

PROTECTION OF NON-LITERAL ELEMENTS OF A COMPUTER PROGRAM UNDER COPYRIGHT

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Abstract:

In today's age of technological development, information technology is one of the most rapidly growing sectors. Computer programming forms a very important aspect of this sector, it is the foundation of the whole IT Sector. The ease of access to the computer programs and certain activities such as Hacking and Reverse engineering have led to cases where Computer Programs have been blatantly copied if not literally then by copying the Non Literal elements. This research paper primarily tries to look into what protection has been afforded under the Indian Laws to computer programs and what kind of remedies have been awarded. The researcher looks into the IT Act, 2000, the Copyright Protection Act and Patents Act and various International Conventions and Treaties on the matter to determine the protectability of computer programs. The researcher has identified the lack of judicial intervention in the matter in India and thus relies on International Interpretations, Conventions and Cases, which the researcher tries to correlate to the existing law on the matter and come to a conclusion about the protectability of Computer Programs.

Key Words: Computer Programs, Source Code, Object Code, Hacking, Reverse Engineering, Copyright.

Introduction: A computer program has essentially two parts, i.e. a Literal and a Non-Literal Element. The Non-Literal Elements of a computer program can be defined as the structure, sequence, organization, screen displays, menu structure and user interfaces of a software. Under the laws of India, computer program has been defined as a literary work.¹ Courts have struggled for decades to develop a test for judging infringement claims in software copyright cases that distinguishes between program expression that copyright law protects and program

¹ The Copyright Act, 1957, No. 14, Acts of Parliament, 1957 (India).

functionality for which copyright protection is unavailable. The case law thus far has adopted four main approaches to judging copyright infringement claims in software cases. One, now mostly discredited, test would treat all structure, sequence, and organization (SSO) of programs as protectable expression unless there is only one way to perform a program function. A second, now widely applied, three-step test calls for creating a hierarchy of abstractions for an allegedly infringed program, filtering unprotectable elements, and comparing the protectable expression of the allegedly infringed program with the expression in the second program that is the basis of the infringement claim. A third approach has focused on whether the allegedly infringing elements are program processes or methods of operation that lie outside the scope of protection available from copyright law. A fourth approach has concentrated on whether the allegedly infringing elements of a program are instances in which ideas or functions have merged with program expression.²

In this research paper, the researcher has tried to establish whether copying non-literal elements of a computer program would constitute as an infringement of the Intellectual Property Rights of an individual. The researcher in this study relies on foreign precedents and Indian case laws primarily and tries to establish whether copyright subsists over the non-literal elements of a computer program, if and only if copyright subsists can it be said that an infringement of the copyright has occurred or else it cannot be termed so.

Nature and Type of Protection Awarded to Computer Programs.

Under the provisions of the Copyright Act, 1957, Section 14(a)(vi) of the Copyright Act 1957, the exclusive right to make any adaptation of a literary work has been conferred on the copyright holder, and under section 2(o) computer programs have been included under the definition of Literary works, and under the provisions of the Copyright Act, 1957, Section 2(ffc) defines computer programs 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 to achieve a particular result.*”³

The Non-Literal Elements of a computer program can be defined as the structure, sequence, organization, screen displays, menu structure and user interfaces of a software. It may be

² Pamela Samuelson, Functionality and Expression in Computer Programs: Refining the Tests for Software Copyright Infringement, Vol 31, Berkeley Technology law Journal.

³ Supra Note 1

argued that the non-literal elements of a computer programs are not protectable under the copyright act of 1957, under the provisions of Section 2(ffc) computer program has been defined as a set of instructions which are expressed in words, codes, schemes or any other form.

It is to be noted that the words “any other scheme” has to be read keeping in mind the principles of ejusdem generis, therefore the words “any other scheme” include any scheme which are expressed in a manner similar to words, codes or schemes and thus the non-literal elements of computer program cannot be included under the ambit of the said definition because of the simple reason that the elements are not expressed in words or similar methods.⁴ And only the source code of a computer program is protectable under the Copyright Act of 1957.

As evident from the definition copyright protection has only been given to the set of instructions and not to the functionality or the execution of a computer program, hence while determining infringements claims only the copying of source code of a computer program has to be looked into and not the non-literal elements.⁵

The hardware of a computer can only comprehend the object code of a program⁶ and hence the expression of the object code of a computer program is through the non-literal elements, keeping this in mind another question arises whether an object code of a program can be awarded copyright protection, because if protection is awarded to the object code then the expression of it i.e. the non-literal elements, should also be given protection.

The object code of a computer program i.e., is the machine readable version of the computer program, which is created by the computer while compiling the program is outside the purview of the protection granted under the Copyright Act, because according to the Principle of Fixation, any literary work which is to be copyrightable has to be in a tangible form⁷, i.e. until there is no fixation there exists is no copyright.⁸

Since the Object code of a computer program is only machine readable and is not something which can be stored in a digital format, as it is created by the computer on execution of the

⁴ Northern office Microcomputers v Rosenstien[1982] FSR 124.

⁵ Baker v. Selden, 101 U.S. 99 (1879).

⁶ Copyright Protection of Computer Program Object Code, 96 HARV. L. REV. 1723, 1724 (1983).

⁷ Zee telefilms ltd. V. Sundail Communications (P) Ltd., (2003) 3 Mah LJ 695.(India).

⁸ Komesaroff v Mickle (1988) R.P.C.204.

program, it does not conform to the principle requirement of fixation and hence is not protected under copyright.⁹

The courts held in the case of *Computer Edge Pvt.Ltd., v. Apple Computer* that a computer program consisting of a source code is an original literary work.¹⁰ The object code is not itself a literary work, for they are merely electrical impulses in a silicon chip, which could neither be perceived by the senses nor were intended to convey any message to a human being and since the object code is not represented in words letters figures or symbols they could not be described as literary works.¹¹

This argument though well-reasoned cannot be the sole basis of not awarding protection to non-literal elements under the Indian Laws. There are still a lot of debate over the protection of object code, the researcher feels that under the definition of computer programs both the Source Code and the Object Code of the Program can be awarded protection, this can be argued on the following grounds, that the hardware of a computer can only comprehend the object code of a program¹² and hence the non-literal elements such as user interface, screen displays, and sound interface are actually the expression of the object code, and secondly, that under section 13(a) originality in literary work is a requirement and in order to determine copyright infringement substantial similarity of a computer program has to be looked into and this cannot be done unless the computer program as a whole is looked at, i.e. literal as well as non-literal elements.

The object code has to be included in the definition of computer program keeping in mind the following two things, Firstly that as per the agreement for Trade-Related Aspects of Intellectual Property, under article 10 paragraph 1 it has been **expressly required** that member states to protect software, whether in source or **object code**, as literary works under the Berne Convention¹³, Which is a WIPO administered convention and India is a signatory to both the treaties. And in 1999 the Copyright Act, 1957, was amended by the legislature to align the act

⁹ Computer Edge Pvt.Ltd., v. Apple Computer [1986] F.S.R. 537

¹⁰ Apple computers inc. v Computer Edge Pty. Ltd. [1986] F.S.R. 537.

¹¹ CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form, 1984 DUKE L.J. 663, 694–96 (1984).

¹² Copyright Protection of Computer Program Object Code, 96 HARV. L. REV. 1723, 1724 (1983).

¹³ Agreement on Trade-Related Investment Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 186.

with the requirements under the TRIPS agreement¹⁴, and it is also contended that under section 2(ffc) the words “**any other forms including machine readable medium**” clearly includes Object code within the ambit of copyright protection as literary work.¹⁵

It should also be considered that an object code is the version of the program in which the source code language is converted or translated into the machine readable language of the computer with which it is to be used,¹⁶ and a translation of a literary work is itself a literary work and is entitled to copyright protection.¹⁷ It should also be noted that various courts all around the world, from countries that are parties to the WIPO and also carry out their international obligations, have held that under the provisions relating to literary works in the copyright laws, the protection subsisted in the assembly code program¹⁸ and also to the object code¹⁹. The courts have also held that Copyright protection for computer programs could extend beyond the literal elements²⁰, to the non-literal elements, such as user interface, structure, sound interface and screen displays. Thus it is stated that the copyright protection extends to both the literal as well as non-literal elements.

Furthermore it has to be considered that creating a suitable user interface is a more difficult intellectual task, requiring greater creativity, originality, and insight, than converting the user interface design into instructions to the machine²¹ and an equally larger portion of the expense and difficulty in creating computer programs is attributable to the development of the structure and logic of the program, and to debugging, documentation and maintenance, rather than to the coding. The amount of skill and labour that goes into expression of an idea is thus protectable under the Copyright Act 1957.²² It is thus contended that labour, skill and capital put in by the author is the prima facie aspect which the copyright laws try to protect and keep the hard work of the author protected.²³

¹⁴ Zakhir Thomas, overview of changes to Indian Copyright Law, journal of intellectual property rights, vol 17,p324-333.

¹⁵ The Copyright Act, 1957, No. 14, Acts of Parliament, 1957 (India).

¹⁶ Apple Computer Inc. v Computer Edge [1984] FSR 481 at p.540.

¹⁷ Blackwood v. Parasuraman AIR 1959 Mad 410 (India).

¹⁸ Sega Enterprise Ltd. V Richards [1983] FSR 73.

¹⁹ Apple computers v. Franklin Computer 714 F.2d 1240 (3d Cir. 1983).

²⁰ SAS Institute v. S & H Computer Systems 568 F. Supp. 416 (M.D. Tenn. 1983).

²¹ Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37, 56 (D. Mass. 1990).

²² Indian Express Newspaper (Bombay) Pvt Ltd v Jagmohan, AIR 1985 Bom 229 (India).

²³ Burlington Home Shopping v Rajnish Chibber 1995 PTC (15) 278 (India).

What is worth copying is prima facie worth protecting,²⁴ and since labour, skill and capital expended to the program have given the program such quality that the raw idea and literal text in itself did not possess²⁵, the non-literal elements in the present case are more than worth protecting.

Under section 13(1)(a) originality of literary element is an essentiality for any work to be treated as original, and it is necessary that the work must not be copied from another work, but must originate from the author.²⁶ It is very uncommon for anyone to directly copy the source code of a computer program and mostly the non-literal elements are the once being copied wildly, and it is through the non-literal elements that the originality of a computer program be judged.

While determining the substantial similarity between infringing works the courts are still not clear about the amount of protection to be given to non-literal expression of an idea, while some courts rely on the look and feel approach²⁷, the extrinsic/intrinsic approach²⁸ or the Abstraction Filtration and comparison test²⁹. It is the test laid down in the case of a “Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.”³⁰ Which properly lays down the test to determine the non-literal infringement of the computer by extending protection to the non-literal elements and to check the overall “look and feel” of the program expression to determine infringement. The predominant test followed to establish infringement in India i.e. “Audience test”³¹ is analogous to the “look and feel approach”.

While some courts of in the US have held that copyright protection only extends to ideas and not expression of those ideas³², but it has also been held by courts in the UK, that when there is a detailed expression of an idea which in itself was novel it has to be protected,³³ this is

²⁴ *Ladbroke (football) v William Hill (football)* [1964] 1 WLR 273.

²⁵ *Nag Book House v. State of West Bengal* AIR 1982 Cal 245(India).

²⁶ *University of London Press Ltd. V University Tutorial Press Ltd.* [1961] 2 Ch 601.

²⁷ *Roth Greeting Cards v. United Card Co.* 0 429 F.2d at 1110.

²⁸ *Sid & Marty Krofft Television Productions, Inc. v. McDonald’s Corp.* 562 F.2d 1157 (9th Cir. 1977).

²⁹ *Computer Associates International, Inc. v. Altai, Inc* 982 F.2d 693, 706–11 (2d Cir. 1992).

³⁰ *Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.* 1240 (3d Cir. 1986).

³¹ *R.G.Anand v. Deluxe Films* AIR 1978 SC 1613 (India).

³² *Mirage Studio v Counter Feat Clothing* [1991] FSR 145.

³³ *L.B. (Plastics) Ltd v. Swish Products Ltd* [1979] R.P.C. 619.

further substantiated by the judgment of the Hon'ble high court of Delhi in the case of **Anil Gupta v, Kunal Dasgupta**.³⁴

Conclusion:

The researcher is of the opinion that keeping in mind the complex nature of computer programs and also keeping in mind the Common Law system followed in India the courts should align itself with the ideologies and the doctrines of the UK and not that of the US. The very essence of awarding protection to the intellectual property of an individual is to acknowledge the intellectual labour employed by such an individual to a work. In case of computer programs, the non-literal elements of a computer program are the expression of the source code of the program. The researcher further emphasises that a computer program cannot be judged as a normal literary work keeping in mind the immensely technical and complex nature of the work. Thus in conclusion the non-literal elements of a computer program should be awarded protection under the Copyrights Act.

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³⁴ Anil Gupta v, Kunal Dasgupta AIR 2002 Delhi 379 (India).

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