

Concept of digital libraries: role of digital right management in the fair use of digital material

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Abstract

A digital library is a collection of library material converted to machine readable format for preservation or instant access. There was the requirement of such a technology which may safeguard the interests of the copyright holders by restricting the access of digital contents. DRM serves the purpose. It has also been stated as the saviour of intellectual property. The paper will discuss the concept and benefits of the digital libraries. DRM, its advantages, disadvantages and role in the libraries shall also be discussed in the paper.

Key words: Digital library, DRM

Concept of Digital Computers

Modern computers are digital computers because they operate on binary digits 0 and 1. They understand the information which contains 0s and 1s. In the case of alphanumeric information the alphabets are coded in binary digits. In digitized text each alphanumeric character is represented by a specific eight-bit sequence called byte. Computers do not operate on analog quantities directly. If any analog quantity is to be processed it must be converted into digital quantity before processing. The output of a computer is also digital. If any analog quantity is to be processed it must be converted into digital quantity before processing. If analog output is needed the digital output has to be converted into analog quantity? If output is to be displayed in the form of text, the digital output is converted to alphabets. The component which changes alphanumeric characters to binary format and binary format to alphanumeric character are the essential parts of a digital computer. The computers used in the library transmit data in digital format. (Ram, 1995).

Introduction of Digital Libraries

Digital Library is the place where information

is stored in digital format and can be retrieved on networks. This is totally a library with managed information. The data when organized systematically becomes a digital library collection. Digital library can be of any size. It can be of small size or it can be of bigger size. Different people can use different software as per their requirements. The main problem in digitization is the resistance to change. People still want to keep themselves engaged in traditional type of methods. They still believe in such type of information, which has to be organized, stored and disseminated. They still need to find information that others have created and to use it for study and reference. The main thing is that the form of the expression of information and the methods to organize it are influenced by the technology.

Every day the quality and the quantity of the collection available in the digital form nurture and the supporting technology also improves. This brings change in the mental attitude of the people. To develop a digital library, technologies are available in the society. It depends upon the people how they utilize these technologies. Two important groups remain available for this innovation. One group comprises of informational professionals comprising of librarians, information Scientists and publishers etc. The other community comprises of the people who are technically trained in computers and networking etc. The interaction between these two communities is must. People of computer field are not well conversant with the

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basic tools of librarianship. Same way librarians too have little knowledge of computers, which is a dangerous thing. However there should be clear understanding between these communities. This is a consequence of digital libraries becoming a recognized field of research, but more important factor is the increasing involvement of the users. Technological advancement has made electronic information available to every user. Readers have now direct access to the information without any intermediate. Many developments are coming from various groups who develop digital libraries for their own use. Technology influences the economic and social aspects of information and vice versa. The technology of digital libraries is developing fast, moreover with the information explosion the attitude of the people are also changing (Joshi and Kumar, 2006)

Need for the digital libraries (Arms, 2005)

The basic reason for personification of digital libraries is a fact that information can be retrieved in a better way in comparison to the past. In traditional libraries there was a concept of short range and long range reference services, in which time is taken to provide the information to the users. But in digital libraries the concept has totally been changed and the users can retrieve the information sitting on the personal computers from the whole world. Some of the benefits of the digital libraries are stated as under:-

The world has become closure

With the advent of the internet one can retrieve information sitting anywhere in the world. With the inception of broadband services speed of the internet has also been increased. On the other hand to get the information out of the printed material in conventional library is cumbersome and time consuming.

It is pleasant to see information on the computer

With technological advancement, the quality of presentation of information on the screen of the monitor has been improved. People feel comfortable looking the information on the screen rather searching the information on printed material.

Information storage is cheaper through computer than paper

Conventional libraries occupy big space having huge staff. This increases the overall cost of the information. On the other hand storing information on the computer as compared to storing it on documents is much cheaper.

Digital library is accessible to every user

In traditional library user need to visit the library for the sake of information. On the other hand a digital library brings the information to the users. The digital library exists where there is a personal computer with a network connection.

Shared information

In digital libraries information readily remain available on net, which can be easily shared by many users in a single instance. On the other hand if the information is retained on a paper it is very difficult to use the same simultaneously.

Information can be updated

Printed materials are always difficult to update, because the whole document need to be reprinted and the old version need to be replaced. With the help of the computer updating of information is very easy. These days online versions of various books are available, whenever they are revised they just need to be installed on the computer.

Information is readily available

The information in digital library is always accessible. There is no opening and closing time schedule for the digital library. User can retrieve any information at any time. There is no chance of pilferage of library material. No possibility of miss-shelving of library material. It does not mean that digital libraries are always perfect. The speed of the network may be slow or there may be any technical problem in networking. In traditional libraries information is not available always or at any time. This problem has been solved by the digital libraries.

Access is possible from anyplace anytime

In digital library computers are connected through the networking. It is very easy to sitting anywhere at any time. User need not to do much effort to search the information. That is easily

available on single click.

Improved searching

Searching has become very improved with the advent of digital libraries. Users need not required to search the books on shelves. They can search the reading material available in the whole world by sitting at one place.

Promotes E-learning

With the inception of digital libraries users are using E- resources to satisfy their information thrust hence promoting to the E-learning.

Promotes paperless society

In digital libraries paper is not requires to store or retrieve the information .Information is stored on the CD-Rom, Hard dicks, Pen drive etc. Hence promotes the paperless society.

Instant downloading

In digital environment information can be downloaded instantly. Moreover when a key word is entered to search any information search engine provides a large number of hits enabling the user to store a large volume of data. .

Concept of Digital Right Management and its need

Digital Rights Management (DRM) can be described as the technology of control over the access of digital contents. This is used by the publisher /software developers to curb the unauthorized usage of their digital material. Today this is an issue of great significance. It is being stated as the saviour of intellectual property rights. It ensures the secure digital supply system. (Braid Andrew.2004) Digital Rights Management is also called ECMS or electronic copyright management system. This is a technology which manages the rights with regard to information. But lot of controversy is there. Some says that DRM is essential to protect the rights of the publishers to curb the duplication of their digital material. At the same time DRM ensures that copyright owners receive adequate income for the material distributed over Digital Right Management System. The Free Software Foundation suggest that use of the word 'Right' is misleading and suggest that Digital Restriction Management should be used instead of Digital Right Management. (wikipedia.) Due to the information explosion

and huge availability of information in digital format and the increasing possibility of copying the information, put into danger the existence of copy right issues. Technological inventions are taking place these days to safeguard the intellectual property .These innovations controls the access to the digital contents ensuring that only permitted person may access the digital information so that the interests of the publishers may be protected. Earlier Libraries purchase the copy of the book for the use of its clientele and the same was used till it remained in the library. But digital information is governed by the license/contract and only those can access the digital information that has the authorization from the publisher by any mean. Locking the contents of digital material is really a great challenge for the world for the fair use of the digital contents. People are not aware of the critical issue of digital rights and librarians can come forward to make them aware in this regard. Three main reasons have been considered for the implementation of the DRM:

- i. Publishers are not in direct control when supply is through a third party
- ii. They fear that inappropriate use might result
- iii. They fear erosion of their subscription base". (Braid, 2004)

With the advent of internet technology it is very easy to copy any of digital material. Some of the copyright owners are afraid that their copy right works will be misused. This is why the need of digital right management is felt. With the help of DRM, copy right owners have control over the access of their works. Thus, DRM is very helpful to reduce the misuse of digital material for the copyright owners. This will also increase their earnings, because users need to pay for each access and use of work they wish to make. DRM will also helpful to find out the usage of the digital material, which can provide the distributor of the DRM with unique marketing information not otherwise available. Following has been rightly remarked about the DRM: "With Digital Rights Management?... , Christopher May, an expert on intellectual property, argues that digital rights management (DRM) is a technology that we all need to understand: we should be aware of the reasons why it is

propagated, but also the underlying dangers. Although in a brief and succinct manner, a number of these potential dangers and especially the political impact on the global society are brought to the attention of the reader" (Fourie, 2008).

Presently many of the DRM systems are available in the market e.g. Apple's Fair Play and Microsoft's Windows Media DRM and work is still in progress to develop more systems and to improve available systems. The DRM system developed today is totally a proprietary item for which owner and user need to buy a particular technology or device.

DRM and Standardization

As the technology advancement took place, efforts are made to standardize the DRM components. The more the system will be user friendly; the more consumers will prefer to buy the infrastructure related to it. If more consumers buy such equipments, more contents will be made available for the DRM system, because as the demand increases, after passing a certain point it will lead to positive feedback effects. This will also result in the dominancy of that DRM system and competing DRM systems starts fading out of the market. Whenever a company launches any system first time in the market, it cashes all the opportunities related to it. Companies are now interested in standardizing DRM components. They want to create widely accepted DRM standards, for positive feedback effect.

Fair use of Digital Contents

Digital material can be distributed infinitely. Copyright owners and publishers are using DRM to protect their material from unauthorized usage." For instance most DRM technology today binds the content object to a specific device. This is usually a one for one relationship that is, the PDF can only be read on the PC, it was downloaded to, or the MP3 may be only be played on one specific mobile device" Today we play and share our CDs and DVDs with our near and dears . Considering this copyright owners are looking for other forms of digital fair use in view of the effects of locking the digital contents on their revenues (Davis and

Lafferty, 2002).

Security of DRM systems

The DRM systems are also not safe .They can also be hacked. This is due to these threats many countries have signed treaties to establish anti circumvention laws at global level like WIPO copyright treaty and the WIPO performances and phonograms treaty. But this legal protection is controversial for many points of views.

1. It can limit the access
2. It can deny the use in fair cases also
3. Jeopardize the long term preservation of information
4. Conflict with consumer expectations
5. Negative impact in the areas of Open Source Software

Copyright law and Digital Right Management issue

Now the question is that we shall have fair use. Copyright law will still identify our rights to fair use. Copyright law is flexible and one is allowed to make his own judgment. But with DRM it is not possible to use these rights. Digital Right Management implements the copyright law and on the other hand it also controls the contents and protects the digital material. DRM protects the digital contents through the license. The permission to access the digital material under DRM is not like copyright law; they are like the grants that can be expressed in a computer environment. The license under DRM may allow you to copy six pages of digital material and if one wants to copy more than six copies, thinking that it comes under the purview of fair use, the software will not allow this .You will be allowed to copy six pages of that digital content.

The next major difference between the DRM and copyright law is that copyright law sets few policies for replication .Authorized right holders are allowed to make copies of the material. On the other hand DRM works opposite "where copyright law is an expression of "everything that is not forbidden is permitted," DRM takes the approach of "everything that is not permitted is forbidden." In Digital Right Management

permission for copy/print is specifically granted, if the right for the same is not given then the system will not allow copy/print any digital contents. This is the important feature of the software developed for the purpose. The major disadvantage of the DRM system is that software developed for the purpose does not recognize the future changes which make them incompatible with the innovations which are going to take place in future. For the successful working of DRM system either future innovation should be taken in to the account by the software developers or periphery should be left to incorporate that changes. (Coyle, 2003).

DRM and Libraries

There is no hesitation to say that DRM has a fabulous impact on libraries. Presently DRM softwares are in its early stages and time is required for the development of sophisticated softwares. It is thought that long run impact of the DRM can not be predicted today as the technology is in its prime stage. Some general cautions need to be taken into consideration so that library lending may not be affected. Presently the need of the hour is that the systems which are developed for the sale of intellectual works should be changed into the lending system as it is identical to a short term sale transaction. Moreover policy makers should always consider the interests of the libraries before framing the policies for Digital Right Management. (Coyle, .2003).

Conclusion

Thus it can be concluded that though emergence of digital libraries are the boon for the users but side by side it has negative impact on copyright owners/publishers. As material is easily available on net any body can violate the copyright act. Digital Right Management can be very helpful to safeguard the rights of the

copyright owners. But this is not much useful to fight with piracy. However it is also not an easy task to deal with the misuse of digital material on net. DRM developers should be given much protections and flexibility so that they may be motivated to develop result oriented DRM systems. This may be built in which fair use privileges and legal right to information can be managed. Every new system when originated has its own pro and cons. But as the time passes with technological advancement and competitive innovations they start giving positive results. Moreover the policy makers should also make the policies in such a manner that it may not hamper the services of the libraries

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