
UNIT 14 DIGITAL RIGHTS MANAGEMENT

Structure

- 14.1 Introduction
- 14.2 Objectives
- 14.3 Digital Rights Management: Meaning, Purpose and Elements
- 14.4 Rights Management Information
- 14.5 Technological Protection Measures
- 14.6 Legal Protection against Circumvention of Technological Protection Measures
- 14.7 Conflict of DRM with Existing Principles of Copyright
- 14.8 Future of DRM
- 14.9 Summary
- 14.10 Terminal Questions
- 14.11 Answers and Hints

14.1 INTRODUCTION

As a reward for their creativity and investment, the copyright system grants creators exclusive rights in their works. That means third parties are prohibited from using works in a manner that is covered by the exclusive rights, without obtaining permissions from the right owners. Right owners will usually grant such permissions in exchange for compensation and on the basis of certain terms and conditions of use. These conditions are recorded in contractual arrangements concluded between right owners and users. But the popularity of personal computers, the Internet and file sharing tools have made the distribution of copyrighted digital media files simple. A lot of digital products like music, films, software, text, images, etc. are available on the Internet and they are freely available through various network architectures. In the offline world these products are protected by copyright law and are available for a price. But on the Internet they are mainly available for free through various P2P networks. This free distribution and downloading is frequently referred as online piracy of copyrighted material.

The availability of multiple perfect copies of copyrighted materials is perceived by much of the media industry as a threat to its viability and profitability, particularly within the music and movie industries. Digital media publishers typically have business models that rely on their ability to collect a fee for each copy made of a digital work, and sometimes even for each performance of said work. This digital technology has led to a loss of control by the owners over their own copyrighted products. But the remedy for this loss of control is increasingly being sought in the technology itself.

DRM includes within its ambit the various technological tools designed for digital media publishers as a means to allow them to control any duplication and dissemination of their content. The digitization of content, together with the increased reliance by

rightsholders and intermediaries on technological adjuncts is influencing the traditional means of licensing intellectual property rights. This application of technology to facilitate the exploitation of rights is commonly referred to as “digital rights management” (DRM). In effect, DRM systems aim to automate the process of licensing works and of ensuring that license terms are complied with.

Legal support for DRM systems is to be found in the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT). In 1996, two treaties were adopted by consensus by more than 100 countries at WIPO: the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) (commonly referred to as the “Internet Treaties”). The WIPO Internet Treaties are designed to update and supplement the existing international treaties on copyright and related rights, namely, the Berne Convention and the Rome Convention. They respond to the challenges posed by the digital technologies and, in particular, the dissemination of protected material over the global networks that make up the Internet.

Because the technology holds the promise of curbing rampant piracy of copyright works, rights owners have placed a great deal of faith in DRM as a means of enforcing their rights in the digital environment. Substantial investments and efforts have been made in recent years with a view to the development and deployment of the DRM systems.

14.2 OBJECTIVES

After reading this unit, you should be able to:

- define the meaning of digital rights management;
- explain the elements and purpose of digital rights management;
- describe right management information;
- describe the technological protection measures;
- explain the legal protection against circumvention of technological protections measures;
- explain the conflict of DRM with principal of Copyright; and
- analyse the future of digital rights management.

14.3 DIGITAL RIGHTS MANAGEMENT: MEANING, PURPOSE AND ELEMENTS

DRM is a systematic approach to copyright protection for digital media available in Cyberspace. So, the term DRM includes all the technical systems designed to facilitate the management of rights in respect of digital content. DRM technologies can be used in connection with both offline and online media. Examples are copy-protected CDs or DVDs and download services such as Apple’s iTunes. Figuratively speaking, DRM systems put up electronic fences in order to keep unwanted visitors away and only provide access to invited guests.

Although online content is protected by copyright laws, policing the Web and catching law-breakers is very difficult. The purpose of DRM is to prevent illegal distribution

of paid content over the Internet. DRM products were developed in response to the rapid increase in online piracy of commercially marketed material, which proliferated through the widespread use of various Internet based technologies like P2P and hyper linking.

DRM systems are aimed at enforcing certain business rules in respect of the use of content protected by copyright. Typically, these business rules concern questions like, who is entitled to access a work, at what price and on which terms. These terms address questions such as whether a user is entitled to make any copies of the work; or how long a user is entitled to access a work; whether a user can excerpt the work or make changes to it; whether a user can access the work on one or on multiple devices, etc. In effect, DRM systems aim to automate the process of licensing works and of ensuring that license terms are complied with.

Since people who download contents from the Internet without paying for it are potentially very many, DRM technology focuses on:

- Identifying the content and its owner
- Making it impossible to steal Web content in the first place which is a much surer approach to the problem than the hit-and-miss strategies aimed at apprehending online poachers after the fact
- Making it possible to identify infringements of work and/or who is responsible for it so as to enforce one's rights

The elements associated with DRM systems are:

- (1) Identifiers, i.e., numbers or codes permitting the unique identification of a piece of content (comparable to, for example, the ISBN number in case of books);
- (2) Metadata, i.e., information about the piece of content which may include, for example, the identity of the rights holder, the price for using the work, and any other terms of use of the work; and
- (3) Technological protection measures, i.e., systems designed to ensure that certain usage rules are complied with, in particular those concerning access and copy control.

The first two are classified as 'Rights Management Information' and the third as 'Technological Protection Measures'.

Please answer the following Self Assessment Question.

Self Assessment Question 1	<i>Spend 3 Min.</i>
What do you mean by digital rights Management?	
.....	
.....	
.....	
.....	
.....	
.....	

14.4 RIGHTS MANAGEMENT INFORMATION

The primary requirement for the automated grant of rights in a digital context is that the protected work and subject matter can be identified as such belonging to the relevant authors and right holders and the licensing terms must also be available electronically. On the one hand, this information must be easily readable for a potential user and on the other hand it should not be easily erasable so that it remains embodied during the subsequent stages of exploitation in connection with the work. In addition, rights holders must be able to prove their authorship and ownership of rights in case of infringement; the relevant information should not be discernible to third parties and should remain embodied within the work even after the latter has been adapted, or where parts of the work are used.

This is possible only if certain data which identifies the work, the author of the work, the owner of the work, or information about the terms and conditions of use of the work which are necessary for licensing and payment of licence fee, are embedded in the work. This data is classified as 'rights management information' in the WIPO Copyright Treaty (WCT) and the WIPO Performers and Phonograms Treaty (WPPT).

Article 12(2) of the WCT defines rights management information as, "Information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represents such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public."

If we look on to the offline world 'rights management information' is not all that unknown. Identifiers have been used in case of books and cassettes by way of putting the name of author, publisher, price tag and ISBN. But in the digital age copyright products like video films, sound records, software, text, etc. have become container-less. They increasingly appear as part of 'information' in the form of bits and bytes in cyberspace. So, 'rights management information' has to be imbedded in the work itself.

Moral rights which are a part and parcel of the overall copyright philosophy give rights to the author of a work to be identified as such and to object to any distortion or mutilation of his work. In the digital age it has become very easy and within the reach of ordinary people to detach the author's name from the work and put someone else's name in its place; manipulate with a work so as to distort or mutilate the same. So, 'rights management information', in this regard, becomes extremely important from the angle of moral rights as well.

A considerable amount of work is being done on 'copyright tagging' and developing 'unique identifiers' so that the owners of digital material will be able to identify their property wherever it is and however it has been modified or distorted. Moreover, this technology, together with the development of 'intelligent agents' or 'bots' which are capable of trolling around cyberspace identifying these tags, will help track the copyright material across the Internet wherever it may be.

'Rights management information', as a technological adjunct providing legal support to network based rights management systems is expected to enhance the ability of

rights holders to exploit their property on the Internet, and allow consumers to rely on the accuracy of the information they receive so they can feel secure transacting online.

As this ‘rights management information’ is the result of a technology it is also possible to erase the same with the help of technology itself. Therefore, legal recognition and protection to rights management information have been provided in WCT and WPPT and have come up in a number of national legislations which penalize anybody tampering with such ‘rights management information’ employed. Contracting parties to the Internet treaties have agreed to provide legal remedies against any kind of removal or alteration of any of the above information as well as distribution or communication to the public of copies of work with such removals or alterations. Art. 12(1) of WCT states, “Contracting Parties shall provide adequate and effective legal remedies against any person knowingly performing any of the following acts knowing, or with respect to civil remedies having reasonable grounds to know, that it will induce, enable, facilitate or conceal an infringement of any right covered by this Treaty or the Berne Convention: (i) to remove or alter any electronic rights management information without authority; (ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority.” In this direction suitable amendments have been proposed be made in the Indian Copyright Act on lines of the WCT and WPPT.

Please answer the following Self Assessment Question.

<p>Self Assessment Question 2</p> <p>Define Right Management Information?</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p><i>Spend 3 Min.</i></p>
---	----------------------------

14.5 TECHNOLOGICAL PROTECTION MEASURES

When a digital product is made available for access on the Internet, anyone in the world becomes capable to download the product free of charge, use it without restrictions, incorporate the product into his own product and make the resulting product available in a global network, hence competing with the product of the creator himself. This is about how technology can assist a crafty person to exploit someone else’s work digitally.

In order to fight this loss of control over the product in the digital environment to a large extent the solution is being sought in technology itself. The problems created by technologies need to be tackled by technologies. As Charles Clark put it, “the answer to the machine is the machine”. Such technological systems of protection include: anti-copy devices, access control, electronic envelopes, proprietary viewer

software, encryption, passwords, watermarking, electronic lamination, user authentication, metering and monitoring of usage, encapsulating copyrighted works in a tamper-resistant electronic envelope, etc. Several industry and technology initiatives to set standards in various industries have emerged over the years, although none have yet established uniform standards for technological protection measures.

The need of technology is not only for preventing the work from being stolen and misappropriated, but also for detecting infringements and misappropriations. It is necessary to wait and see whether in future so-called ‘software agents’ will search the entire global network for authorized and unauthorized usage of works and communicate the relevant information to rights holders.

The music industry, for example, has developed copy proof compact disc (CD) technology that prevents CDs being played on computer disc drives. Copyproofing employs various technologies either by including errors in the data encoded on the CD, which allows the disc to be played on a standard CD player, but not on a CD-ROM, or by masking audio files as data files so that the CD-ROM drive cannot recognise the music.

Please answer the following Self Assessment Questions.

Self Assessment Question 3	<i>Spend 3 Min.</i>
What are the elements of Digital Rights Managements System?	
.....	
.....	
.....	
.....	
.....	
.....	

14.6 LEGAL PROTECTION AGAINST CIRCUMVENTION OF TECHNOLOGICAL PROTECTION MEASURES

Along with the invention of technical measures for protecting copyright works in the digital networked environment, counter-technologies are developed to defeat those protection technologies making it possible to circumvent each and every technical protection measure by using technical means. No matter how sophisticated the technological protections employed, none are invulnerable, and it is definite that the ingenuity of people will increasingly make it their business to hack through encryption, pick digital locks, steam open electronic envelopes, or obliterate digital watermarks so that they could make profits by misappropriating valuable intellectual property. So, the solutions devised by technologists are sought to be protected by law as otherwise those solutions would be modified by counter technologies, with impunity rendering the best access control mechanisms and security measures futile in want of legal sanctions.

In order to protect against the circumvention of technological protections applied to copyrighted products in the digital environment, provisions have been incorporated

in the WCT making it obligatory for member states to provide legal protection against the circumvention of technological measures that are used by right holders in connection with the exercise of their rights. Article 11 of WCT states, “Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.”

Article 11 of the WCT and 18 of the WPPT only oblige the member countries to protect technological measures that restricts acts “not permitted by law”. In other words, countries need not prohibit users from circumventing technological measures for the purpose of “permitted” use of the copyrighted work. So, article 11 of the WCT requires that protection of Technological Protection Measures be granted only with respect to technologies used by rights owners in connection with the exercise of a right protected by copyright law. This means that the application of technological protection measures to public domain material does not fall within the ambit of article 11. In other words, the circumvention of a technological protection measures in order to use a work while benefiting from one of the exceptions to copyright is, in principle, not prohibited by article 11 of the WCT.

One of the questions that the WIPO Internet Treaties left open is what types of acts must be prohibited: the acts of circumvention themselves, the business or trafficking in circumventing technologies or both? Whereas Contracting Parties were free to implement the principle set out in articles 11 of the WCT and 18 of the WPPT according to their national legal traditions, there are significant differences in the manner in which countries have implemented this obligation.

As per section 65 of the Indian Copyright Act, 1957 knowingly making or possessing any plate for the purpose of making infringing copies of a copyrighted work is a punishable offence. The definition of ‘plate’ under the said Act is very wide indeed. By virtue of section 2(t) it includes, “any stereotype or other plate, store, block, mould, matrix transfer, negative duplicating equipment or other device used for or intended to be used for printing or reproducing copies of any work, and any matrix or other appliance by which sound recording for the acoustic presentations of the work are or are intended to be made”. This definition to a great extent provides protection for the technological measures adopted by a copyright owner.

Taking a lead from Article 11 of the WCT some countries of the world have already enacted anti circumvention provisions like in Digital Millennium copyright Act, 1998 in USA, in Australia in 2000, European Directive 2002 and in Canada and Japan. The debating point for India is whether to put such provisions in the Copyright Act, 1957? Since anti circumvention provisions come in conflict with some of the existing principles of copyright law, it becomes necessary to appreciate them first.

Please answer the following Self Assessment Question.

Self Assessment Question 4	<i>Spend 3 Min.</i>
Define the term ‘Plate’?	

14.7 CONFLICT OF DRM WITH EXISTING PRINCIPLES OF COPYRIGHT

Copyright law like any other law is a balancing process — attempting to achieve a balance between individual rights and society’s interests. So, on the one hand copyright grants exclusive rights to owners, on the other hand, it creates various limitations on copyright which seek to balance the exclusivity created in favour of the owner. The first limitation is that of the term of copyright. For example, copyright in a literary work lasts for sixty years beyond the life of the author and after this period the work comes in public domain capable of being freely used and exploited by anyone. The second limitation is by way of the doctrine of ‘fair use’. Fair use means that there are certain uses of a copyrighted work for which the user may not take permission from the owner of the work. For example, right of reasonable quotation and research rights.

Most DRM schemes can and do enforce additional restrictions at the sole discretion of the media distributor which go beyond the existing legal restrictions which copyright law imposes on the owner of the physical copy of a work. Thus, DRM could conveniently be used to achieve more than the rather limited function of protecting content from unauthorized use. There is reason to fear that the exercise of legitimate limitations on copyright may be seriously compromised in the digital networked environment through the application of technological protection measures. In fact, the generality of the international obligations regarding the adoption of adequate legal protection and effective legal remedies against the circumvention of effective technological measures has left the nations with the difficult task of devising new rules, which do not fit well in the overall copyright framework.

The intersection between technological protection measures and limitations on copyright is undeniably the thorniest issue confronting lawmakers around the world in the field today. While DRM systems are ostensibly designed to protect an author’s right to control copying, this protection is only half of the bargain between the copyright holder and the state. DRM systems currently employed are not time limited in this way, and although it would be possible to create such a system, there is currently no mechanism to remove the copy control systems embedded into works once they enter the public domain, after the term of copyright expires.

Technological protection measures allow the exclusion of uses. However, while copyright is limited in many ways, exclusivity based on technology is potentially unlimited. It may, for example, be possible by way of technology to exclude others from using information which is not copyrightable, or to exclude acts which are not restricted acts under copyright, either because they do not fall under the definitions of the exclusive rights or because they are explicitly exempted by way of fair use.

It appears to be difficult to reconcile an effective protection of technological measures with (all) the limitations on copyright. Technology – at this stage – is simply not developed enough to accommodate all the subtleties of the law. The applicability of

many exemptions depends upon the circumstances. To quote the same part of the same work, for instance, may be permissible in one situation and an infringement in another. Technology cannot recognise whether a particular quotation is allowed or not.

DRM does not necessarily respect the deliberately imposed legal limitations of copyright law. This increase in control and controllability can also have its drawbacks – particularly for consumers. Stricter controls over how digital content is used and who can listen to what music how often, when and where, almost inevitably represent an intrusion on the autonomy, anonymity, privacy and other legitimate interests of consumers. It is uncertain how the information market will develop. The ‘digital revolution’ may have more advantages than disadvantages for rightholders.

14.8 FUTURE OF DRM

Because the technology holds the promise of curbing rampant piracy of copyright works, rightsowners have placed a great deal of faith in DRM, and technological protection measures in particular, as a means of enforcing their rights in the digital environment. The case for DRM is that without a strong system in place to ensure only paying consumers can access media, piracy will run rampant and cut drastically into profits for producers and distributors. With declining sales, so the argument goes, creative input will also drop and the overall quality of media produced will decline.

But DRM systems devised till date have had their failings as well. To date, all DRM systems have failed to meet the challenge of protecting the rights of the copyright owner while also respecting the rights of the purchaser of a copy. Just to take an example, DRM using Physical protection employs separate hardware to ensure protection. Examples include hardware dongles that had to be attached to the computer prior to using the content, and USB and smart card devices working in a similar fashion. Physical protection methods consistently failed in consumer markets due to compatibility problems and extra level of complexity in content use; however, they did enjoy limited success with enterprise software. Another example could be of digital watermarking which allows hidden data, such as a unique disc ID, to be placed on the media. Then, the name and address of the purchaser would be taken at the location of sale, and entered into a database along with the unique media ID. This does not prevent copying, but it ensures that any copies made of the media will bear the same hidden information—so if the content appeared on a P2P networks, the ID number could be easily extracted and the purchaser prosecuted. This scheme is flawed primarily because authenticating the buyer as the infringing party is nearly impossible as the buyer may give a false name and address or present false identification at purchase, the infringing party may be someone who purchased or otherwise obtained the media second hand, the media may have been borrowed or stolen from the original purchaser before the infringement occurred, etc.

Advocates for civil liberties argue that the use of digital technology should be unfettered, and that the shift of control to producers even after sales will ultimately hurt creative expression and damage consumer rights. Most media are protected by copyright, but have a fair use clause which allows for unhampered use in certain situations. All existing DRM technologies fail to adequately make concessions for fair use, leading many civil advocates to argue that they restrict the legal use of content. Security issues, fair use issues, and issues of creative expression are all at

the forefront of the DRM battle, and DRM technologies will undoubtedly be fought over for many years to come. While many within the media industry believe DRM is the only way to save their existing business model, predicated upon the idea of collecting a fee for each use, a number of innovators have begun exploring alternatives, anticipating an ultimate defeat for DRM.

Let us now summarize the points covered in this unit.

14.9 SUMMARY

- DRM includes within its ambit the various technological tools designed for digital media publishers as a means to allow them to control any duplication and dissemination of their content.
- Legal support for DRM systems is to be found in the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT).
- DRM includes all the technical systems designed to facilitate the management of rights in respect of digital content.
 - The purpose of DRM is to prevent illegal distribution of paid content over the Internet.
 - By ‘rights management information’ is meant all the embedded data in any digital product which identifies the work, its author and owner and the terms and conditions its of sale/use.
 - Technological protection measures include the technical means which attempt to restrict the use of a digital product only to an authorized person.
 - In addition to the existing copyright protection various legal systems have incorporated provisions in their copyright laws that prohibit and/or penalize the circumvention of the technological protection measures.
 - These anti-circumvention provisions have come in sharp conflict with the already existing limitations on copyright system.

14.10 TERMINAL QUESTIONS

1. What do you mean by Rights Management Information?
2. How do you look at the future of Digital Rights Management tools?
3. How Technological Protection Measures come in conflict with the fair use principles inherent in the copyright system?

14.11 ANSWERS AND HINTS

Self Assessment Questions

1. A systematic approach to copyright protection for digital media available in Cyberspace.
2. See super section 14.2

The elements associated with DRM systems are

- (1) Identifies
- (2) Metadata
- (3) Technological Protection Measures.

3. Article 12(2) of the WCT defines right management information as “Information which identifies the work, the author of the work, the owner of any right in the work or information about the terms and conditions of use of the work, and any number of codes that represents such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public.”
4. Plate is an inclusive definition which includes any stereotype or other plate, store, block, mould, matrix transfer, negative Duplicating equipment of other device used for or intended to be used for printing or reproducing copies of any work and any matrix of other appliance by which sound recording for the acoustic presentation of the work are of one intended to be made.

Terminal Questions

1. Refer to section 14.3 of the unit.
2. Refer to section 14.7 of the unit.
3. Refer to section 14.6 of the unit.