

CD-ROM / MULTIMEDIA - EXPERIENCES AT IGM LIBRARY, UNIVERSITY OF HYDERABAD

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ABSTRACT

This paper describes in detail the CD-ROM/Multimedia systems, products, services etc... Some useful tips for acquiring the Multimedia PCs are mentioned. CD-ROM/Multimedia experiences at the Indira Gandhi Memorial Library, University of Hyderabad is discussed in detail.

INTRODUCTION

CD-ROM stands for Compact Disk Read Only Memory. CD-ROM is the cheapest storage medium/device among the Optical Disk family. Before CD-ROM, there was no practical way to store and deliver large volume of data required to create big databases or mixed text, data graphics, audio, video and software. CD-ROM has enabled applications of Multimedia in a practical way. Since CD-ROM is Read Only Memory disk, there is no chance to accidental overwrite any information on CD-ROM or infected it with a virus. Only 1.2 mm. thick, 50 gms. weight highly portable and can be handled across many types of systems. Now a days most of the databases, abstracting and indexing journals, full text journals, books, multimedia titles are available in CD-ROM form.

1. CD-ROM SYSTEM

CD-ROM system consist of the following components :

1.1. Information source :

The CD-ROM disc is an optical disc on which the desired database is stored along with index details by the CD-ROM publisher. The data base is structured, mastered and coded by the publishers as a proprietary process. This disc is the information source component of the CD-ROM system. It can store 600 MB of data.

1.2. CD-ROM drive :

Another component of the CD-ROM system is the CD-ROM Drive which loads and runs the disc. It has a built in laser beam device which scans and reads the CD-ROM system. Phillips, Sony and Hitachi are the leading manufacturers of CD-ROM drive.

1.3. Computer :

A personal computer with minimum RAM size of 640 KB or higher with a monitor, a floppy drive 5 -1/4 or 3 -1/2 inch, hard disc and printer form part of the CD-ROM system.

1.3. Disc control Card :

It is an interface hardware supplied with disc drive but should be inserted in the PC as part of system

installation. This card establishes the required intelligence link between the PC to search and the CD-ROM disc to read. This device is also a proprietary item.

1.4. Software :

A retrieval software written specially for accessing data on CD-ROM disc is a proprietary product of the CD-ROM publishers. The software may come separately on a floppy disc or it may be inbuilt in the CD-ROM disc.

1.5. Humanware :

System person who operates the CD-ROM system needs to have basic knowledge about the computer and operating system such as DOS, Windows, etc.

2. CD-ROM PRODUCTS/DATABASES

Leading publishers are simultaneously bringing out their paper print in CD-ROM forms, Books in print Plus, DESCO serial directory, McGraw-Hill, Elsevier, Pergamon, Cambridge, John Wiley, etc. are publishing their catalogue and title on CD-ROM.

At present most of the Indexing and Abstracting journals, full-text journals, like Current Contents, Chemical Abstract, IEEE journals, Nature, UMI Dissertation Abstracts, INSPEC-Physics, Electronics and Computing Abstracts, Engineering Index, Medline, Agris, Agricola, NTIS, OCLC Catalogue and most of the reference sources like dictionaries, encyclopedia, handbooks are available on CD-ROM.

3. MULTIMEDIA

Multimedia means digitising information from a number of sources, text, sound, picture, video, music and recording it on a computer system where it can be manipulated and recombined.

Multimedia technology enables the user to be in-charge of the information flow freed from the whims of the information presenter, and allows a level of interaction that was not possible earlier. The familiar expression, "a picture is worth a thousand words" aptly sums the utility of the illustrated picture. Image convey the meaning which is difficult to express fast just using cold impersonal alphanumeric computer text. Multimedia proves an environment for creating

an information web by intermeshing different streams including image and video. The moving picture assisted with sound gives a perception of being there at the science of the action.

Before getting into the details of multimedia, it is important to understand some terms associated with multimedia and where they are used.

3.1. Text :

Text is one among the Multimedia component. In multimedia text can be presented in different forms like full text, abstract form, bibliographic form. By Boolean logic, author, title, word, hypertext one can retrieve the data form the multimedia title. We can also select different kind of fonts.

3.2. Hypertext :

Software that enables the user read text linking a variety of linear or non-linear locations and to creates new links between words and passages of texts. A hypertext system allows authors to link information together, create paths through a body of related material annotate existing texts, and create notes that direct readers to either bibliographic data or the body of the reference text. Using a computer based hypertext system, students and researchers can quickly follow trails of footnotes and related materials without losing their original context.

3.3. Hypermedia :

Interactive programmes in which information is stored in number of different media and organized so that it can be retrievable and measurable in variety of ways that amplify meaning for user. Hypermedia involves the presentation of information in media that most effectively communicate its contents and provides the user with the meaning and sequence of information in ways that are most appropriate way for a given task. With a hypermedia system, authors can create a link body of material that includes text, static graphics, animated graphics, video and sound.

3.4. Still Images :

Still Images are nothing but Graphic Images like photographs, drawings, graphs etc. It is an effective communication/information tool for both literate and illiterate. The high quality resolution and colour in computer make it very effective in multimedia presentation.

3.5. Animation :

Animations refer to moving picture or video. This is also a most powerful communication. This can make even the most complex process seem simple and elegant if executed properly. There are two basic kinds of animation-frame and cast. Frame animation is similar to conventional manual animation; each frame is progressively different from the previous one. When these frames are displayed in rapid succession, the illusion of motion is created.

3.6. Sound :

This is another important communication element, particularly for presentations. By adding a sound card to the PC and using the Window's Sound recorder, one can record comments or add voice annotation to spreadsheets and word processed documents. Understanding how sound is stored and manipulated on the computer is the key to great multimedia.

3.7. Digital video :

It combines sound, video, and animation looks great too. The only problem, however, is that it requires massive disk space, fast drives, and a fast processor because video playback has to be done at 30 frames per second (fps) to achieve TV quality.

4. CD-ROM/MULTIMEDIA RETRIEVAL SOFTWARE

Information on CD-ROMs, text, audio or video can be accessed through the propriety retrieval software built into the CD-ROM or separately. The retrieval software is available for DOS/MS WINDOWS and MAC WINDOWS with graphical user interface and online help facilities.

The software from each publisher has been designed with powerful and efficient retrieval of information. Printing, down loading from CD to hard disk or floppy, browsing only title, viewing in multiple formats, truncated phrase searching, index browsing, thesaurus searching, Boolean logic search, security are some of the other feature that are built into the software.

Multimedia CD-ROMs are available with the searching software mostly on Window based with icon creation, menu button such as hypertext, video, illustration, maps, full text, go to text, foot notes, font selection, auto page scrolling, selecting pages, printing option etc., user can select any option from the menu button by moving the mouse arrow to the appropriate button and click.

5. CD NETWORKING

Number of CD-ROM network software and devices are available mostly on LAN. This provides simultaneous CD-ROM access to many users by putting multiple drives on a PC server and connecting the server on to the network. MERIDIAN, PIONEER, ARTISOFT, ONLINE INC. SILVERPLATTER INC. with MULTIPLATTER, NSM, TODD and DEC Infoserver are some of the CD Net companies. DEC Infoserver is the latest CD-ROM server, which connect directly to ethernet and is therefore, accessible by any machine on the ethernet or on a LAN attached to the ethernet.

5.1. Drawbacks of CD-Net :

To link up CD-ROMs, especially from different publishers in a network, can give compatibility problems between the application software for the network and the software from the different CD-ROM producer, but time will probably solve these difficulties. At present CD Net multi user time is slow,

while selecting one particular CD-ROM from the CD Net by different user is quiet difficult.

6. MULTIMEDIA PC COMPATIBILITY

- > 486SX processor with 25MHz or above
- > 4MB RAM, but 8MB is recommendable
- > Minimum of 200 MB Hard Disk
- > Double speed CD-ROM drive, preferably quad speed
- > VGA display with 256 colour, SVGA is well and good
- > 16 bit sound card with 8 note synthesizer and MIDI playback
- > 1.44 floppy drive
- > Two button mouse
- > Joystick
- > Window 3.1 and above

6.1. TEN tips on buying a Multimedia PC :

i) Processor :

Intel's 486 processors provide enough computing horsepower to get the job done. Some multimedia functions will be further enhanced with even faster processors, such as the Intel Pentiums.

ii) Memory :

A minimum of 4MB of RAM is required, recommendable is 8M bytes for good performance.

iii) Hard Disk :

Multimedia tends to eat up hard disk space, so don't buy anything less than 200MB of hard disk storage.

iv) Video Resolution :

For best result, the multimedia computer should be able to display a VGA resolution of 640 X 480 pixels with a palette of 65,536 colours. SVGA is well and good.

v) CD-ROM DRIVE :

The CD-ROM drive is the backbone of the multimedia PC system because of the variety of multimedia sources, sound, video and effects that are available in this format. A dual-speed drive is the minimal requirement but quad speed is better.

vi) Sound capability :

The Multimedia PC should be able to amplify both 8-bit and 16-bit sound at frequencies of up to 44KHz. It should support input mixing and MIDI (Musical Instrument Digital Interface) connections.

vii) Easy Setup :

Make sure that the multimedia PC you buy is well-bundled, pre-configured and optimized multimedia system that works the moment you turn the switch on. It should also have rich assortment of software already installed.

viii) Upgradability and Flexibility :

Over a time, you may wish to upgrade your multimedia PC with more RAM, peripheral devices or even a faster microprocessor. Make sure the PC has room to expand.

ix) Brand Name :

Always look for a well-known brand name in multimedia PC. A solid brand name means the manufacturer will stand behind its product, and will be there in future if you have questions or require service. Branded manufacturers know that reliable, high quality parts and construction mean lower costs in the long run, so you'll find the best quality internal components in branded systems.

x) Service and Support :

It is important that customer support is available at all times. Warranties should cover parts and labour for longer than an year, and should be available on site, rather than requiring a trip to the service depot.

If one can consider follow these ten simple guideline and choose a multimedia PC carefully, one can enjoys, trouble-free, high-performance multimedia computing now and well into the future.

7. CD-ROM/MULTIMEDIA FACILITIES AT IGM LIBRARY, UOH

The University of Hyderabad has its own Campus Wide LAN which connecting all the Schools/ Departments and Library. The Library's computer facilities are connected to the Campus Wide LAN which became fully operational from March 1995. Any one from the LAN can search the Library database as well as CD-ROM/Multimedia titles from the CD Server.

7.1. Services :

The IGM Library's Computer section is kept open at present from 9.00 a.m to 5.30 p.m. Users who would like to use the Multimedia PCs in the Computer section are allowed on first-come-first-serve basis. At present there are no charges levied for searches. We also allow down loading the required data from CDs on to new/fresh formatted floppies in order to avoid virus problems. The newly acquired CD titles which are highly in use are loaded on the CD-Net to enable the users to access over the campus network also. Necessary training is provided for accessing CD-Net to the network users. We have also included this module in our regular Library Orientation programme to the freshmen. At present four staff members working in the computer section are handling and training the users in their day to day searches. These staff members have basic knowledge in computers and operating systems and expert skills in handling the LIBSYS; the Library application software package.

The following titles are presently available in our Library :

7.2. CD-ROM titles :

- > UMI Dissertation Abstracts
- > Chapman and Hall Organic Compound Dictionary
- > Keesing's Record of World events
- > ERIC on CD-ROM

- > MEDLINE from Silverplatter
- > Nature
- > Publishers Catalogues (CUP, Elsevier, etc.)

7.3. Multimedia Titles :

- > The Story of World Civilization, by Will and Ariel Durant (14 Vols.)
- > The complete texts of 1770 Historical, Classical & Cultural titles by different authors including 43 works of William Shakespeare.

7.4. CD Server :

The CD Net Server with 4MB RAM with Seven Drives (DEC InfoTower) is located in the Library and is connected on to the campus network. Some of the CD titles are loaded on the CD-Net to enable the Schools/Departments to access and search the information that is required, out of the CD titles loaded on the CD-Net. The CD Net Server is connected with a software called Path Work, a proprietary connecting and managing software of DEC. Each School/Department is provided with one Path Work license for accessing CD-Net from the Library. Schools/Departments can acquire additional licenses from their budgets. Library is coordinating in providing the connectivity.

7.5. Multimedia Computers :

Four Multimedia stand alone PCs are placed in the Multimedia Section of the Library where the users can access the CD-ROM/Multimedia titles other than from CD Server. These Multimedia PCs are also connected to the Main Server as well as CD-Net and on to the Campus Wide LAN.

7.5.1. Specification :

- > 386SX with 8MB RAM
- > SVGA monitor with 256 Colour support
- > 101 Key Board
- > 380 Hard Disk
- > 1.44 floppy drive
- > Mouse with three button
- > 16 bit Ethernet Card

7.5.2. Multimedia Kits :

- > CD-ROM Drive with double speed
- > 8 bit sound blaster Card
- > 5 amps double speaker
- > Microphones
- > Headphones

7.6. Training :

The CD-ROM/Multimedia title and the searching software/technique requires training for the staff and users. First the staff were given training by the vendors. Such staff members spent considerable time in practicing with the system. They could look at all possible ways to think about the mistakes a 'novice' might make. This gave an opportunity to them to deal with those mistakes when they occur with patrons. After adequate training, the staff started training the users with proper planning supported with

basic instruction materials.

For the users the training programme were conducted in two ways viz. One-to-one instruction & Group session.

a). One-to-one instruction at the machine is always effective. Though it is time consuming but offers an individualized approach to prepare patrons, especially those who are reluctant or first time user.

b). Group training session were held during the semester or beginning of the academic year with instructions at the individual systems. This gave some kind of exposure to the systems before the users could operate the machines for searches.

The training process involved instructions covering different levels. Some may never have touched a keyboard, much less hear of Boolean logic. The trainees were allowed to do the work themselves. Most people learnt by practicing on site which made them become confident the next time to use the system much easier.

IGM Library undertook both one to one and group session training to its users continuously for more than a month. Formal training sessions were held during orientation programme at the beginning of the academic year i.e. August'95. Network users were trained at their sites with basic instructions. Experience of our library about user interaction with computers is very encouraging. The OPAC terminals in the entrance lobby are always in use and sometimes overcrowded. We are planning to place some more OPAC terminals for users in the stack areas. User interaction with CD-ROM/Multimedia is catching up fast with more and more users coming to know about the facilities.

8. CONCLUSION

CD-ROM/Multimedia is catching up quickly in India. The retrieval of required information from this media is accurate, fast and less expensive. As part of modernisation of library facilities this media need to be considered for acquisition. The libraries should use them to the maximum extent by providing information to many users in and outside their university libraries leading to better resource sharing activities among the libraries. Libraries should design proper training session to the users in handling the new media. Even libraries may enter into marketing the information to raise their resources by using these newer media and techniques.

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