

Application of Computer and Information Communication Technology in Libraries

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Abstract: *Computer technology and ICT has converted library services in a better way. The library can perform its all operations with more accuracy and speed. Current world is known for electronic information. Bulk of the information is in electronic format, to handle this type of information Computer technology and ICT suit very important. With the use of Computer technology and ICT libraries can perform its functions more effectively, and it can provide more accurate and up-to-date information as per user's need. The article states that what is Computer technology and ICT Components of information technology, application of Computer technology and ICT in libraries, what is information and communication technology? What is library? And application of Computer technology and ICT in libraries.*

Keywords: Computer Technology, Information Communication Technology and its Application in Libraries

I. INTRODUCTION

1.1 Computer Technology

Nowadays, computers are associate degree integral a part of our lives. They're used for the reservation of tickets for airplanes and railways, payment of telephone and electricity bills, deposit and withdrawal of cash from banks, process of business knowledge, prediction of climate, identification of diseases, sorting out info on the net, etc. Computers also are used extensively in faculties, universities, organizations, music trade, film industry, research, law firms, fashion business, etc. The term computer comes from the word compute. The word compute means that to calculate. A computer is associate degree electronic machine that accepts knowledge from the user, processes the info by playacting calculations and operations on that, and generates the specified output results. Computer performs each easy and complicated operation, with speed and accuracy.

II. DIGITAL AND ANALOG COMPUTERS

A computing device uses distinct values to represent the info internally. All info is portrayed victimization the digits 0s and 1s. The computers that we have a tendency to use at our homes and offices are digital computers. Analog computer is a type of different computing device data electronic information processing system is another reasonably a computer that represents knowledge as variable across a continual vary of values. The earliest computers were analog computers. Analog computers are used for activity of parameters that change ceaselessly in real time, like temperature, pressure and voltage. Analog computers is also additional versatile however typically less precise than digital computers. Analog computer is associate degree example of associate degree computing device. This book deals solely with the digital computing machine processing system and uses the term computer for them.

2.1 Characteristics of Computers

Speed, accuracy, diligence, storage capability and flexibility are a number of the key characteristics of a laptop. Transient overviews of those characteristics are

- **Speed** the pc will method knowledge in no time, at the speed of several directions per second. Some calculations that may have taken hours and days to complete otherwise, are often completed in a very few seconds victimization the pc. as an example, calculation and generation of remuneration slips of thousands of workers of a corporation, forecasting that needs analysis of an outsized quantity of knowledge associated with temperature, pressure and wetness of assorted places, etc.

- **Accuracy** Computer provides a high degree of accuracy. As an example, the pc will accurately offer the results of division of any 2 numbers up to ten decimal places.
- **Diligence** once used for a extended amount of your time, the pc doesn't get tired or worn out. It will perform long and complicated calculations with an equivalent speed and accuracy from the beginning until the tip.
- **Storage Capability** giant volumes of knowledge and knowledge are often keep within the laptop and additionally retrieved whenever needed. A restricted quantity of knowledge is often kept, briefly, within the primary memory. External storage devices like diskette and compact disc will store an outsized quantity of knowledge for good.
- **Versatility** computer is flexible in nature. It will perform differing types of tasks with an equivalent ease. At one moment you'll use the pc to organize a letter document and within the next moment you'll play music or print a document. Computers have many limitations too. Laptop will solely perform tasks that it's been programmed to try and do. laptop cannot do any work while not directions from the user. It executes directions as such by the user and doesn't take its own selections.

2.2 History of Computer

Until the event of the primary generation computers supported vacuum tubes, there had been many developments within the computing technology associated with the mechanical computing devices. The key developments that occurred until the primary laptop was developed are as follows

- **Calculating Machines** ABACUS was the primary mechanical hard device for count of enormous numbers. The word ABACUS means that hard board. It consists of bars in horizontal positions on that set of beads are inserted. The horizontal bars have ten beads every, representing units, tens, hundreds, etc.
- **Napier's bones** was a automaton engineered for the aim of multiplication in 1617 ad. by associate degree English man of science Napier.
- **Slide Rule** was developed by associate degree English man of science Edmund Gunter within the sixteenth century. victimization the analog computer, one may perform operations like addition, subtraction, multiplication and division. it absolutely was used extensively until late Seventies.
- **Pascal's Adding and Subtraction Machine** was developed by Blaise Pascal. It may add and work out. The machine consisted of wheels, gears and cylinders.
- **Leibniz's Multiplication and Dividing Machine** was an automaton that might each multiply and divide. The German thinker and man of science Gottfried Leibniz engineered it around 1673.
- **Punch Card System** was developed by Jacquard to regulate the ability loom in 1801. He fancied the card reader that might acknowledge the presence of hole within the card as binary one and also the absence of the opening as binary zero. The 0s and 1s are the idea of the fashionable computing device.
- **Punched card Babbage's associate degree analytical Engine** an English man Charles Babbage engineered a mechanical machine to try and do complicated mathematical calculations, within the year 1823. The machine was known as distinction engine. Later, Charles Babbage and woman enzyme Richard Lovelace developed a general machine, the analytical engine. Charles Babbage is additionally known as the father of computers.
- **Hollerith's card Tabulating Machine** was fancied by discoverer. The machine may browse the knowledge from a card and method it electronically. The developments mentioned higher than and several other others not mentioned here, resulted within the development of the primary laptop within the Nineteen Forties.

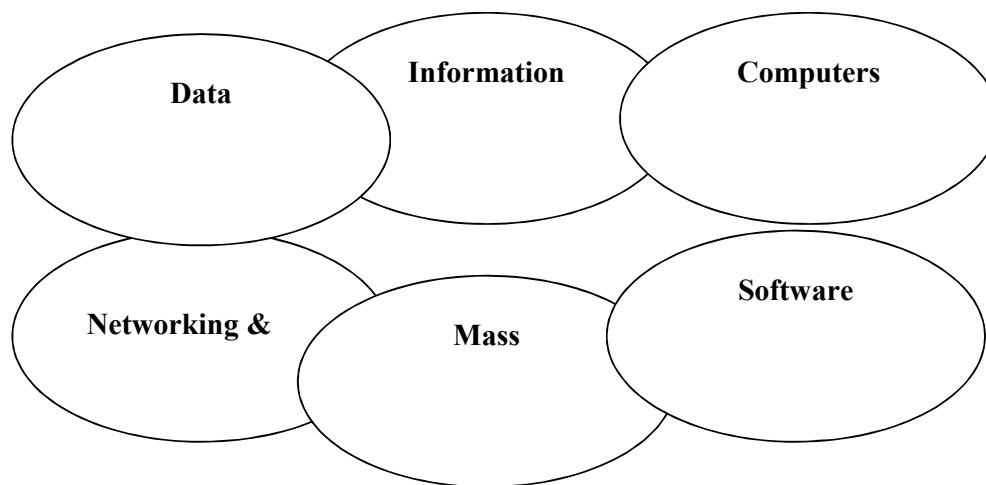
2.3 Information Communication Technology

"Information and Communication Technologies" ICT refers to technologies that give access to info through telecommunications. it's almost like info Technology (IT), however focuses totally on communication technologies. This includes the web, wireless networks, cell phones, and alternative communication mediums. In the past few decades, info and communication technologies have provided society with a massive array of recent communication capabilities. as an example, folks will communicate in period with others in several countries victimization technologies like instant electronic communication, phonation information processing (VoIP), and video-conferencing. Social networking websites like Facebook permit users from everywhere the globe to stay in-tuned and communicate on a daily basis. Library need to

perform several duties and services. With the assistance of ICT libraries will perform their duties and services terribly effectively.

III. COMPONENTS OF INFORMATION TECHNOLOGY

Technological change is becoming a driving force in our society. Information technology is a generic term used for a group of technologies. Following are the major components of information technologies as most relevant in modern library and information system.



3.1 Application of Information Technology in Libraries

The library is that the main information centre which may build use of the fat development IT for the advantages of humans as an entire. The librarian's preference of IT ought to embody all those technologies that area unit expected to be utilized in the library activities/ operations and alternative library services for assortment, processing, storage, retrieval and dissemination of recorded info, the quick developing info technologies have showered virtually each areas of application together with libraries. Just in case of libraries, these area unit sensible use within the following environments.

1. **Library Management:** Library management includes the subsequent activities which are able to actually be equipped by the employment of those quick IT developments: Classification, Cataloguing, Indexing, information creation, information classification.
2. **Library Automation:** Library automation is that the construct of reducing the human intervention all told the library services so any user will receive the specified info with the most comfort and at the bottom price. Major areas of the automation may be classified into 2 organization o f all library databases and every one housework operations of library.
3. **Library Networking:** Library networking suggests that a bunch of Libraries (information, knowledge and data) Centers area unit interconnected for a few common pattern or style for information exchange and communication with a read to enhance potency.
4. **Audio-Video Technology:** It includes photography, microfilms, microfiches, audio and tapes, printing, memory device etc.
5. **Technical Communication:** Technical Communication consisting of technical writing, editing, publishing, DTP systems etc.

3.2 What is Information and Communication Technology (ICT)?

Information and technology or info and communication technology (ICT), is usually used as AN extended word for info technology (IT), however may be a additional specific term that stresses the role of unified communications and also the integration of telecommunications (telephone lines and wireless signals), computers still as necessary package middleware, storage, and audio-visual systems, that alter users to access, store, transmit, and manipulate information.

3.3 What is Library?

A library may be a service establishment. It's a store house of knowledge that is pictured within the type of books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microform, CDs, cassettes, videotapes, DVDs, Blue-ray Discs, e-books, audio books, databases, and alternative formats. These assortment of sources of knowledge and similar resources, created accessible to an outlined community or parent body for reference or borrowing. It provides access to material that is out there in physical or digital type. It's the first duty of library to prepare its resources that is useful to those that use. It implies that the arrangement of library resources ought to be in simple and convenient.

There is a unit several services offered by the library such as: Books disposition service, Document Delivery Service, Inter-Library Loan so on.

3.4 Application of Computer and Information Communication Technology in Libraries

Information Communication Technology is incredibly helpful for libraries in making databases of their own and meeting them on the market to users through networks. It additionally permits libraries to produce effective and economical services. Most of the library operations like book acquisition, circulation, workplace management, info services, etc.

A. Computer Technology

Computers area unit currently extensively utilized in the library operations and has nice impact within the management of libraries and knowledge centers. Engineering may be utilized in varied fields of library activities. A number of the areas wherever pc application takes place are:

1. Information Resource Building

Acquisition of books, monographs, audio-visual, electronic materials like read-only storage, maps and then on. There square measure some specific functions of a procurement method. (Suggestion, recommendations and choice of library assortment.)

- Library holding checking.
- An vender selection.
- Preparation of order/cancellation of order lists with terms and conditions of the supply.
- Verifying of overdue orders.
- Track of items on order.
- Record of arrived and non-arrived items and receipt to the vender.
- Items verification with order file and invoice.
- Inspection of items by the concerned department.
- Prepare for payment after accessioning.
- Preparation budget and maintain accounts and statistics subject wise etc.
- Final report. (Items/subjects wise/chronologically/booksellers reported etc.)

2. Data Entry

- Database is required for each:
- Books.
- Clients/Members.
- Serials.
- Audio-visuals.
- CD-ROMS, Floppies.
- Gifted items.
- Maps, Reports etc.

3. Classification and Cataloguing

- Catalogue card production.

- On-line cataloguing.
- Duplication checking of catalogue cards.
- Production of duplicate catalogue cards.
- Preparation of authority file subject heading list.
- Shorting, checking and filing of catalogue cards.
- Automatic generation of added entries (author, title, series etc).
- Generation of monthly accession list.
- Developing centralized and on-line cataloguing.

4. Circulation Control

- Registration/cancellation and make time for membership.
- Issue, return, renew, reservation of documents and produce the slip for proof.
- Charges for late, lost book, binding and production of penalty slip.
- Maintenance of circulation statistics.
- Inter library loan.
- Use of bar code system.
- Report/statistics of circulation.

5. Serial Control

- Input essential serials data.
- Order list of new serials.
- Mode of payment, prepare for payment
- Receipt and updating the records.
- Receipt to vendors or publishers.
- Preparing the list of present holdings, additions, missing, cancelled serials chronologically, subject-wise, etc.
- Renewal and cancellation of present subscriptions.
- Sending reminders and follow-up of missing issues.
- Binding control.
- Accession register of bound serials.
- Prepare budget and maintain accounts/statistics - subject wise, binding etc.

6. Documentation and Allied Services

- Indexing and abstracting of micro and macro documents.
- Thesaurus construction.
- Compilation of union catalogue.
- Bibliographical control.
- Current Awareness Services.(CAS)
- Literature search.
- Selective Dissemination of Information.(SDI)
- Newspaper clippings.

7. Information Retrieval

- Database creation and maintenance, interactive searching, saving of in house as well as external databases.
- Search and print outs of queries against specified requirement.
- Information about the books (issued, reserved, lost, overdue, weed out), member-ship, inter library loan, penalty charges, periodicals, newspaper clippings, reports etc.

- According alphabetically, chronologically, subject-wise, members wise, keywords with each particular such as accession no-wise, title, author, call number, edition etc.

B. Communication Technology

Communication is that the method of reworking info from associate info supply to a destination. Communication, the exchange of data and also the transmission is incredibly essence in an exceedingly social organisation or in a company. Wordbook suggests that means of communication is news or the act of creating oneself perceive the means of causation info between one places to a different. In fashionable days, numerous means that of act the data came into existence. There's a necessity to speak info effectively, with efficiency and timely by applying fashionable technologies like communication technology. The key areas of communication technology are:

1. Audio-visual technology
2. Fax
3. Telex
4. E-mail
5. Video text
6. Tele text
7. Online search
8. Tele conference
9. Voice Mail Box
10. Satellite Technology
11. Cellular telephones
12. Internet
13. Intranet
14. Extranet
15. CD-ROM
16. DVD

IV. CONCLUSION

Computer technology and ICT has converted library services in a better way. The library can perform its all operations with more accuracy and speed. Current world is known for electronic information. Bulk of the information is in electronic format, to handle this type of information Computer technology and ICT suit very important. With the use of Computer technology and ICT libraries can perform its functions more effectively, and it can provide more accurate and up-to-date information as per user's need. The article states that what is Computer technology and ICT Components of information technology, application of Computer technology and ICT in libraries, what is information and communication technology? What is library? And application of Computer technology and ICT in libraries.

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