact, the library and the Internet are being viewed increasingly as a versatile unified system, providing an enormous

variety of materials in different formats". The use of the Internet has enabled easy access to many resources, and information sharing has, therefore, significantly increased. It has become a challenge for librarians to prove the importance of libraries in the age of easy access to the Internet. To meet this challenge, libraries take the initiative to use the Internet in their public services and internal operations, and make the Internet an integral part of library's infrastructure.

Meaning of internet

The term Internet has been coined from a concept inter-networking that denotes interaction between networking of computers. It is an umbrella under which different networks, small and large, freely exchange information across the globe. The Internet grew out of the Advanced Research Projects Agency's Wide Area Network (then called ARPANET) established by the US Department Of Defense in 1960s for collaboration in military research among business and government laboratories. Later large universities and other US institutions connected to it. Thus it resulted in ARPANET growing beyond everyone's expectations and acquiring the name 'Internet'.

The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide. It is an international network of networks that consists of millions of private, public, academic, business, and government packet switched networks, linked by a broad array of electronic, wireless, and optical networking technologies.

The Internet is a tool that connects millions of computers together, allowing them to communicate with each other. Information is not "stored" on the Internet. Rather, information is stored on host computers; the Internet is simply a tool that allows you to access the information stored on someone else's computer. The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), the infrastructure to support email, and peer-to-

peer networks for file sharing and telephony. It provides access to the most diversified source of information hosted by individuals and various organisation world wide on a vast network of‘ servers.

Internet Access

- 3G and 4G
- Available for mobile phones, computers and tablets
- Connects wirelessly through 3G/4G provider
- Can access Internet anywhere
- Slower than DSL and Cable connection

Internet Usages

- Communication
- Send and receive emails
- Download files
- Post your opinion to a newsgroup
- Chatting
- Surf the world wide web
- Business
- Shopping
- Entertainment

Using the Internet to Communicate

The internet isn't just about finding information. It's also about connecting with friends, family, and people you've never met before. Today, there are many different ways to communicate online, including social networking, chat, and blogging.

Social Networking

Social networking has become one of the main ways people keep in touch. Below are a few of the most popular social networking sites:

- **Facebook** is used by about one billion people. If you have family or friends that live far away, you can use Facebook to keep up with their lives. You can also share things you've found online that interest you.
- **Twitter** lets you share brief messages (or "tweets") with the entire world, or with just your circle of friends. By following people with similar interests, you can discover new things that you wouldn't have found otherwise.
- **LinkedIn** is a site that you can use for business networking. It allows you to connect with other people in your field and find out about new job opportunities.

Chat and Instant Messaging

- Chat and instant messaging programs allow you to have conversations with your friends or just write them a quick note.
- Two examples are Yahoo! Messenger and Microsoft Messenger. Some sites, such as Gmail and Facebook, allow you to chat within your browser.
- These tools allow you to communicate with others who are online at the same time as you.
- The key difference between this and email is that with email there is a delay, as you wait for the other person to receive the

email, read it, and reply, whenever they are next online, while with Instant Messaging or Chat Rooms, all participants are online at the same time, interacting “live.

- **Blogs**

- Today, the average user has the ability to shape the web by adding to it.
- If you have knowledge or interests that you're passionate about, you can create your own blog and share your thoughts with the world.
- There are many sites like blogger.com and wordpress.com that let you create a blog for free.
- You don't need any web design experience— most of the technical stuff has already been created for you, and you can choose a predesigned template that has the look and feel that you want.

- **Internet on Mobile Devices**

With tablet computers and mobile phones, it's possible to have full internet access, allowing you to check your e-mail and browse the Web away from home. To do this, you'll need a data plan, which adds an additional monthly fee to your mobile phone bill. Data plans are also available for laptops and e-readers such as the Kindle.

Just like regular cell phone service, it's important to choose a provider that has good coverage in your area. You may want to ask your friends, family, or coworkers which provider they use.

With some devices, such as the iPad, you can choose not to buy a data plan, and you'll still be able to access the internet whenever you are connected to a Wi-Fi network. If you set up a home wireless network, your device can automatically connect

to it whenever you're at home. Also, many restaurants, libraries, and downtown areas offer free Wi-Fi.

Mobile data plans are often referred to as 3G, which means it's the third generation of wireless standards. Many companies now provide 4G (fourth generation) data services, which allow you to have broadband speeds on your mobile device.

Types of Network

➢ Local Area Network (LAN)

- A LAN connects network devices over a relatively short distance.
- A networked office building, school, or home usually contains a single LAN, though sometimes one building will contain a few small LANs (perhaps one per room), and occasionally a LAN will span a group of nearby buildings.

➢ Metropolitan Area Network (MAN)

- A metropolitan area network(MAN) is a large computer network that usually spans a city or a large campus.
- A MAN often acts as a high speed network to allow sharing of regional resources.
- A MAN typically covers an area of between 5km and 50km diameter.
- A MAN might be owned and operated by a single organization, but it usually will be used by many individuals and organizations.

➢ Wide Area Network(WAN)

- WAN covers a large geographic area such as country, continent or even whole of the world.
- A WAN is a geographically-dispersed collection of LANs.
- Most WANs (like the Internet) are not owned by any one organization but rather exist under collective or distributed ownership and management.

Internet Applications

• The World-Wide Web (WWW)

• Electronic Mail (E-Mail)

• File Transfer Protocol (FTP)

• Search Engine

• Chatting

• Video Conferencing

• E-Commerce

➢ World Wide Web (WWW)

• The World Wide Web is a system of interlinked hypertext documents accessed via the Internet.

• With a web browser, one can view web pages that may contain text, images, videos, and other multimedia and navigate between them via hyperlinks.

• It use a protocol called HTTP – Hypertext Transfer Protocol

- HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.

➢ **Electronic Mail (Email)**

- The transmission of messages over communications networks.

- It is a fast and efficient way to communicate with friends or colleagues.

- You can communicate with one person at a time or thousands; you can receive and send files and other information.

- Basic email functions: –

  - send and receive mail messages.
  - save your messages in a file.
  - print mail messages .
  - reply to mail messages.
  - attach a file to a mail message.

➢ **File Transfer Protocol (FTP)**

- The protocol for exchanging files over the Internet.

- Used for moving files between two hosts on a TCP/IP network.

- FTP is most commonly used to download a file from a server using the Internet or to upload a file to a server.

➢ Search Engine

- A search engine is designed to search for information on the internet.

- Search engine presents the search results in the form of a search results list.

- The search results can be web pages, images, videos, and other type of files.

➢ **Chatting**

- Chatting is the other method for Internet conversation.
- It enables people connected anywhere on the Internet to join in live discussions.
- Chat sessions allow many users to join in the same free-form conversation, usually centered around a discussion topic.

➢ **Video Conferencing**

- A videoconference or video conference is a set of interactive telecommunication technologies which allow two or more locations to interact via two-way video and audio transmissions simultaneously.
- The other components required for a videoconferencing system include:
- Video input and output
- Audio input and output
- Data transfer
- Computer.

➢ **E-Commerce**

- Electronic commerce or ECommerce consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks.
- It includes the entire online process of developing, marketing, selling, delivering, servicing and paying for products and services.

The Main Characteristic Of Internet Is:

- Users across the world can connect or access information irrespective of time and space factor.
- Point to point communication, rather than one to many broadcast communication.
- Provides access to large number of databases.
- The facility of hyper linking from one server to another by clicking on a highlighted word which enables the user to directly switch to another data source on the other side of the world.
- Instant and interactive community creation on a global base.

Importance Of Internet To Libraries:-

Now a day's Internet has become a very important part of library environment today. According to Gryez, "with the expansion of internet a new class of electronic document has emerged, it was at once promising and attractive for its obvious advantage of speed and transmissibility and profoundly elusive and confounding to the library community because of its intangibility and malleability". It has added a great value to deliver library and information services towards it's user. internet is playing an important role in transforming the library system and the way in which we view the library resources and the library services. With the help of web based library services in developed countries, users are attended round the clock library services. Internet provides links to many library sites, specializing in almost every topic and they can be accessed directly from any part of the world. As the libraries are going web based large number of libraries are becoming accessible via libraries web pages. With an internet connection, a student in any university of India can browse through the documents in computers of US National libraries or else where in the globe. The internet therefore, provides instant access to billions of information sources which include books, reports, journals, video films, sound recording and wide variety of other sources. The library and information professionals have a vital role to play in organising the information and bridging the information gap.

Internet has created some of the following new and different service operations:
(a) By designing clearly organised, easily accessible and well published library web sites librarians can extend the traditional librarianship to the use of information technology and seize a leadership role in both fields.
(b) The libraries can initiate Bulletin Board Service which gives complete information regarding services, products, and various events organised by them.
(c) Ready reference service can be provided
(d) with greater speed and in much shorter time. Library resources can be ordered online, technical processing of the documents too can be done without much effort.
(e) E-mail services can be used for delivering
(f) information to the users and communicating with the fellow information professionals. E- SDI services can be used for delivering information to the users.
(g) Access to various databases and OPAC of other libraries located in remote areas can be provided.
Internet based library services can be provided in the following ways:
(h)Access to library holdings through web-OPACS and provision of circulation services through the library website
(i)Access to licensed online databases, full text journals and e-books
(j)Library gateways and portals to provide access to non-library material
(k)Virtual reference and information services.

Library Management System Advantages

1. Simple & Easy to Use

The Library Management Software is simple, user-friendly, and can be easily integrated with your existing system. The library management system benefits provide online and offline storage,

automated backups, and easy upgrades to simplify and enhance the learning process.

2. Increased Library Engagement

Avoid frustration and tediousness by providing students with 24/7 access to library resources from anywhere, anytime. Library Management Software allows the librarian to maintain all types of books, eBooks, journals, photos, videos, and create events.

3. Efficient Cloud Data Management

Automate, simplify and deploy library database seamlessly to make it easy for your institution to benefit from secure cloud services. Improve efficiency with the automation of various library tasks including acquisition, cataloging, serials management, circulation and reference

4. Highly Secure, Scalable & Reliable

College libraries benefit from scalable infrastructure, role-based secure access, high performance and reliable to ensure seamless access to library database.

5. Mobile Access

The library management system provides mobile access to search the library catalog, schedules, books and resources from anywhere, at any given time via smartphones and tablets.

6. Dynamic Reports

Maximize the performance of libraries with dynamic reports, charts and graphs to review and track the progress for better decision-making.

7. Error-free

The automated library software is user-friendly, powerful and developed for easy entry of data, makes library operations free from errors.

8. Innovation

Students can search, write articles, upload photos and videos, manage email, send messages, but also help them to keep up with the librarian and other students via chat, discussion forums, and social media.

9. Fully Customizable

The library automation system is fully customizable and adaptable to the needs of educational institutions to provide fast, reliable data.

10. Cost-effective

Embracing sophisticated technologies is cost-effective and a viable choice for education institutions. Using cloud, mobile and digital libraries eliminates paper-based processes and maintenance overheads, improves productivity, reduces operation costs and saves time

Role Of Internet In Library:-

Internet is playing an important role in the various functions of libraries. It is continuously changing the ways, the librarians organise, manage and disseminate information and library services. Libraries of 21st century have shifted towards electronic means of acquiring, processing and disseminating information. Now a day's all sorts of library services from membership registration to document delivery can be offered through with the help of Internet. Internet and web technology plays a very important role in Library related activities in the following areas:-

1. **Acquisition of Documents :-**

Internet has made simple and speedy purchase of information sources/documents like books, journals and electronic publications in the library. The Libraries can make use of Internet sources for acquiring various types of reading materials in the Libraries. Most of the publishers and booksellers have their web sites on the internet and place their regular catalogue and leaflets of new publications. The library and information professionals can very easily browse through

the current publications available on various web sites in their area of interest, confirm the prices, etc. and place orders online. Any discrepancy in the invoices or bills, edition of books, printing, etc. can be clarified within minutes through e-mail and most of the paper work is reduced. Some of the publishers of primary journals like American Chemical Society, IEEE (USA), Elsevier Science publishers are providing their journals online.

2. **Technical Processing/Classification** & **Cataloguing :-**

Preparing standard catalogue without much effort has become possible due to availability internet and the (WWW) in the library. Librarians can check the catalogues of other libraries like that of Library of Congress and confirm the information required for a record which can be easily ascertained from the original document. The library professionals can also access internet resources for verification and downloading bibliographical information from other institutions. OPACs via internet have become a popular source of bibliographic information. Libraries can use of other institutions by OPACs to get information they need to organise knowledge. Databases of bibliographic utilities will become more comprehensive source of information than has been so far possible by their present catalogues. With latest information retrieval facilities, the libraries in future will have added value by using catalogue of journal articles. The librarians can provide the bibliographic data through internet access via OPACs of other libraries in the world. The e-resources can be supplied to the users on demand through the network. Internet has also affected the traditional classification system of libraries.

According to Schmidt, "access to OPACs will be increasing from outside the library. The boundaries 'between the cataloguing of libraries holding and cataloguing of information will be more difficult than today, in my opinion they will vanish completely when networks have reached a certain technical capacity."

3. **Circulation :-**

Circulation section is the backbone of any library. The internet has made the circulation of in house document much easier. After the technical processing, the new books documents can be placed in the

OPAC on the day of acquisition itself and readers with internet connection at home or at university can browse and reserve the books sitting right at their offices or at home, within seconds after arrival of the book in the library. Further libraries subscribing to electronic journals need not necessarily provide access to it in the library. Since each subscription is provided with a user ID. The reader by enquiring the user from the circulation section can access the journals from their departments or offices without taking pain of visiting the library. Through use of Internet, the libraries can also provide bibliographical databases via OPACs from libraries of other institutions world wide. The OPACs may be searched from a terminal within the originating library or from a terminal located at a remote place.

4. **Reference and Information Service**

Internet for reference work in the library is gaining popularity day by day. Reference librarians use a multitude of information sources to answer the question asked by user, these are called ready reference collection. The internet can be successfully utilised for providing short-range and long-range reference service because various primary and secondary sources of information are available online from many sites. The URL http://www,refdesk.com/exposes the librarian to an excellent virtual library for reference source known as 'My Virtual Reference Desk'. Similarly India Worldhttp://wvw.india.corn, is a comprehensive reference service on the net. The IFLA World Directory of National Union Catalogue is now available on **IFLANET,** at **http://www.ifla.org/v1/2/due,** this is a complete listing of all known current national union catalogues, including monographs, serials and general union catalogue and a hot link is also included for direct access for catalogue which are available on the Internet." Though internet is useful in providing reference service it may not provide answer to every reference enquiry. Sometimes it may also take a long time to locate the information, in such cases the librarians have to keep useful supplementary sources of information in the library. However, the internet can be useful in Finding certain types of information such as social, economic, statistical data, censes information, daily exchange rates, government budget and reports,

etc. including current news, calender events, employers' profile and other career information.

5. **Communication :-**

Internet has become the primary mode of communication which carries more than the combined total of the postal services of all countries in the world put together by the turn of the century. It is an important means of communication which provides a cheap and fastest means of mail transfer. Libraries can use this facility extensively to communicate with the publishers, book sellers and vendors of the other library products and services with scholars librarians and users across the globe with in less time. The most popular means of communication used on the internet is e-mail. Like the regular mail, there are also mailing lists to address groups of people. These mailing lists often called list serves, can serve a valuable resource for the librarians. A more public electronic forum for discussion on the internet is called the Usenet News. Usenet provides large numbers of news groups or conference that have open participation which can be used by the library users and library professionals.

6. **Resource sharing and the internet :-**

Now a days the advent of Internet, major libraries are now available online through internet and hence directly accessible from any part of the world. Librarians can have access to the catalogue of various libraries attached to the universities and colleges in the world and accordingly place a request for their users. The increase in the cost of documents for many disciplines in recent years has meant that the libraries have been able to provide less and less access to research literature through their in-house collection. Also with the financial constraints, the librarians and information professionals are seeking alternative means of providing access to journals. The problem of print journals and the concomitant development of computers and communication technologies have lead to the development of electronic alternatives to print journals, i.e., in various forms of electronic journals.

Recently a most of publishers have agreed to offer their journals electronically to libraries through First Search Electronic Collection Online. This help the libraries to subscribe a large collection of academic journals from many publishers from a single WWW interface that support cross journal searching and extensive browsing. Libraries using Electronic Collection Online will be able to access them remotely through WWW. The will help the user to search and browse citation from journals, abstracts and complete articles from journals subscribed by their libraries. Further this service combines the cost benefit associated with remote access to data with the advantage of local collection management. It will reduce information cost for libraries by centralising storage access. The electronic collection online offers libraries a number of value added features, including print quality article representation, usage statistics, technology migration, technical and product support, etc. To make use of such collection, the internet plays a very crucial role and its impact on library services and process is quite obvious.

7. Inter-Library Loan (ILL)

To facilitate resource sharing, many libraries are using inter-library loan (ILL). The traditional inter-library loan operations are quite time consuming and labour intensive. With the advancement of new technology, the electronic documents and various inter-library management tools such as software like Ariel and Avis have facilitated the libraries to share their resources effectively and efficiently. Ariel software opens the window on internet document transmission. The Ariel workstation has been developed by Research Libraries Group. Avis is another Canadian product developed at the University of Waterloo and refined with the cooperation of interlibrary loan practitioners in libraries across Canada and USA. Avis is PC based software designed to manage all aspect of inter-library loan process. The inter-library loan office can network multiple Avis workstation on local area network. It offers the following benefits:

(a) Single comprehensive solution for the management of all ILL activities

(b)Effective management of the paper work and record keeping acquired in borrowing and lending an item
(c) Status tracking of request at all stages of the ILL process
(d) Integration of bibliographic and location information from CD-ROM catalogue and online union catalogue
(e) Transparent electronic transmission of requests and messages through the Internet. Thus with the help of these software inter-library loan over the internet has become of great help in the inter-library lending and borrowing. Retrieval has become easier and transaction much quicker as the request can be sent through e-mails.

8 Preservation & Storage:

The Internet is also a medium for the preservation and storage of information available in the library. Earlier, libraries were seen as the main storage facility of information. As society becomes increasingly more digital and more information resides on the Internet, the focus on storage and preservation is shifting. Preservation of these same media also becomes an issue of economics, not the "just in case" preservation ideology of the past paradigm. Because the Internet can be seen as a medium for preserving information, the process of destruction of information also is affected. As more and more information is created and stored on the Internet, the capacity to store this information is also decreasing.

Resources Available On The Internet

Due to the recent advancement of Information & communication technologies, all the information sources and services are available in an easy manner. In today's world Internet is changing the way we view information sources. Information bundled in World Wide Web in the form of structured and non-structured sources create huge problem for professionals who are dealing with information. In this, library professionals play a very important role in solving the problem. They organize the information and bridging the information gap. Internet has become an important part for library environment today. So, the resources may include:-

- E-journals
- E-books
- Standards
- E-TDs
- Share wares
- Old books
- News papers
- Dictionaries
- Magazines
- Encyclopaedia
- Databases
- Preprints
- Library catalogue
- Bibliographical Tools
- Directories
- Films
- Maps
- Technical reports
- Audio/Video Proceedings
- Patents

Effect Of Internet In Library :-

Internet and the World Wide Web (WWW) have introduced new and powerful ways of finding and sharing information in the library. Many people use the terms Internet and WWW interchangeably, but in fact the two terms are not synonymous. The Internet and the Web are two separate but related terms. The Internet is a collection of interlinked computer networks which when accessed from individual computer, gives user the ability to find information located on any computer linked to one of the networks. The Internet connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are connected to the Internet. The information that travels over the Internet does so via a variety of languages called protocols.

The WWW or simply the Web is a way of accessing information over the medium of the Internet. The Web uses HTTP (Hyper Text

Transfer Protocol) to transmit data. The Web also utilises browsers such as Internet Explorer or Netscape Navigator to access Web documents. HTTP defines how messages are formatted and transmitted, and what action web servers and browsers should take in response to various commands. For example when you enter a URL (like http:// www.niscair.res.in/) in your browser, this actually sends a command to the web server directing it to fetch and transmit the requested web page. The web documents are called web pages that are linked to each other via hyperlinks. The Web pages are formatted in a mark up language called HTML (Hyper Text Markup Language) that supports links to other documents, as well as graphics, audio or video files. The Web is just one of the ways that information can be disseminated over the Internet. Thus, the Internet, not the Web, is used for e-mail, Usenet newsgroups, instant messaging and FTP **(F**ile **T**ransfer **P**rotocol). (http:// www.webopedia.com).

The Internet and the Web technology has changed the way people communicate, interact, acquire and share knowledge. Growing number of people rely on the Internet for information they need. With further advancements in the Internet and communication technology Web 2.0 has evolved which provide dynamic, interactive and collaborative platform for the users to exchange information and knowledge. In Web 1.0 environment, users read what others wrote. However, now Web 2.0 facilitates users to express their views and publish them online through services like blogs and wikis. In other words, migration from Web 1.0 to Web 2.0 is essentially characterised by movement from "read-only' to 'read and-write web'.

The users of today's world, particularly young people, are relying and accessing information very differently. They lead media saturated lives and use the Internet more than the libraries. They use portable devices and access information from homes, from workplace, from restaurants, indeed from anywhere. They think they can find all knowledge via Google or Yahoo. The Wikipedia provides free knowledge on every topic. With this information now being readily available from an individual's own computer, the role that the library traditionally played in aspects of information provision is being

questioned and doubts are cast about whether it has a future. In other words, users value convenience and do not have strong incentives to use library sources. It is high time that libraries need to think competitive environment around them and take initiative to take library sources to the user, since ease of access and principle of least effort play a part in the choice of information source. Earlier users built workflow around libraries. Now, libraries should build services around user workflow if they want to survive. Many libraries have taken initiative and are using available technologies to offer improved, customer driven services to their users.

Internet And Library

Currently, libraries are gradually being transformed into knowledge resource centres. They are no longer limited to collection of books and periodicals. Users now require access to numerous kinds of materials and expertise. The modern library acts as a networking "hub" that collects, manages and disseminates information and knowledge beyond just providing access to a collection of books and other publications.

Libraries are in a key position to take advantage of these new trends, which demonstrate the shift from an emphasis on collections to a focus on connections and to become focal points for a variety of types of information .When you are looking for information which is a better place to go than a library? Internet has some incredible electronic libraries ready for you. On a small screen of the personal computer this digital world of the library is available for researchers.

Internet in Library

The world of libraries is witnessing a tremendous change due to the developments in information technology and abundance increase in

information. Internet is making its headway in the libraries revolutionizing the whole concept of the library. The library paradigm is shifting from locally storing information to facilitate the connectivity to the distributed information centres world wide."

The role of the library in the context of the Internet is highly revolutionized. It reduced the task of library and disseminating information. The users of libraries, who were geographically limited earlier have now expanded worldwide. The valuable information present in a library can be fed to home page and be made available to users everywhere. Thus the users of the library have become unlimited. So, library has a responsibility of collate, distribute and be depository of local information/ talent/ resources to the world wide community, and connect, retrieve and disseminate the information available all over the world to the local users depending on their need and priority.

Internet can provide access to essentially unlimited sources of information not easily obtainable through other means. In fact, the library and the Internet are being viewed increasingly as a versatile unified system, providing an enormous variety of materials, in a different format so that data, texts, images and other forms of information can be readily accessed by students and faculty.

Modern technology, including computer access, rapid and inexpensive electronic communication by e-mail, and the availability, with just a few clicks of the mouse, a vast quantity of information on the Internet have revolutionized many aspects of our daily lives. A major barrier to the effective utilization of digital resources is identifying excellent material. Searching the Internet can be a frustrating experience. Improperly phrased search queries can return a huge number of hits. There is no quality control for posted materials. This is especially problematic for people seeking information for educational or scientific purposes.

Internet Library Services

Entering Internet environment can enable the librarians and their libraries to play a novel and more significant role in extending their services to distant readers and other libraries to satisfy the need for information of their patrons in a better way.

There are some examples of library services as following:

Reference Services: The reference librarians can extend the scope of their reference services with the information available in FTP archives, Gopher servers and WWW servers. This information is much more up-to-date than its printed counter parts. Using Internet for reference work in a library has become well established in the library environment. Various ready reference sources are available over the Internet, which help the librarians and its users to answer a relatively large percentage of factual questions.

Interlibrary-Loan and Document Delivery: The underlying problem of interlibrary-loan and document delivery has always been that of communication, whether it be the communication of information regarding materials to be loaned or the transmission of electronic copies of actual documents. The influence of the Internet has been felt throughout this process and manifests itself in the use of electronic mail (e-mail) to order documents, the use of Web to transmit electronic articles or other materials and the exploitation of the Internet's ability to provide libraries with the opportunity to develop their collections beyond the walls of their libraries; where the physical location of materials is no longer the key issue, but rather the provision of timely access to information.

Current Awareness: Current awareness services become increasingly necessary for any researcher who wants to keep up with their fields. The tools available for current awareness on the Internet are tables of contents of journals, discussion forums and usenet news.

Many publisher of science journals and document delivery agencies today deliver content pages of their journals by e-mail, mostly free of cost.

On-line Database Access: One of the major revolutions introduced by the Internet is the vastly increased access to on-line information made possible via the World Wide Web. The range of information sources, in terms of both bibliographic, image databases and specialized Web sites on all subjects is vast. The major on-line vendors, such as DIALOG, now all offer Web versions of their dial-up services, taking advantage of the possibilities of document delivery of electronic journal articles directly from the publishers or indirectly from the aggregators."

Patents: An excellent example of the availability of freely accessible online databases is the wealth of full text patent databases accessible on the Web. As these patents become digitised, the British Library will be able to reallocate the space to other functions. The vision of a library comprising electronic material is unattractive to many people but there can be no denying that electronic materials have both the means of relieving the pressure on space and the plasticity to lend themselves to easier transmission, copying and reprocessing into special formats such as talking books.

Library Holdings: The implications of Internet for library holdings are both wide-ranging and contentious. The ability to replace internally-held paper stock with either access to electronic equivalents via the Internet or storage and provision of electronic materials held on library or library-group intranets is particularly attractive, given the growing pressures placed on the library's ability to store physically a growing amount of material.

Electronic Publications on the Internet

Publishing on the Internet is the next link in the process. It is a qualitatively different process. One aspect of the change lies in the fact that it is now possible for one person or an institution, using a single personal computer, to perform several function at once to write, publish, archive and disseminate. The development of the Internet created increased opportunities for publishing information in several formats. Today, a large number of individuals and institutions use the Internet to make public their ideas, works and activities by publishing books, journals, conference papers, working papers, reports, electronic brochures and so on. Publication on the Internet has grown exponentially. They are used by an ever-increasing number of people who have accessed the Internet.

Electronic Books

Digital reading devices known as e-books have just come into the market at the end of 1998. Readers can turn pages with the use of thumb-buttons rather than scroll. It has a touch sensitive screen that lets readers search for and annotate texts.

E-books offer many things that books cannot do. E-books let users carry a dozen different texts at once, which is important to the frequent business traveler. As a result, the E-book libraries being built are heavy with materials preferred by the target audience: legal documents, government reports, business newspaper, magazines and best selling novel. E-books take place over a phone line. There is no need to trek to a bookstore or wait for magazines to arrive.

E-books are always current. They can be updated at any time, a feature of paramount concern to readers of periodicals and businesses newsletters. It can provide to print textbooks. With e-books, the material can be updated continually at much lower cost, giving teachers and students ready access to the latest in their fields. The advantages of using electronic book include 24-hours availability; it can be accessed from anywhere; it can not be lost, stolen, or checked

out; and copies may be printed on demand. Internet offers access to millions of valuable sites that can be personally, professionally and culturally enriching. However, some sites may be inaccurate, incomplete, dated or personally offensive. The accuracy of information gathered through this source is the responsibility of each originator/producer of the information.

Internet information sources, like other information sources, need to be evaluated by the librarian in order to judge the quality or appropriateness of information for a particular query or user. Almost anyone can put information on the Internet and hence, the quality of information sources varies tremendously. The need of evaluating Internet resources is particularly felt since the problem has become one of sifting through a mass of advertising material and vanity publications in order to find high quality information.

Internet Tools in Library

Bibliographic Verification: Research institution, academic, public and corporate libraries all over the world have their catalogues available on-line. The Internet offers a communication link to a multitude of library systems that have online public access catalogues (OPACs). Generally available free of cost these are useful for finding books not available locally, to identify and select books for local acquisition, bibliographic data verification and to search holding of periodicals and monographs. These can be accessed through Telnet, Gopher and WWW. Beside, well-known bookstores around the world are offering their holding over the Internet e.g. amazon.com.

Reference Resources: Many OPACs also have full text databases such as CAI. World Fact Book on the Rutgers Library System. Besides various reference sources such as Encyclopedia Britannica On-line McGraw Hill Encyclopedia of Science and Technology, 18th

ed. (http://www.mh.reference.com/ EST.html) are available on the Internet. The librarians can use these databases and sources to respond to queries from the patrons.

Library Without Walls: The users of the library are expanded worldwide. The valuable information present in the library can be fed to the users homepage and be made available to user anywhere. The library can be a depository of local information/resources to the world-wide community and at the same time provide process to the information available all over the world to the local users depending on their needs any priority.

Assistance to Researchers: A large number of technical reports which provide details of on-going or complete R&D projects and Ph.D. theses are available on the Internet and these can be accessed free of cost. The libraries can assist patrons doing research by demonstrating various such databases and by obtaining information from these databases on a regular basis. There are a lot of electronic discussion lists and conference proceedings available over the Internet. They provide users a direct access to scholars in disciplines they are interested. Discussion lists give users an opportunity to ask or offer help. Video conferencing makes it possible for researchers to discuss latest development.

Digital Reference: People are now using the Internet as a daily tool to find answers to reference questions. This offers an opportunity for the information professional to provide a remote reference service to users both within and outside the organization or community, providing links to high quality search services or to reference sites in specialist subjects via an Internet website accessible to all members of the community.

Library Websites

The World Wide Web (WWW) are related Internet technologies which have made it possible for several organizations and institutions to make their presence felt on the Internet. In recent years a great deal of activity in libraries has been devoted to the design, implementation and refinement of library web sites. Today there are many library websites on the Internet. These have formed the basic structure and infrastructure of the virtual library and the services have included on-line public access catalogues (OPACs), distance learning, library publicity, library holdings and other facilities.

Objectives of Hosting the Library Websites

- To promote the use of the library.
- To furnish information regarding the library and its activities.
- To make information services available on-line.
- To give links to relevant sites that may be of interest to the users.
- To collect feedback/input from the users through dynamic web pages.

Contents of Library Home Pages

1. Name of library
2. Links to selected resources on the Internet
3. Information about the library
4. Interactive e-mail contact address
5. Link to a university home page
6. Date of the last update of the page
7. Links to Internet search engines
8. Research skills information or guides
9. Links to Internet resources
10. Book reviews, lists of recommended books
11. Photograph of the library

12. Information about citing Internet resources
13. Links to resources about the local area/region
14. News about the library or library activities
15. Information about the Internet for library users
16. Internet tutorial
17. On-line reference desk for e-mail esquires
18. Information about library Internet use policies
19. The library rules
20. Electronic magazines

Tips For a Better Internet Experience

While there are great benefits to using the Internet, there are also downsides of which you should be aware that range from simple annoyances to serious risks.

Spam refers to unsolicited, junk email. If you use your email at all, chances are good that your email address will eventually be discovered by spammers (those who send junk email) and be added to their mailing lists. The good news is there are some ways you can minimize spam.

- **Create a free webmail account**. Webmail or "web email" refers to an email account accessed through a website. Keep this secondary webmail account separate from your primary email account and have it forward to your primary account. Use this secondary webmail account whenever you fill out forms on the web or perform similar tasks, rather than your primary email account. If the webmail account gets overwhelmed with spam, you can always create another one and delete the old one. Just be sure to update your email address on any important websites you use, before you delete the old one. Gmail, Google's free webmail service, is one popular option for creating a webmail account.

- **A spam filter** is a feature provided by most computer-based email programs and webmail service providers. Spam filters identify junk emails and move them automatically to a separate folder for you to examine or delete later. This keeps them from cluttering your Inbox. Be sure to check your spam or junk email folder regularly to make sure a legitimate email hasn't been placed there by mistake.

- **Do not reply to spam emails :**-even just to request that they remove you from their mailing list. Doing so confirms to the spammer that your email address is valid and ensures they will continue to use it and, likely, sell it to other spammers, resulting in more spam.

Benefit of the Internet for Library

The growth and development of the Internet systems has forced a review of library services and infrastructure. The increasing provision of information on-line, as opposed to on shelf, is evident in a vast array of information services. The benefits of this change are significant; many users may access the same information simultaneously; information may be updated instantaneously; costs are reduced; and staff time in shelving and handling resources is minimised.

Internet plays a very important role in a library by extending the following major benefits to the academic community.

(1) Education: Internet has made geographic distances time zones and language barrier insignificant for academic discussion, group research work and distance education.

(2) Publishing: Internet has brought electronic publishing within the reach of anyone with an Internet access or account. It has made convenient for the libraries to publish their homepage and information services.

(3) Acquisition: Internet helps in acquiring digital material rightly published over the Internet and quick access to desired knowledge or information.

(4) Careers: Electronic discussion groups help in professional development and career advancement of professionals.

(5) At the touch of a key one can access a whole range of subjects and can become an expert in self-learning.

(6) WWW has made the librarians navigate to global intellectual resources as well as facilitators, instructors, evaluators, consultants, communicators, managers, researchers and has improved the image of librarians.

Some people see Internet as an already existing component of the international information superhighway, which is growing exponentially despite its lack of dominant players, centralized planning, and nation-specific regulations. These global networks are changing the way people communicate, access information, and do research.

Internet has emerged as a broadcast medium, a publishing medium, an information exchange medium, and a virtual community. Many information resources useful to library customers are available on Internet and can be located with Internet locating software tools. Internet is being used by academician, corporate, public, and school libraries for E-mail, cooperative research, subscriptions to electronic journals, as an inexpensive way to get to many bibliographic and full-text resources, and to answer reference questions. Specialized Internet services aimed at libraries are popping up as well. For example,

OCLC announced an Internet-based current awareness service called Contents Alert. It sends tables of contents of serials selected to Internet E-mail boxes.

Preservation & Storage:

The Internet is also a medium for the preservation and storage of information. In past,libraries were seen as the main storage facility of information. As society becomes increasinglymore digital and more information resides on the Internet, the focus on storage and preservation is shifting. For example, some academic libraries are now faced with the problem of whether or not to purchase serials that can be just as easily accessed on – line. Preservation of these same media also becomes an issue of economics, not the "just in case" preservation ideology of the past paradigm. Co joined to the function preservation is the destruction of information. Because the Internet can be seen as a medium for preserving information, the process of destruction of information also is affected. As more and more information is created and stored on the Internet, the capacity to store this information is also decreasing.

Internet Impact on Libraries

The resources of the Internet have become increasingly accessible during the past few years. Initially, it was a primary tool for university-based research, limited to text-based interfaces. E-mail and distributed file archives were the main uses. Internet changed fundamentally with the introduction of the graphic interface, introducing the era of the World Wide Web. Although the information available did not change substantially to begin with, the impact of a user-friendly front-end to the Web came as a huge surprise, a world of information was at hand as easily as the files on the desktop computer, and cyberspace became accessible to everybody.

Internet-based publishing offers no printing cost or time delay and the potential to distribute information with less effort, however, internet publishing is not free. The mechanisms for distribution still cost money to develop and maintain, and the editorial processing will not be influenced by the mode of publication. The evolution of Internet publishing probably will affect the speed of publication and access but not primarily cost.

Impact on librarians

The tools used by the librarians in their daily work have changed vastly during recent years. In addition to traditional card catalogues and microfiche readers, most libraries now offer an On-line Public Access Catalogue (OPAC), public PCs equipped with CD-ROM drives, DVD drives, scanners, or terminal connection to the Internet. An increasing number of libraries are building home pages on the World Wide Web from where users have access to a variety of services without physically entering a library. Also, information push and pull technologies have given librarians an opportunity to automate the required information gathering and dissemination to the users

Different Application Used In Library Operations

1.RFID

RFID technology has been used since the 1970s. RFID means Radio frequency identification. The technology that uses radio waves to automatically identify individual items.

The objective of any RFID system is to carry data in tags and to retrieve data, by machine means, at a proper time and place and to satisfy particular application needs

Using RFID in libraries saves time of library staff and the work will be finished early. RFID belongs to a group of technologies referred to as automatic identification and data capture(AIDC). AIDC methods automatically identify objects. Collect data about them and enter those data directly into computer systems with little or no human intervention. RFID methods utilise radio waves to accomplish this. At a simple level RFID systems consist of three components: an RFID tag or smart level, an RFID reader and an antenna. The reader then converts the radio waves to a more usable form of data. Information collected from the tags is then transferred through a communication interface to a host computer system, where the data can be stored in a database and analysed at a later time.

RFID Tags and Smart Labels

An RFID tag consists of an integrated circuit and an antenna. The tag is also composed of protective materials that holds the pieces together and shields them from various environment conditions. The protective materials depend on the application. RFID tags come in a variety of shapes and sizes and are either passive or active. Passive tags are the most widely used as they are smaller and less expensive to implement. Passive tags must be powered up by the RFID reader before they can transmit data. Unlike passive tags active RFID tags have an on board power supply thereby enabling them to transmit data at all time.

Applications in RFID

1.Book Drops
2.Self management
3.The patron self check-out station
4.RFID Transponder or tagging
5.Anti-theft detection
6.Inventory management
7.Asset tracking
8.personal tracking
9.supply chain management
10.Id badging

Advantage of RFID in library

1.Reduce materials cost and easy in handling
2.It has High level security
3.Automated issues/return
4.Improved tracking of high value items which does not take more time to identify
5.Easy stock verification
6.Faster circulation Etc.

2.BARCODE

Barcode is a method of representing data in a visual machine readable form. Initially barcode represented data by varying the widths and spacings of parallel lines. Their barcode now commonly referred to as linear or one-dimensional (1D) can be scanned by a special optical scanner called barcode reader. Later Tow-dimensions (2D) variants were developed, using rectangular, dots,hexagons and other geometric patterns called matrix codes or 2D barcodes although they do not use bars as much. 2D barcodes can be read or deconstructed using

application software on mobile devices with inbuilt cameras such as smartphones.

Barcode was invented by Norman Joseph Woodland and Bernard Silver and patented in the US in 1951. The invention was based on Morse code that was extended to thin and thick bars. It took twenty years before the invention became commercially successful.

Barcodes are a pattern of bars and spaces of varying width that represent digits, letters or other punctuation symbols to identify an item or object. Barcode is a system and it has an identification tool that provides accurate and quality support of data requirements for sophisticated management systems.Barcode is a predefined format of dark bars and white spaces. Barcode became commercially successful when they were used to automate supermarket checkout systems, a task for which they have become almost universal. Their use has spread to many other tasks that are generically referred to as automatic identification and data capture (AIDC). The very first scanning of the now-ubiquitous universal product code (UPC) barcode was on a pack of wrigley company chewing gum in June 1974. QR codes, a specific type of 2D barcode have recently become very popular.

Basic Requirements for barcode

1.Printer
2.Communication software
3.Resources of library
4.Library members
5.Personal computers
6.Library software
7.Barcode scanner
8.Printing software

Advantages of Barcode.

1.It Increased speed of data input (error free).
2.It Improves state of the staff and quality of services.
3.It Increases user satisfaction and hence improves the image of the library.
4.Real time data collection.
5.Aid effective management of resources and inventories.

Barcode is Used For.

1.Identification of membership at the gate of the library.
2.For stock verification and cross-checking process.
3.Barcode system is used for monitoring the attendance.
4.Barcode is a computerised circulation system and application of Barcode.

3.DELNET

DELNET stands for Developing Library Network form Delhi Library Network. Dr. Kaul is the founder of DELNET. It is the first operational library network in India. The project started India International Centre in January 1988 with the initial, financial and technical assistance by the National Information System for Science and Technology. It was registered in society in June 1992.

Activities of DELNET

1 plenty of Resource sharing
2.online databases
3.Development of software
4.Seminars,conference, workshops and training
5.Publication
6.Mailing lists and forum

The main objectives of DELNET

1.To promote sharing of resources among the libraries by developing a network of libraries, collecting, storing by offering computer services to the users.

2.It offer proper guidance to the users of the libraries on cataloguing database services, circulation, acquisition, serials control, online services, selection of hardware and software, etc.

3.It reduces unnecessary duplicate resources wherever possible.

4.It provides delivery of documents manually and mechanically.

6.It develops a specialist bibliographic database of books, non-book materials and serial.

5.JANET

The JANET was inaugurated on 1st April 1984. It uses the Science and Engineering Research Council Network (SERVNET) as a basis besides integration of other research council networks. It was formed to rationalize the existing U. K. networks and build a national backbone service. It is now funded by the Joint Information System Committee (JISC) and managed by the U. K. Education and Research Networking Association.

The range of activities facilitated by JANET allows individuals and organisations to push back the traditional boundaries of teaching, learning and research methods. JANET was used for video streaming and video conferencing is being used to deliver lectures to groups of students. For researchers, the high capacity of the JANET backbone allows the linking of large data storage and high performance computing facilities at a national and international level.

Services of JANET

1.JANET News is a service where all information materials of all libraries linked in the network are provided.

2.Email Service has begun where in users with the inauguration of email.
3.Database Service Janet provides Agricultural database, Crystals data identification file, Inorganic crystal structures data, etc.
4.JANET OPAC one can access JANET catalogue and their database.
5.JANET is directly linked to the internet vai JANET IP service.

6.OCLC

Online computer library centre is a library network in the USA. It was established under the guidance of library automation pioneer Frederic Kilgour. The Oclc began in 1967 in Ohio college library. The Headquarters was in Dublin US.

Objectives

1.To provide resources and products for the benefits of library users and libraries.
2.To further the ease of access to the use of an ever-expanding body of world wide scientific, literacy and educational knowledge and information.
3.To establish, maintain and operate a computerized library network and promote the evaluation of library use.
4.It increases the availability of library resources to individual library patrons and reduces the rate of rise of library cost.

Activities

1.Cataloguing and metadata
2.Dewey Decimal classification
3.Open world cat
4.Oclc Research
5.Digitization and preservation
6.Standardization
7.Publication

7.INFLIBNET

INFLIBNET was initiated by the UGC. It can be defined as a computer communication network of libraries and information centres of universities, institutions of national importance, Research and Development Institutions, bibliographical information centres, etc, thereby improving the capability in information handling and services. INFLIBNET Centre is an Autonomous Inter-University Centre (IUC) of University Grants Commission (UGC) involved in creating infrastructure for the sharing of library and information resources and services among the academic and research institutions.

Functions and activities of Inflibnet

1.SOUL Software: INFLIBNET has developed library management software known as SOUL. It is associated with its training, installation and up-gradation. Delivery of the SOUL package is done through the UGC Regional office. The SOUL 2.0 was launched in 2009.

2.Institutional Repository: INFLIBNET Centre develops a digital repository using DSpace software. It hosts INFLIBNET's Press and Media related documents, INFLIBNET's Annual Reports, INFLIBNET's Convention Proceedings etc.

3.Electronic Submission of Theses and Dissertations : It is a joint venture of UGC, INFLIBNET takes an active role in making it mandatory to submit the electronic copy of a thesis whenever the research scholars submit their thesis to the respective university or institutions for the PhD degree.

4.IndCat: Online Union Catalogue of Indian Universities: It is unified Online Library Catalogues of books, theses and journals available in major university libraries in India.

5.CCF to MARC Conversion Utility: INFLIBNET launched an open source utility primarily focused on libraries, where one needs to convert CCF data to MARC21 format.

6. Standardization: MARC – II has been accepted as a bibliographic standard for data capturing.
7. Seminars, Conferences, Workshops and Training: INFLIBNET is regularly conducting Convention on Automation of Libraries in Education and Research Institutions (CALIBER) and Promotion of Library Automation and Networking in North Eastern Region (PLANNER) every year. From 2009, the authority of INFLIBNET has decided to hold CALIBER and PLANNER every alternate year.
8.Mailing Lists and Forum: As of November, 2009 INFLIBNET is maintaining four online mailing lists besides its INFLIBNET Centre Blog.

8.INSTITUTIONAL REPOSITORIES

Institutional repositories are a web-based archive of scholarly material designed to organize and provide seamless access to scholarly publications produced by faculty or researchers of an institution in all subject disciplines. It is also defined as an institution-based digital-asset management system. Institutional Repository is a cost-effective and immediate route to provide access to scholarly literature such as research papers and electronic versions of documents, theses and dissertations as well as digital assets generated by an institution such as annual reports, course notes, or learning objects, etc.
There are a total 3594 world-wide repositories indexed by the Registry of Open Access Repositories (ROAR) which includes 99 repositories in India. Directory of Open Access Repositories has indexed a total 2500 world- wide repositories, including 62 Indian repositories.

9.OPAC

It existed early in the 1960s. The online OPAC was developed at Ohio University in1975. It is one of the existing aspects of library automation.OPAC is a catalogue, which is available for searching

online. Such OPAC may be searched from a terminal within the library or at a terminal elsewhere in the organization remotely. Today the majority of the softwares which is used for automation in libraries provide a separate module of OPAC. Over the time OPAC has improved the services to the users of the library. With the latest developments in integrated systems the OPAC is connected to the circulation system so that the user of the library can come to know whether the document he/she is looking for is currently available in the library or on loan.

OPAC also gives resource sharing programs and bibliographic search which can be done by putting author, title, accession number, ISBN, Keywords etc. Search in OPAC is by using Boolean logic.

Features of OPAC

1.Types of searches
2.Browsing capability
3.Access points
4.Bibliographic display
5.Entry structure
6.Output provision
7.Hypertext links in full bibliographic display
8.communications capability

10. KOHA

Koha is the first open-source Integrated Library System (ILS).Kohl's impressive feature set

continues to evolve and expand to meet the needs of its user in the library . Koha was created in 1999 by Katipo Communications for the Horowhenua Library Trust in New

Zealand. The first installation went live in January of 2000.. In use worldwide its development is steered by a growing community of libraries collaborating to achieve their technology goals.

Modules of Koha

1.Reports
2.Acquistions
3.Cataloging
4.Circulations
5.Serial
6.online public access catalogue

Features of koha

1.Web based
2.Copy cataloging and Z39.50.
3.RSS feed of new acquisition
4.Print your own barcode
5.Simple and comprehensive acquisition options.
6.Clear,simple search interface for all users.
7.Manage online and offline resources with the same tool.
8.A full featured modern integrated library system.
9.Full catalog, circulation and acquisitions system for library stock managemen.
10. Koha is multi-tasking and enables updates of circulation, cataloging and issues to occur simultaneously.

11 NewGenLib

NewGenLib is an integrated library management system developed by Verus the Kesavan Institute of Information and Knowledge Management in Hyderabad, India. NewGenLib founder is Siddhartha Errabolu and L.J. Haravu.

NewGenLib version 1.0 was released in March
2005. On 9 January 2008, NewGenLib was declared Open Source Software under
GNU GPL License by Verus Solutions.

NewGenLib, a library automation system developed in India, has recently joined the open source community. This product was introduced in 2003, primarily intended for libraries in the developing world.

Features of NewGenLib

1. Freedom: Available under GNU GPL
2. Functional modules are completely web based. Uses Java Web Start Technology
3. Compatibility - Complies with international metadata and interoperability standards: MARC-21, MARC-XML, z39.50, SRU/W, OAI-PMH
4. Uses chiefly open source components
5. Scalable, manageable and efficient
6. OS independent - Windows and Linux flavours available
7. Z39.50 Client for federated searching
8. Internationalized application (I18N)
9. Unicode 3.0 complaint
10. Arabic version available
11. Easily extensible to support other languages
12. Data entry, storage, retrieval in any (Unicode 3.0) language
13. RFID integration
14. Networking – Hierarchical and Distributed networks
15. Automated email/instant messaging integrated into different functions of the
software
16. Form letters are configurable and use XML-based Open Office templates
17. Extensive use of set up parameters enabling easy configuration of the software to suit specific needs, e.g., in defining patron privileges
18. Supports multi-user and multiple security levels
19. Allows digital attachments to metadata.

Conclusion

The internet has thus integrated nearly all aspects of the library activities, the librarians can now use the Internet for exploiting the catalogue of the other institutions, ordering books and journals online, participate in ILL, use e-mail, and discuss through list serves, support reference service through remote databases and most important of all establish library/home pages to project their collection and services on the site.

The Internet network is the source for the information. It is one click network service for the users. The advantages of e-resources have drawn the attention of the library users to a great extent. ... The fast growth of information and communication technologies and particularly the Internet and electronic resources have changed the traditional method of research, storage, retrieval and communication of scholarly information in the library. With the Internet becoming a popular means of information access in many libraries in the known world, digital collections of printed resources are necessary function.

In the modern world of information explosion, internet has become a necessity for the libraries. The use of internet is now facilitating the role of librarians which should be of great concern to the profession. The use of internet tools and services by the libraries are changing the overall development of libraries. Libraries are using the internet mostly for acquisition, cataloguing and reference functions. Librarians can increase the users of libraries by providing valuable information of library holdings through internet. Lastly, basic training should be provided to the staffs. In order to run the libraries smoothly libraries should take the initiative in providing best services to the users and make the internet an integral part of library's infrastructure. Therefore each and every should be attached with internet.

Just as digital and electronic materials are transforming libraries in the current age, they are also transforming librarians. A librarian is no longer someone to help users find shelved printed materials; from now onward, he/she has to be proficient in the search, use and cataloguing of the aforesaid electronic counter parts. So, their job little likewise transforms, to fit the environment.

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