

Copyright and Electronic Information

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Abstract

The main objectives of copyright law are promoting the access and the use of information and protecting the works from the infringement for encouraging the authors in pursuit of knowledge. The technological developments, the increasing number of electronic publications and digital libraries pose challenges to the right holders as well as law enforcing agencies. This paper briefly discusses the Indian Copyright Law, 1957 and its amendments. The nature of electronic information including computer software is also discussed. The authors mention about some of the worldwide projects to protect copyright of electronic information. The authors conclude that the library professionals should negotiate few electrocopying privileges for legitimate non-commercial usage of electronic information similar to the kind of fair dealing arrangement as in the case of printed books.

Intellectual Property Rights

'Intellectual property rights' (IPR) is a general term which covers copyright, patents, registered designs and trade marks. It also covers layout designs of integrated circuits, geographical indicators and anti-competitive policies in contractual licenses (Intellectual Property Rights, 1995). As a lot of money is involved in R&D work, any research, innovation or invention leading to a product, process, design, method, literary and artistic work etc which may, in the view of authors or creators, result in financial gains are registered under one or the other of the various heads of IPR. Developing countries have evolved and setup benchmarks of IPR. The developing countries are slowly catching up as the value of IPR is increasingly felt.

Copyright

Copyright stands for the legal rights exclusively given for a definite period of time to the originators (authors or creators) of intellectual work such as a publication, or an artistic or a literary work for sale or any other

use. Copyright provides the creators (like writers, poets, composers, etc) of literary or artistic works rights of ownership on their works and legal protection against unlawful reproduction of such works. Although, copyright is generally understood as a right or license to free copying of an existing work, in reality it is not so; rather it is a legal right to prevent others from copying. By providing protection, Copyright Law assures and encourages the authors in pursuit of artistic, scientific or literary works. The law also recognises their right to the benefits accrued by the usage of their creative work by others. This obviates an agreement between the authors and the publishers (or users).

Legal Rights of Authors

Section 14 of the Indian Copyright Act, 1957 (as amended from time to time) enumerates certain activities which are 'exclusive' rights for the authors of the works who can do or authorise someone to do all or a part of those activities. These, when done by unauthorised persons or without the explicit permission of the copyright holders, amounts to a breach or infringement of copyright. These include¹.

- (a) To reproduce the work in any material form including the storing of it in any medium by electronic means;
- (b) To perform the work in or communicate to public;
- (c) To issue the copies of (publish) the work to public not being in circulation;
- (d) To produce and publish any translation of the work;
- (e) To make any translation or adaptation of the work;
- (f) To make any cinematography film, or a sound recording; and
- (g) To do in relation to a translation or adaptation of the work any of the above specified acts.

In the case of a computer programme, in addition to the above mentioned provisions, the Act also means to do or authorise:

- (h) To sell or give on hire, or offer for sale or hire any copy of the computer programme, regardless of whether such copy has been sold or given on hire on earlier occasions.

Exceptions to Copyright Infringement

Section 52 of the Indian Copyright Act enumerates five categories of acts which when performed do not fall under the infringement of the copyright. They are:

- (a) Reproduction in the course of fair dealing (i.e., private use, research, criticism, review, reporting, broadcast, etc);
- (b) Reproduction for educational purposes;
- (c) Reproduction for official (judicial, legislative, etc) purposes;
- (d) Reproduction where there is remote relation to the original which does not cause any loss to the copyright holder; and
- (e) Reproduction for private entertainment.

Under the laws of European Union (EU) and the USA, copying or publishing of works which were once in the public domain and which now had their copyright revived will not be deemed as infringement of copyright^{2,3}.

As per the provisions of the Indian Copyright Act, the term of copyright extends a total of the life time of the author and a term of 60 years after the death of the author. This term (i.e., after the death of the author) is 50 years in the UK and USA, and 70 years in the European Union under the Copyright, Designs and Patents Act (Great Britain, 1988) of UK, the US Copyright Act, 1976 (Title 17 of US Code) and the EU 1993 Directive (93/88/EEC) on the Duration of Copyright in the Member States, respectively.

Copyright registration is not mandatory for getting the legal right to copyright. A copyright notice/statement at an appropriate place in the document would be enough to ascertain the copyright. However, *one cannot file a copyright infringement action against a person or institution or a company unless one has registered the 'work' with the Copyright Officer.* Even if authors choose to waive their copyright, or electronic journals (say, over Internet) are not charged for by their publishers, material contained in such journals remains the copyright of either the author or the publisher. Hence downloading, re-disseminating or printing out articles from such journals still infringe the copyright unless otherwise justified as fair dealing⁴.

The technological developments taking place the world over pose a constant challenge to the copyright protection. To certain the piracy of the literary or artistic works, necessary provisions have been made treating piracy of books, computer software, etc a non-bailable offense.

Copyright Enforcement

Until the Copyright Clearance Centre, Inc (CCC) was established in the USA, separate law suits were being filed by individual authors and publishers against individual users (infringers). To facilitate compliance with the US Copyright Law, a group of users, publishers and authors together established the CCC in 1977 as a non-profit organisation to operate a centralised

authorisations and payment system for the use of copyright publications, and to serve both the foreign and domestic copyright owners. The CCC has undertaken several projects which resulted in rejecting per-transaction license fee based on the feed back preference of both publishers and users who preferred fixed price license fee for title as it offered greater predicability and control⁵.

In India, such provision was made under Sections 33 to 36 of the Indian Copyright (Amendment) Act, 1994, which enumerate registration of Copyright Societies, administration of rights of owners, payment of remuneration, control over the Society by the owners of rights, submission of returns and reports, and rights and liabilities of performing rights societies. (To the best of the knowledge of the authors, there is no information about the existing of such a society in India). In the absence of such a mechanism, the onus of enforcement of copyright squarely falls on the publishers or authors (or both) to file a suit in a Court of law against the infringer of copyright (i.e., an individual, a company or an institution).

Copyright of Electronic Information

The legal issues of electronic information include copyright, ownership, pricing and rules and regulations governing multiple usage. The problems and concerns of publishers, libraries as well as users of electronic information like credibility, accessibility and acceptability by the users, readability, accountability of back issues and volumes, authenticity of the electronic information, preservation and archival maintenance have been dealt in an earlier work by the authors⁶. Copyright and piracy problems of the electronic information are briefly dealt here.

Copyright is an economic system for ensuring the creation of new knowledge by rewarding their creators and their agents; (it provides) an assurance that the creator can determine, if, how, where, when and in what form his or her creation can be used⁷. From the copyright point of view, printed material has certain advantages over the electronic information: it is permanent and authenticated, its ownership is easy to ascertain, it facilitates easy identification of piracy or plagiarism. In comparison, electronic (digital) information is not so permanent; it is easily amenable to revise, modify, re-revise, re-modify without leaving any resemblance to the original. Its ownership is non-ascertainable and, at times, can be questionable. Also, infrastructure, telecommunication network, and computer literacy are prerequisites for accessing the electronic information. However, electronic information facilitates more exhaustive searching, faster information retrieval, better storage and cheaper maintenance in addition to the savings in stacking,

ease of use and transportability. It is amenable to cost-effective processing, communication and attractive especially for archival purposes since large volumes of data can be copied across different storage media without any loss of quality.

The Indian law extends protection to computer programmes, i.e., computer software and computer-generated artistic or literary works, and treats storing of a work in any medium by electronic means as infringement of the copyright. The law has no provisions for electronic and online books, journals and electronic information.

There is no copyright in electronic form of record in itself, only in a service and its content⁷. Indian and UK laws extend the copyright protection to computer databases, treating them as literary works. Multimedia works classified under audio visual works are covered, though not explicitly, by the USA, UK and Indian laws. The US law covers derivative works which include digitised works³. The European Union 1992 Copyright Directive on Rental and Lending Right (92/100/EEC) extends exclusive right to all copyrighted work; public library lending of computer programmes (software) and CD-ROMs will be an infringement of copyright unless there is a permission or license for doing so⁸. Some national copyright laws may be old and electronic storage and copying may not be explicitly forbidden. For example, the French Copyright Law does not prevent the electronic copying and storing of information although it prevents electronic delivery to third parties⁹.

Duggan¹⁰ has dealt with issues and questions of copyright of electronic information. She dealt extensively about the changing electronic environment, patterns of use, the role of electronic information networks, building local databases and license agreements for electronic information, printing multiple copies of copyrighted electronic information, downloading, local networking of electronic information on CD-ROMs, and electronic transmission of copyrighted material. Impact of copyright law on the electronic environment and the latter's impact on libraries including issues of electronic access, possible solutions user's expectations, budgeting problems, the question of who will pay for the access, and resource sharing are dealt by Rutstein, et. al.¹¹.

Projects to Protect Copyright of Electronic Information

Digital library environment makes the copyright protection a difficult task. It is easy to create digital or digitised copies of the texts, photographs, music and video which results in revenue losses to the copyright owners

who may not get returns when copyright violations (illegal copying) take place. To avoid this situation, they are bound to impose stringent copyright rules and mechanisms. Some of the projects under various stages of progress for ensuring adherence to copyright laws are briefly discussed in the following paragraphs.

The ISI Electronic Library Project is developing a security and rights management system which will take care at the client, and local and central server levels. The system provides secure viewing through password (user authentication), secure printing through session encryption and watermarks, guaranteed document authenticity by means of a 'digitally signed finger print', and user privacy. A hidden watermark in the image file of each page of an article will discourage unauthorised copying. In addition, a visible water mark is placed on the first page of each article, encoding 1 K byte information in a two-dimensional barcode. The absence of the barcode means that copyright infringement has taken place¹².

Determining how to charge a digital library for the use of online digital/electronic information including reference works is a challenge. When cooperative acquisition and inter-library loan are being followed by a group of libraries, this issue becomes even more problematic. The Usage Statistics Collection and Management System being developed¹³ by ELINOR (Electronic Library and Information Retrieval Online) Electronic Library Project at Milton Keynes (UK) to analyse the usage of electronic or digital libraries may solve such problems. This project aims to analyse two types of statistics. The first type is for the publisher concerning the number of pages browsed, time spent and the number of pages viewed and printed by the users. This will also enable the system to calculate charges, if any, towards photocopying. The second type of statistics relate to maintain users' accounts, monitor and find out the heavily used documents, and to know the user reading patterns. The ELINOR project dealt with bit-mapped image-based electronic books. In the next phase in collaboration with ELSA Project at De Montfort University at Leicester, ELINOR will compare different types of electronic books with printed books¹⁴.

Many digital library projects, in association with publishers and copyright holders, are exploring ways and means to ensure copyright clearance procedures, licensing and payment mechanisms. In addition, several electronic copyright management systems (ECMS) are under various stages of progress. Patron (Performing Arts Teaching Resources Online) at the University of Surrey, UK intends to deliver music and dance materials including audio, video, graphics and text to students over networks. The project aims to examine copyright and licensing issues¹⁵. Several digital library projects in the universities of USA covering pricing and charging digital, digital video and multimedia digital libraries have been reported¹⁶.

The Corporation of National Research Initiatives (CNRI) in association with the Advanced Research Projects Agency (ARPA) and the Library of Congress is currently working on the design and implementation of an ECMS. The project uses digital signature technology and privacy-enhanced e-mail which may facilitate the development of high performance, interactive digital library¹⁷. The CCC is closely working with publishers, users and universities where several pilot projects are underway to provide owner-authorised, text-based information electronically¹⁵.

Bell Laboratories in association with the CCC have obtained rights for the electronic transmission of textual and graphic materials of 68 journals from 12 publishers. Under this agreement, the RightPages™ Service was designed in which the journals are scanned to transmit the digital information between two locations where selected users can access and view the material. However they cannot transfer the material to any other computer. This project was intended to be a testbed for copyright compliance in electronic environment. It was reported that an increasing number of publishers are ready to authorise their publications for electronic distribution; only there is a lack of suitable electronic technological means¹⁸.

Project Cited (Copyright in Transmitted Electronic Documents) under the ESPRIT programme of the European Commission is devising electronic tagging devices and a theoretical model for controlling, monitoring and offering remuneration for the works stored in digital form. Also, systems are being developed to track usage and digitally fingerprint and electronic licensing and copyright clearing systems are being pursued by various agencies. A pilot electronic document delivery schemes are being tested by British Library Document Supply Centre and University of East Anglia.

Publishers of scientific and technical journals have been seized up in the copyright and licensing issues. For example, ACM interim copyright policies¹⁹ of the Association for Computing Machinery covers works published in digital form also. ACM has an ambitious electronic publication programme where in they would like to offer all the primary journals online. The University Licensing Programme (TULIP) pursued by Elsevier Science Publishers in association with OCLC and some of the universities in the USA is exploring the electronic access to 45 primary journals in the field of materials science²⁰.

Copyright policing and handling of royalties is an important aspect of digital information environment. There are different licensing schemes—per-transaction fee, fixed fee, usage-based fee or a combination of any of these. An ECMS with management capabilities was conceived at De Montfort

University; the Electronic Reserve Copyright Management System (Ercoms) is expected to include automated rights clearance system for handling electronic permission requests, full tracking of usage and accountability and automatic counts of occurrences of copyright events; and copyright management. Other electronic reserve projects, using document image processing techniques for the delivery of whole works, parts of books and journal articles to libraries which then print out material on-demand by the students, are underway at a number of universities²¹.

Another concern of the 'electrocopying' (copying of electronic information) is the information integrity. Although the electronic information can be protected through encryption during transmission over networks, once it is decoded at the receiver's end (for usage), it is amenable to manipulations. Further, even if the publisher (or copyright holder) does not offer the work in electronic form, the users can always convert it into digitised or digital form using scanners and OCR technology in a short time. This digital information can then be stored on a server and transmitted over networks in a few minutes to multiple destinations simultaneously.

Electronic publishing on World Wide Web and the Internet is on the increase. Though very insignificant portion of the information and publicly available data is contained in the Web and Internet currently, it is estimated that in the next five to six years it would be increasing thousand fold and may hold about 80 per cent of the publicly available information²². Institute for Scientific Information, USA recently announced the inclusion of some titles available on Internet for indexing and coverage in its databases. This is expected to improve the author's participation in the electronic publishing and online journals.

An important concern of electronic information available over or accessed through networks like Internet is its vulnerability to manipulations, additions, deletions, etc. This may raise problems of authenticity and reliability of electronic data. Further, these cannot be closely monitored or their use cannot be restricted as in the case of printed journals. These may result in plagiarism, authorship conflicts and impersonation. Some of these problems have been addressed by²³ who suggested dedicated server, document digest algorithms, and cryptographic signatures to overcome some of these problems. Although mechanisms to prevent fraudulent acts from digital libraries are being introduced (for example, SCAM—Stanford Copy Analysis Mechanism), such incidents are becoming common as it is very difficult to detect such acts. Denning²⁴ reported a few cases of plagiarism wherein certain individuals have manipulated already published material by manipulating the electronic papers.

The attempts for ensuring and enforcing copyright may be seen by the end-users as non-user-friendly. Copyright is a social construct that has been and should be tailored to achieve the purposes meant for it. As Samuelson²⁵ observes, it is not a predestined, static law of humankind; there has been some leakage in the system (that is some unauthorised copying) and as long as the leaks do not become hemorrhages tolerating some leakage, may be of interest to publishers in the long run.

Copyright and Computer Software

Software poses peculiar problems to the copyright holders. Most of the software is amenable to piracy through illegal copying on floppies. The duplicate (illegal) copy thus created is as good as the original. The fact that the pirated software could be used as original ones makes the copyright holders to resort to ways and means of preventing the piracy of the software. It is estimated that each year the software industry is losing US\$ 12 billion due to theft or piracy or illegal copying of software²⁶.

In this context, the Indian Copyright Act with its amendments of 1994 is seen as a deterrent to the illegal copying and piracy of software. Although making of copies or adaptation of a computer programme by the lawful possessor does not make an infringement if the copies are made in order to utilise the computer programme for the purpose for which it was supplied, or to make back up copies purely as a temporary protection against loss, destruction or damage in order to only use the same for the purposes for which it was supplied. However, when a person knowingly makes use of a copy of a computer programme for (personal) gain in the course of trade or business, such act is treated as an infringement of copyright (Section 52 of the Act).

The Copyright (Amendment) Act, 1994 enlarged the scope of the term 'author' to mean 'in relation to any literary, dramatic, musical or artistic work which is computer generated, the person who causes the work to be created.' The enlargement of the meaning of the term author makes the creators of the computer generated literary, artistic, dramatic and musical works covered under the ambit of copyright. The definition of 'literary work' was amended to include the computer programmes, tables and compilations including computer databases. A computer programme is defined as a set of instructions expressed in words, codes, schemes or in any other form including a machine readable medium, capable of causing a computer to perform a particular task or achieve a particular result. Though this enlarges the meaning of computer programme, it is ambiguous in that whether both the source code and object code are included. This may need clarification from legal pundits.

One cannot distinguish between the pirated software which is illegally sold or freely distributed. Section 14 of the Indian Copyright Act (Amendment) prohibits the sale or hiring of (or offering for sale or hiring of) any copy of computer programme without the authorisation of the copyright holder. Even though an organisation/institution purchases a legal copy of a software, the law prohibits its duplication or making multiple copies for use by different constituent divisions or units or users in the same organisation/institution. If an infringement of copyright is established in a civil or criminal court of law, the defaulter is liable for punishment with imprisonment up to three years or a fine of an amount up to Rs two lakh or both. The law also makes provisions for claiming actual and statutory damages by the copyright holders.

NASSCOM and Software

National Association of Software and Services Companies (NASSCOM) with its offices located in various regions of the country, in association with the law enforcing authorities of the Government, is taking initiative in protecting the rights of the copyright holders of the software. In the past few years, to discourage piracy of computer software, NASSCOM has taken many steps including reduction of import duty on software, creating awareness about the software piracy through media campaigns and training of law enforcing authorities, and implementation of code of conduct for member companies. NASSCOM is maintaining special anti-piracy hotlines (teleshopping telephones) in Bangalore, Delhi, Madras and Mumbai to provide those dealing with information on Copyright Act, legal use of software, retail outlets of software for legal purchase, and copyright registration. It is also alerting the affected/concerned copyright holders when a piracy or illegal copying is reported.

What is Needed?

Storing a work in electronic form by anyone other than the copyright holder is treated as infringement. It is not permitted under the copyright laws of UK, USA or India even for research purposes or private use. When a solution to this issue is found, perhaps a user may be allowed to copy a digital file for a considerable price. Disparities in copyright laws (as discussed earlier) affect transborder trading.

In the face of technological developments, the present copyright laws will not be able to prevent piracy or infringement of rights. The digital environment is to be tightened to assure the creators, prevent piracy and plagiarism, and encourage use. Also, the current notions about copyright will have to be heavily modified to suit to the electronic environment. Electronic

file transfer would replace inter-library loan and photo-duplication like electronic funds transfer replaced the movement of actual currency²⁷.

As it is not possible to browse through the digital document p73 without accessing, the user will have to pay some sort of fee, even to ascertain if it is useful and actually required. If a potential user of a digital document is expected to pay a fee, then that user must be in a position to determine, in advance, the usefulness of the document and the price tag. This is one of the most crucial issues which concerns the users and librarians alike.

Librarians and information professionals should negotiate electrocopying privileges for legitimate non-commercial usage. This needs persuasion of copyright owners as also the makers of legislation. We should have the same kind of fair dealing arrangement as in the case of printed books. In the words of Sandy Norman⁹, we should be able to:

- (a) Read or browse electronic information without having to pay for it;
- (b) Preserve in digital format, copyright material held in our collections;
and
- (c) Fulfill inter-library document requests electronically.

The access to the electronic information is not 'tested' in our country as much as it has been in the developed countries. While most of our 'experience' is theoretical, some practical and operational problems can only be experienced to obtain inputs such as the behaviour of various groups of users (say, based on age, educational background, status, etc), to the usage of electronic information; how and how often they use it; when they use it, whether all react positively for the use of electronic information (with very little or no print services), etc. In the absence of such experiments the futuristic predictions shall be only 'predictions'.

Copyright laws were conceived to enhance, and not to prevent, the information access and usage. However, if all the projects which are on progress to find ways and means to protect the rights of the owners succeed, then all these mechanisms allow only the privileged and those who can afford to pay getting access to the electronic information.

It is illusory to think that a carefully enacted legal code would be fool-proof; there would be as many loop holes as needed for those who wish to ignore or bypass it.

Acknowledgements

The authors are thankful to Dr SS Murthy, Director, DESIDOC for providing the facilities and for the kind permission to present this paper.

They are also thankful to Dr CK Ramaiah, for suggesting the topic and for his valuable suggestions which improved the content of the paper. Thanks are also due to Shri D Venkataramana Rao, and Shri A Jeyaraj for their help in preparing the paper.

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