Whether Copyright protection is enough for Computer and Internet Related Inventions?

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INTRODUCTION

The new technology has increased the importance of intellectual property. This new technology may be in the field of Patent, trade mark, Copyright etc. When we talk about copyright protection it comes in our mind that it is generally granted to original literary, musical, dramatic or artistic works. But the growth of new technology has given rise to new concepts like computer programs, computer database, computer layouts, various works on web, etc.

So it is very necessary to know more about copyright with regard to computer programs/software, computer databases and various work in cyber space. Copyright is key issue in intellectual property rights in digital era.

This paper aims to show that the work related to computer can be protected under copyright law. While discussing the issue, this paper has been divided into three parts based on various types of computer related works i.e. computer program, computer software, computer databases and works on internet. Thus it is important to ask question, whether the Copyright laws give enough protection to the Copyright owners of computer databases, computer software/ program and internet?

This paper is divided into four chapters. Chapter I discusses about meaning, history of databases and how it is protected under copyright. Chapter II throws light upon software and computer program and its protection under different copyright law regimes. Chapter III discusses about internet and its protection. Chapter IV contains the observation of the researcher and concluding remarks.

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CHAPTER I

DATABASES

1.1 Meaning of Database:

A database is a collection of data arranged in a systematic way to allow for the easy and efficient retrieval of information. It is usually in an electronic form[2]. A database must be distinguished from a database system (sometimes known as a database management system) which is a software or computer program which administers the database. This is an important distinction to keep in mind when considering what is protected in a database.[3] Computer database means a representation of information, knowledge, facts, concepts or instructions in text, image, audio, video that are being prepared or have been prepared in a formalized manner and have been produced by a computer, computer system or computer network.[4]

A database can generally be looked at as being a collection of *records*, each of which contains one or more *fields* (i.e., pieces of data) about some *entity* (i.e., object), such as a person, organization, city, product, work of art, recipe, chemical, or sequence of DNA. For example, the fields for a database that is about people who work for a specific company might include the name, employee identification number, address, telephone number, date employment started, position and salary for each worker.[5]

1.2 Copyright and databases:

The term database is used to describe a compilation of works, data or other materials (i.e. collection of facts) arranged in a systematic or by logical principles methodical way. In other words, ordered set up by the compiler.

In principle, the facts themselves cannot be protected but the order and organization can, if they show a certain level of creativity on the part of the author. When referring to databases it is necessary to distinguish between creative and non-creative databases because each is dealt with under a different set of legal rules.[6]According to Lord Atkinson, for the subsistence of copyright, 'it is necessary that labour, skill and capital should be expended

[2] Available at http://www.oznetlaw.net/FactSheets/DatabaseProtection/tabid/930/Default.aspx
[3] ibid.
[4] See Explanation (ii) of Section 43 of the Information Technology Act, 2000.
[5]Available at http://www.linfo.org/database.html (accessed on 23/10/2008)
[6] Available at http://www.unc.edu/courses/2006spring/law/357c/001/projects/dougf/node1.html

sufficiently to impart to the product some quality or character which the raw material does not possess and which differentiate the product from the material.'[7]

As mentioned above, database refers to collection of data, works, information or other independent material arranged in a systematic or methodical way following some basic principle of compilation; databases should be given copyright protection even if they are the compilation of non- original works as they are the result of skill and labour employed by the author in creating the work.[8] For example, a database of articles on 'Indian Intellectual Property Laws' should be given copyright as it is a work that is the result of labour, skill and capital employed and judgment expended in selecting and arranging the articles by the creator of the database . And thus, many countries have treated database as literary work and copyright protection has been expended to databases, provided, they are original.[9] Database has been given protection under different Copyright Laws under literary works. In India, databases have been treated as literary works. According to Section 2(o) of the Copyright Act, 1957:

"*'literary work' includes computer programs, tables and compilation including computer databases."*

A recent decision of the Federal Court, **Telstra Corporation Ltd** v **Desktop Marketing Systems Pvt Ltd**[10], has clarified that in Australia only a low level of creativity and originality is required for protection. Data bases can be protected under the Copyright Act as literary works. For the purposes of the Copyright Act a literary work includes "a works under consideration were the White Pages and Yellow Pages published by Telstra and various unpublished Telstra headings books.

1.3 History of Database Protection:

The present debate regarding database protection can be viewed simply as an extension of the historical clash between two conflicting models of copyright protection for compilations. The first model advocates that databases and factual compilations receive protection *per se*, *i.e.,* without any showing of creativity or original authorship.

Proponents of this theory, better known as the ñsweat of the browò or ñindustrious collectionò doctrine, justify their position by arguing that protection should be extended to databases as a

[7] **Macmillan & Co. Ltd** v. **Cooper**, (1924) 40 TLR 186 at p. 188
[8] Jain,Pankaj & Rai.Pandey Sangeet, COPYRIGHT & TRADEMARK LAWS RELATING TO COMPUTERS, 1st Edition, Eastern Book House, Lucknow, 2005, p. 45.
[9] Ibid at p. 46.
[10] [2001] FCA 612

reward for the hard work and investment required to compile the facts and information contained in the database. Such a reward provides compilers with the incentive to develop new databases. Under this doctrine, protection extends to the otherwise unprotected facts contained in the compilation.[11]

The second model of intellectual property rejects the notion that databases without any originality or creativity should be protected. Instead, advocates of the second model would only extend copyright protection to the "expression" contained in the database, which is limited to the original selection, coordination, or arrangement of facts in the database -- but not the facts themselves.[12]

Prior to 1991, the extension of copyright protection for databases and other factual compilations remained an unsettled issue in U.S. courts. Most courts refused to grant copyright protection for databases that did not contain any "originality" in the selection or arrangement of facts,[13] and Congress adopted this view in the 1976 Copyright Act. There, Congress explicitly stated that a copyright in a compilation extended only to the original selection, coordination in arrangement of material in the compilation.[14]

Nonetheless, a minority of courts before and after the 1976 Act adopted the "sweat of the brow" doctrine and protected databases that lacked any element of creativity or original expression.[15] In the 1991 case of **Feist Publications Inc.** v. **Rural Telephone Service Co., Inc.**[16], the U.S. Supreme Court resolved the issue that had divided the lower courts and unanimously rejected the "sweat of the brow" or "industrious collection" doctrine. Moreover, even though the Court recognized that the selection and arrangement of facts could create the requisite "originality" for copyright protection, it emphasized that the copyright in the compilation would be "thin," i.e., it would extend to the particular selection or arrangement of facts but not to the facts themselves. Thus, by rejecting the notion that databases could be copyrighted without demonstrating originality and emphasizing that facts and ideas are not copyrightable, the Court appeared to settle the long-standing clash between the two conflicting models of compilation protection.

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[11] Available at http://www.dlib.org/dlib/june97/06band.html
[12] Ibid.
[13] See, e.g., **Miller** v. **Universal Studios Inc.** 650 F.2d 1365 (5th Cir. 1981); see also Patterson & Joyce, *Monopolizing the Law: The Scope of Copyright Protection for Law Reports and Statutory Compilations*, 36 UCLA L.Rev. 719 (1989)
[14] Supra note 3.
[15] See, e.g., **Leon** v. **Pacific Telephone and Telegraph Co**. 91 F.2d 484 (9th Cir. 1937); **Jeweler's Circular Publishing Co.** v. **Keystone Publishing Co**. 281 F. 83 (2d Cir. 1922).
[16] 499 U.S. 340, 111 S. Ct. 1282, 113 L. Ed. 2d 358 (1991).

1.4 Test of Originality in Database:

A database is eligible for copyright protection if it is a result of great deal of effort, skill and labor. For getting such protection it has to satisfy the test of 'originality'.

Compilation of non-original works may also possess the requisite originality. Original does not mean the expression of original or inventive thought.[17]Copyright laws are not concerned with the origin of ideas, but with the expression of thoughts and in the case of literary work with the expression of thoughts in print or in writing. The compiling author makes his selection of individual items of the database to include them in an:[18]

1. Orderly manner
2. Arrangement in a effective way for users
3. Direction of compilation is sufficiently original.

The originality, which is required, is related to the expression of thought, but copyright law does not require that the expression must be in original or novel form, only, that work must not be copied from another work and it should originate from the author.[19]

Over the centuries Courts have examined whether or not a work has "originality" to determine if it may receive copyright protection. **Kamar Int'l** v. **Russ Berrie & Co.**[20] (originality is the sine qua non of copyrightability). Originality requires an author to contribute something more than a "merely trivial" variation which is recognizably "his own."

1.5 Protection of databases in India:

Databases are protected as collections or compilations of literary and artistic works. The Indian Copyright Act, amended in 1994, provides protection for databases as ôliterary worksõ, which amongst others include works such as computer programmes, tables and compilations, and computer databases (The Copyright Act, 1994). It is the skill, labour, and judgment of the author that is protected, irrespective of the form in which the product appears.

Indian Copyright Act, 1957 protects ñDatabasesò as ôliterary worksõ under Section 13 (1) (a) of the Act which says that Copyright shall subsists throughout India in original literary, dramatic, musical and artistic works. The definition of literary works ñas defined under Section 2(o) of Copyright Act, 1957 includes computer programmes, tables and

[17] supra note 7 at p.49

[18] FIGARO International Workshop, *Intellectual Property Rights Issues of Digital Publishing - Presence and Perspectives*, Hamburg University, September 23rd ï 24th, 2003, available at http://www.law.ed.ac.uk/ahrc/script-ed/vol2-2/figaro.asp

[19] Ibid.

[20] 657 F.2d 1059, 1061 (9th Cir. 1981).

compilations including computer data basis. Section 63B of the Indian Copyright Act provides that any person who knowingly makes use on a computer of an infringing copy of computer program shall be punishable for a minimum period of six months and a maximum of three years in prison. Fines in the minimum amount of approximately $1,250, up to a maximum of approximately $5,000 may be levied for second or subsequent convictions-imprisonment for a minimum term of one year, with a maximum of three years, and fines between $2,500 and $5,000. It is pertinent to mention here that the Indian courts recognise copyright in databases. It has been held that compilation of list of clients/customers developed by a person by devoting time, money, labour and skill amounts to ñliterary workò wherein the author has a copyright under the Copyright Act.

As such if any infringement occurs with respect to data bases, the outsourcing parent entity may have recourse under the Copyright Act also. The Information Technology Act, 2000 defines ñDataò under Section 2(o) as a representation of information, knowledge, facts, concepts or instructions, which are being prepared or have been prepared in a formalized manner and is intended to be processed, is being processed or has been processed in a computer, computer system or computer net-work and may be in any form (including) computer print outs, magnetic or optical storage media, punched cards. The term computer Data Base has been defined under the Indian Legal System for the first time in the information technology Act, 2000 under Section 43 explanation (ii) as a representation of information, knowledge, facts, concepts or instructions in text, image, audio, video data being prepared or have been prepared in formalized manner or have been produced by the computer, computer system or computer net-work are intended for use in computer, computer system or computer network. Section 43 of Information Technology Act, 2000 provides for compensation to the aggrieved party up to One Crore of Rupees from a person, who without the permission of the owner or the person who is in charge of computer, computer system or computer net-work secures, access to the system or down-loads data or down-loads, copies or extracts any data or data base or information from the said computer, computer system or computer network or secures access to the system or down-loads data or down loads, copies or extracts any data or data base or information from the said computer, computer system or computer network which includes the data hold or stored in any removable storage media. Section 43 of the Act is very wide and covers instances of cracking the computer codes, computer trespass, digital copying, violation of privacy, data theft etc. Section 66 of the Act provides for penal liabilities to the person, who with the intent to cause or knowingly that he is likely to cause wrongful or loss or damage to the public or any person, alters or destroys

any information residing in the computer resource or diminishes its value or utility or affects it injuriously by any means, the term commonly used for such crimes is ôhackingö.

CHAPTER II

COMPUTER SOFTWARE AND COMPUTER PROGRAM

For a computer to work, it has to be programmed, i.e. given a set of instructions in a language that computers understand. These programs are referred to as "software", to distinguish them from "hardware" (the physical objects that make up a computer system, such as microchips, processors, the keyboard, etc.).

In this briefing paper, the terms "software" and "computer program" will be treated as synonyms. Here are some examples of software:

a. Operating systems, such as Microsoft Windows, and Linux. The operating system is the computer program that organizes

b. All of the other computer programs.

c. Software for general, everyday use, such Web browsers, word processors, spreadsheets, software for making presentations, etc.

d. More specialized software, such as computer-aided design software, software for statisticians, software for accountants, etc.

e. The software that makes the Internet work, such as Web server software (which sends Web pages to your Web browser on demand)

In order to understand the law of software copyright, it is necessary to understand two technical terms: "source code" and "object code".

- "Source code" is a computer program in the form written by a programmer (in a language such as Perl or C).
- "Object code" is a computer program converted into the form in which a computer would run it (in "machine language", i.e. ones and zeros). To convert source code into object code, you use a special computer program called a "compiler".

Note that a computer program will (generally speaking) exist in two forms: the source code form (the form in which it was written by human beings), and the object code form (the form in which a computer runs it). These are two different forms of one and the same computer program. So far as copyright law is concerned, both of these forms are covered by the definition of "computer program". Furthermore, the two forms are regarded as equivalent,

in the sense that whoever owns the copyright in the source code will automatically own the copyright in the object code. The Directive also states that a computer program incorporated into the design of a silicon chip is nonetheless considered to be software for legal purposes. This makes sense: any computer program could theoretically be build into the design of a silicon chip, and it seems only reasonable that doing this has no effect on copyright. Note that computer languages are not themselves pieces of software. For example, no one owns a copyright in the computer language C, or in the individual words that make up that language. Also note that the manuals, etc., that document a piece of software do not themselves count as software. Such manuals will copyright, but the rules may not be exactly the same as for software copyright (for example, in relation to employees' rights).

2.1 Copyright Protection of Computer Software/Program:

As others have noted, there is a digital divide between the developed countries and the developing world. In the knowledge-based global economy, computer technologies are an essential requirement for accessing and using information, accelerating technology transfer and boosting the growth of productivity. At the same time, computer software products are perhaps the most heavily protected of all forms of knowledge-based products. Under the TRIPS Agreement, computer programs now qualify for copyright protection just as any other literary work, as well as for other forms of IP protection, including by patents in some nations, such as the US. Developing countries, of course, have a range of requirements for computer software applications in their industries, hospitals, schools and government offices. But most commonly, they need affordable access to off-the-shelf business software packages, such as word-processing, spreadsheet, e-mail and Internet browsing products. Companies in Europe and North America, with Microsoft being the major player, dominate the global market for these products. The software industries of developing countries, even in India, are mostly absent from the off-the-shelf packaged computer programs sector.[21]

Copyright matters most in the computer software industry to the off-the-shelf business applications sector. Unlike bespoke software applications, these products have a mass market and can be easily copied. Copyright protection enables companies to prevent copying, limit

[21] This situation is unlikely to change quickly. There are considerable non-IP related barriers that prevent software firms in developing countries from entering the off-the-shelf market at a significant level, at least for the short and medium term. These barriers include the small domestic market size in developing countries, which totals less than 5% of the global software market. OECD (2000) *"Information Technology Outlook 2000",* OECD, Paris, p.67.
Source: http://www.oecd.org/dsti/sti/it/prod/it-out2000-e.htm

competition and charge monopoly prices for these products. In developing countries, this presents two main problems. First, as there is currently widespread copying together with low local purchasing power in developing countries, there is a concern that stronger protection and enforcement could mean a more limited diffusion of such technologies. This may be a particular risk because the network effects of business applications tend to re-enforce the dominance of existing software producers. Examining the evidence, however, we conclude that this problem is not insurmountable for developing countries, if the right steps are taken. For example, governments and donor organizations could review their software procurement policies with a view to giving greater consideration to low cost business software products, including generic and open source products that are widely available.[22]

The second problem is that where the source code of software is also protected, this may make it harder to adapt the products for local needs. It may also restrain competition in development of inter-operating applications, through follow-on innovation by reverse engineering. Under TRIPS, developing countries are permitted the flexibility to allow reverse engineering of software, so this problem may be avoided if national copyright laws are drafted appropriately. As another practical measure, more widespread use of the various open source software products, where source code is made available unlike proprietary software, may be considered.[23]

Alternatively, some in industry argue that with stronger copyright enforcement, closed source proprietary developers may be more willing to make source code available to software developers in developing countries.

It is clearly beyond our mandate to recommend what kind of policies developing countries should follow for procurement of computer software. For instance, whilst low cost or open source software may *a priori* offer cost and other advantages over proprietary software, many factors besides software license fees affect the total cost of an IT system such as customizing the system to the userôs specific needs, as well as servicing, and maintaining the system. That said, given the considerable needs which developing countries have for information and communication technologies and the limited funds which are available, it would seem sensible that governments and donors should certainly consider supporting programs to raise awareness about low cost options, including open source software, in

[22] Ibid.

[23] A famous example of open source software is ñLinuxò, a Unix-like operating system for personal computers, developed at the University of Helsinki in 1991 and freely available. Linux is distributed with its source code under a ñgeneral public licenseò.

developing countries. In present time most countries have protected computer software and programs under copyright.

2.1.1 India:

In India, the Intellectual Property Rights (IPR) of computer software is covered under the Copyright Law. Accordingly, the copyright of computer software is protected under the provisions of Indian Copyright Act 1957. Major changes to Indian Copyright Law were introduced in 1994 and came into effect from 10 May 1995. These changes or amendments made the Indian Copyright law one of the toughest in the world.

The amendments to the Copyright Act introduced in June 1994 were, in themselves, a landmark in the India's copyright arena. For the first time in India, the Copyright Law clearly explained:

ÅThe rights of a copyright holder

ÅPosition on rentals of software

ÅThe rights of the user to make backup copies

Since most software is easy to duplicate, and the copy is usually as good as original, the Copyright Act was needed. Some of the key aspects of the law are:

- According to Section 14[24] of this Act, it is illegal to make or distribute copies of copyrighted software without proper or specific authorization.
- The violator can be tried under both civil and criminal law.
- A civil and criminal action may be instituted for injunction, actual damages (including violator's profits) or statutory damages per infringement etc.
- Heavy punishment and fines for infringement of software copyright.
- Section 63 B [25]stipulates a minimum jail term of 7 days, which can be extended up to 3 years.

Section 2(ffb)[26] provides that:

"Computer" includes any electronic or similar device having information processing capabilities.

Section 2(ffc)[27] defines:

[24] Indian Copyright Act, 1957
[25] Ibid.
[26] Ibid.
[27] Ibid.

"*Computer program*" means 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.

Section 2(o)[28] provides that:

"*Literary work*" includes computer programs, tables and compilations including computer database.

2.1.2 Australia:

Computer programs have been protected as ñliterary worksò in Australian copyright law since 1984. The Digital Agenda amendments introduced a new definition, based recommendations by the Copyright Law Review Committee (CLRC) in its 1995 report *Computer Software Protection*:[29] a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.[30] Australian Copyright Act, 1968 defines a computer program as an expression, in any language, code or notion, of a set of instructions intended, either directly.

2.1.3 United States of America:

In the United States of America the Copyright Act of 1976 did not expressly list computer programmes as works of authorship. In 1980, the Act was amended by adding a definition of ñcomputer programmeò. It also laid down exceptions to the normal prescriptions against. The methods and algorithms in a program are not protected. U.S. copyright protection for computer programs extends to non literal elements including the structure, sequence and organization of a program, and to its graphical user interface. Together these elements are called look and feel. Most foreign jurisdictions do not yet recognize protection of these non literal elements.[31]

Almost every country has protected computer software and program as a literary work in its Copyright Law. Thus, for copyright to subsist in computer programs, the element of originality and other conditions must be fulfilled as in case of other forms of literary works.[32] It is a debatable question that what constitutes "originality" in respect of computer programs. The German Copyright Law has dealt with the issue and has endeavoured to protect work

[28] Ibid.
[29] Available at www.ag.gov.au/agd/WWW/clrHome.nsf/Page/Overview_Reports_Computer_Software_Protection.
[30] Section 10(1) of Australian Copyright Act, 1968.
[31] Available at http://www.niclawgrp.net/SpecialReports/InternationalCopyright.html
[32] Supra note7 at p.21

which is the personal intellectual creation of the author under copyright.[33] The scope of these sections has been delineated by the courts. In **Apple Computer, Inc** v. **Franklin Computer Corp**.,[34] it was held that Copyright Act extends to operating programmes as well as application programmes, whether fixed in source code or object code or embodied in read only memory (ROM). However the court in **Whelan Associates, Inc.** v **Jaslow Dental Laboratory Inc**.[35] created a relatively broad definition for copyrightable subject of software by including ñ*everything that is not necessary to the computer programme's purpose or function, including its "structure, sequence and organization*.ò In 1992, the Second Circuit Federal Court of Appeals decided **Computer Associates Int'l** v **Altai Inc**.[36], which specifically rejected the simplistic test regarding the scope of copyright protection formulated in Whelan. In Computer Associates, the court developed a three-part test for determining whether software is infringed under the copyright laws which has come to be known as the ñabstraction/filtration/ comparisonò test.

2.1.4 United Kingdom:

In United Kingdom, The protection of the computer program has been less certain and before 1985, it was unclear whether computer programs were protected by copyright. One view was that listings of source code programs were protected as literary works by analogy with codebooks or because they resembled written English to some extent[37] Court has also viewed that computer programs are protected under copyright. For example, in **Sega Enterprises Ltd.** v. **Richards**[38], which concerned alleged copies of the computer game 'FROGGER' the trial judge was of the opinion that the source code program was protected by copyright and the object code program was protected indirectly as an adaptation of the source code version.

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[33] Ibid.
[34] 714 F.2d (3rd Cir.,1983)
[35] 797 F.2d 122 (3rd Cir., 1986).
[36] 982 F. 2nd 693 (2ndCir.,1992)
[37] V.K Ahuja, LAW OF COPYRIGHT AND NEIGHBOURING RIGHTS: NATIONAL AND INTERNATIONAL PERSPECTIVES, Lexis Nexis Butterworths Wadhwa Ltd., Nagpur, 2005, p.20.
[38] (1983) F.S.R. 73

CHAPTER III

COPYRIGHT AND THE INTERNET

As the Internet has became more prevalent, the need for copyright protection there has also become a necessity. Today, copyright law has been adapted to protect Internet items, just as it has been adapted through the years to protect various other new mediums. It protects original work or work that is fixed in a tangible medium, meaning it is written, typed, or recorded. But because it was not designed specifically for the Internet, in some areas copyright law on the Internet can be as clear as mud. The internet started in U.S some 30 years ago, in the government defense department as a transfer information tool during wartime. Initially (1950-1975), it was operating at a snailôs pace (Jones in Kwan & Lai, 2003) and later in 1983 internet came into existence and replaced the above, subsequently spreading across the globe (Hunt. 1992). Now, it is a worldwide network of computers that share a common communication protocol (Johnson in Lei & Holsapple, 2005), hence independent of geographic location (Peter & Carlos, 1997) and integrating the world global community (Negroponte, 1996)[39].

3.1 Copyright and the Internet: The International Framework:

Until recently, international copyright law rested on the Berne Convention for the Protection of Literary and Artistic Works and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of 1995. Issues relating to sound recordings and performances (sometimes referred to as ñrelated rightsò) were addressed in the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961). Since 1974, the international copyright instruments have been managed by a special United Nations agency ï the World Intellectual Property Organization (WIPO). WIPOôs objective, as described in the treaty establishing it[40], is to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with other international organizations. Currently, WIPO consists of 180 member states. WIPO administers six copyright treaties and aims at

[39] Available at http://mpra.ub.uni-muenchen.de/8253/1/MPRA_paper_8253.pdf
[40] Convention Establishing the World Intellectual Property Organization (Stockholm, July 14, 1967)

ñhomogenizing national intellectual property protections with an ultimate eye towards the creation of a unified, cohesive body of worldwide international law.ò

3.1.1 The Berne Convention:

As mentioned above, the first attempt to harmonize copyright law at a global level dates back to adoption of the Berne Convention in 1886. The Convention established a minimal level of copyright protection for the member nations to follow and adopted the ñnational treatment policyò (under which a member state must give the same protection to material copyrighted in other member states as it gives to material copyrighted under its own law). The treaty also established that the International Court of Justice in the Hague (ñHague Courtò) would exercise jurisdiction over disputes between member nations, but the Treaty left nations free to declare their immunity from the jurisdiction, and many states have done so. Indeed, Hague Court has never presided over a treaty compliance dispute to date.

3.1.2 The TRIPS Agreement:

The General Agreement on Tariffs and Trade (ñGATTò) has also addressed copyright issues, in parallel to WIPO. The goal of the GATT is to ñpromote the reduction of tariff barriers to the international movement of goods.ò The GATT has been updated and revised regularly in the course of multinational discussions (ñRoundsò). As copyright was becoming increasingly important in shaping international trade with the advent of the information society, the 1994 Uruguay Round of GATT produced TRIPS ï the Agreement on Trade-Related Aspects of Intellectual Property Rights. The same Round also instituted the World Trade Organization (WTO).

The TRIPS Agreement adopts portions of the Bern, Rome and Paris Conventions in enunciating norms for intellectual property laws. Article 9.1 of TRIPS Agreement provides that, ñ*Members shall comply with Articles 1 through 21 of the Bern Convention (1971) and the Appendix thereto. However, Members shall not have rights or obligations under this Agreement in respect of the rights conferred under Article 6bis of that Convention or of the rights derived there from*.ò

So it is clear that the approach taken in the copyright provisions of the TRIPS Agreement is to adopt the regime of copyright protection provided in the Bern Convention. Article 10.1 provides that, ñ*Computer programs, whether in source or object code, shall be protected as literary works under the Bern Convention.*ò Article 10.2 further provides that, ñ *Compilation of data or other material, whether in machine readable or other form, which by*

reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such.ò

3.1.3 World Intellectual Property Organisation (WIPO):

WIPO is an organisation of the United Nations (UN). Before its establishment, there were many organisation established under certain individual organs like the Assembly of Paris Union, the Executive Committee and the international Bureau of Bern which were later united in an organisation called 'Bureau Internationaux Reunis Pour La Protection de La Propriete Intellectuelle' known as 'BIRPI'.[41] WIPOôs activities are of four kinds: registration, promotion of inters- governmental cooperation in the administration of intellectual property rights, specialized program activities and latterly, dispute resolution facilities. In 1996, member countries found it necessary to form a treaty to deal with the protection of copyright evolvement of new technology.[42]

3.1.4 WIPO Copyright Treaty, 1996:

It was adopted by the Diplomatic Conference at Geneva on December 20, 1996. This treaty is a special agreement within Article 2 of the Bern Convention. It is related to digital technology and the Internet. The WIPO copyright treaty is a special agreement amongst the member countries to grants authors more extensive rights than those granted by the Bern Convention. Article 4 of the treaty provides that, "*Computer programs are protected as literary works within the meaning of Article 2 of the Bern Convention. Such protection applies to computer programs, whatever may be the mode or form of their expression*".[43] Article 5 further states that "*compilations of data or other material, in any form, which by reason by the selection or arrangement of their contents constitute intellectual creations, are protected as such. This protection does not extend to the data or material itself and is without prejudice to any copyright subsisting in the data or material contained in the compilation.*" WIPO Copyright treaty generally covers all kinds of computer programs and not just the object code or source code of computer programs as it was in TRIPS Agreement.[44] So it can be said that ignoring the minor changes adopted by WIPO Copyright Treaty, it is not inconsistent with the TRIPS Agreement.[45]

[41] Supra note 7 at p.85.
[42] Ibid.
[43] Ibid. at p.86
[44] Ibid.
[45] Ibid.

3.1.5 Implementation of the Internet treaties in the U.S.A. – the Digital Millennium Copyright Act (DMCA):

The Digital Millennium Copyright Act (DMCA) was adopted in October 1998 to implement the United Statesô treaty obligations under the WCT and the WPPT and to ñmove the nationôs copyright law into the digital age.ò[46] In a nutshell, the DMCA:

1. Makes it a crime to circumvent anti-piracy measures built into copyrighted material, while permitting the cracking of copyright protection devices to conduct encryption research, assess product interoperability, and test computer security systems, and providing exemptions from anti-circumvention provisions for non-profit libraries, archives, and educational institutions under certain circumstances;
2. Outlaws the manufacture, sale, or distribution of code cracking devices used to illegally copy software;
3. Protects Internet service providers from copyright infringement liability for simply transmitting information, and limits the liability of non-profit institutions of higher education -- when they serve as online service providers and under certain circumstances ï for copyright infringement by faculty members or graduate students, while requiring service providers to remove material from their systems that appears to constitute copyright infringement; and
4. Requires that ñweb castersò pay licensing fees to record companies.[47]

However, the DMCA was an update of the general law governing copyright, viz. the Copyright Act, 1976, which limited the potential liability of ISPs regarding certain activities and subject to their complying with certain conditions but did not exempt ISPs from liability.[48] In addition to limiting the liability of ISPs can be held liable for infringement of copyright by their subscribers.

The DCMA allows ISPs to avoid both copyright liability and liability to subscribers by adhering to certain guidelines set out therein which are known as ósafe harbours.ô Through these safe harbor provisions, DCMA limits ISPs liability to four categories, viz, firstly,

[46] Available at http://www.internetpolicy.net/practices/20041200copyright.pdf
[47] See DMCA Summary available at http://www.gseis.ucla.edu/iclp/dmca1.htm.
[48] Final Report of the Inter-Government Copyright Committee, available at http://www.unesco.org/culture/copyright/images/IGC1971XII119e.pdf

transitory digital network communications, secondly, system caching, thirdly, information residing on system at the direction of subscribers; and fourthly, information location tools.[49]

3.2 Internet Protection in India:

The Internet system is spreading fast in India. There are many issues related to internet. But one of the biggest issues concerning Internet is protection of intellectual property- works of the mind. As per Section13 and 63 of Indian Copyright Act, 1957 literary works, pictures, sound recordings and other creative works are protected from being copied without the permission of the copyright holder.[50] It is yet unclear how copyright law governs or will govern these materials as they appear on the Internet. The Copyright Act, 1957 does not deal with the liability of ISPs at all. However, the liability of ISPs finds mention in Section 79 of the Information Technology Act, 2000 as follows:

> ñ*Network service providers not to be liable in certain cases-*
>
> *For the removal of doubts, it is hereby declared that no person providing any service as network service provider shall be liable under this Act, rules or regulations made there under for any third party information or data made available by him if he proves that the offence or contravention was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence or contravention.*
>
> *Explanation-For the purposes of this Section,- (a) 'network service provider' means an intermediary; (b) 'third party information' means any information dealt with by a network service provider in his capacity as an intermediary*.ò

Section 79 of the IT Act exempts ISPs from liability for third party information or data made available by him if the ISP had no knowledge of the offence committed or if the ISP had exercised óall due diligenceô to prevent any infringement.

[49] Kahandawaarachchi Thilini, *Liability of Internet Service Providers for Third Party Online Copyright Infringement: A Study of the US and Indian Laws*, Journal of Intellectual Property Rights, Vol.12 November, 2007, p. 553-561.

[50] Saha Subhasis& Keshari Sourav, *Challenges to Copyright Work in Cyberspace*, Journal of Intellectual Property Rights, Vol. 13, January, 2008, p. 35.

CHAPTER- IV

CONCLUSION

Thus we can say that almost countries have given protection to computer databases, computer software/program and internet by amending their copyright laws. But there are many countries which have yet to amend their copyright laws for the protection of computers databases, computer software/program and internet. The owners of computer software, databases and internet, have been provided the general rights which are possessed by the owners of copyrighted literary works, artistic works, dramatic works, cinematograph films etc. The characteristic of the Internet has out-performed the law, thus the question arises whether Copyright is shaken by the advancement of technology and that it is significant in the digital era. Undoubtedly, the current Copyright laws do provide protection to Copyright owners but it has some drawbacks. Some doubts have been raised on the effectiveness of Copyright protection being enforced onto people. The borderless nature of Internet, calls for a more encouraging relationship in other jurisdiction and close cooperation with the international organizations. The society must be educated on the necessity of Copyright protection to prevent any unauthorized use.

Therefore the hypothesis stands proved.