

A Legal Perspective of Computer Software Protection

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Abstract:

The legal protection for computer software is an essential part of intellectual property, given that the infringement on computer software leads to a serious loss for companies and individuals. It is considered to be as or more dangerous than the attack on other types of property. The research aims to define and explain the concept of legal protection for computer software as a legal concept, and to indicate the methods of infringing computer software, the moral and economic rights of the programmers of computer software, and the main types of legal protection for computer software starting from procedural, substantive, and criminal protection for computer software. Additionally, It illustrates the technical parts of software such as its birth cycle and functions, and the conditions that should computer software meet to be protected. Finally, the research analyses the past and existing status between laws in the reliance on the copyright law or the patent law to protect computer software.

The protection for computer software is considered one of the most important ways to encourage programmers to create more programs, and that the legal protection of computer software must include preventing people from violating the economic or moral rights of programmers, in addition to providing civil and criminal protection that can deter others from violation. The protection for computer software is flexible in a way that does not require that the program be new, but rather it must be innovative and creative, and that the legal protection of computer software varies, as there is procedural, substantive, and criminal protection, and that the prevailing trend in comparative laws goes to give computer software protection within Copyright Laws.

Keywords:

Legal protection, Computer Software, Intellectual Property.

Introduction:

Intellectual property is a type of property or wealth that is equal to or greater than the value of material or tangible property. It includes two types: industrial property and artistic literary property. Industrial property includes the protection of patents, trademarks, industrial designs, and geographical indications. Literary and artistic property includes written materials, oral works, theatrical works, works prepared through radio and computer software, and other literary and artistic works.

The rapid spread of the use of modern technology and the entry of computers into the business world has affected the legal aspects and has led to enact legal protection for computer software and provide legal status for computer software, for the following reasons:

- (1) Program expenditures are far higher than the amount of equipment expenditures, whether it is related to investing these programs in media companies or developing companies that produce the materials of these programs.
- (2) The risks of piracy and imitation of this type of intellectual production is a significant factor to search for solutions to protect these programs.
- (3) The negative economic effects of piracy on computer software.

Rationale:

The study of legal protection for computer software is an important issue to keep updated with, as infringing computer software leads to companies losing their wealth and is no less dangerous than stealing tangible property.

Methodology:

The research relies on the inductive method by extrapolating the related articles of international agreements and convictions, along with judicial precedents related to computer software protection, and the analytical method through a deep analysis of them without ignoring the jurisprudential opinions.

Research problem:

The research problem is based on the following questions: How does the legal protection for computer software protect programmer's rights? What are the types of these rights? Is it legally required for programmes to be innovated to be protected? How can violators infringe on computer software? What are the main sections of legal protection for computer software? What is the statement of jurisdictions on the protection of computer software?

To address the research problem, the research was divided as follows:

1-Background on legal protection of copyright

In the eighteenth century, attention began to be paid to the protection of mental production at the global level, due to countries realizing the financial value of it, and therefore these countries began to cooperate with each other to protect mental production.

Many international organizations have been established to supervise and ensure the implementation of international conventions established for the protection of artistic and literary works, and among

these organizations were those that provided direct protection for copyright, and the most prominent of these organizations: the World Intellectual Property Organization (WIPO), and the United Nations Educational and Cultural Organization (UNESCO) (Al-Kamali & Tanash, p.231).

Countries have concluded many agreements for copyright protection. These include the Berne Convention (1971), the TRIPS Agreement (1995), the Universal Copyright Convention (1952), and the Arab Agreement for the Protection of Author's Copyright (1981). Among the most important of these agreements is the TRIPS Agreement as it is considered the umbrella for all intellectual property issues and it regulates copyright, including computer software.

2-The concept of legal protection for computer software

Legal protection is a process that requires preventing people from infringing on each other's rights, according to legal rules and provisions. Whether the rights are tangible or intangible such as intellectual property rights. Thus, we can define the legal protection for computer software as: preventing people from violating the financial rights or copyright of a computer software programmer and providing civil and criminal protection to deter violators of programmer rights (Al-Manzul 2007).

The Saudi Copyright Law (2003) followed the path of the majority of comparative laws by not setting a specific definition for computer software, which is what those laws intended due to the rapid development of computer software.

However, a few pieces of laws, including the American Copyright Act (1976), set a specific concept for it as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result” and the World Intellectual Property Organization also defined computer software as “a set of instructions capable, when incorporated in a machine-readable medium, of causing a machine having information-processing capabilities to indicate, perform or achieve a particular function, task or result” (Al-Osaimi, 2007).

3-What is computer software?

There are three elements of the components of a computer, which are:

(1)Physical components (equipment): They are the electronic and mechanical parts that make the computer able to do its work when giving it information so that it can implement it to achieve the desired result from giving it this information, and that these components are usually separate parts and placed in metal or plastic cabinets that are connected together with cables. These parts consist of the following devices:

- (i) the input devices which are: (mouse, keyboard, copier); and
- (ii) the output devices which are: (monitor, printer); and
- (iii) the main memory which works to store information and data temporarily; and
- (iv) the secondary memory which is supporting the main memory in order to work to secure a place in which to save programs and information that are not subject to the processing process; and

- (v) the central processing unit: which is the basis for the computer, and it implements all the operations necessary to operate the device.
- (2) Software: It operates the physical components of a computer.
- (3) Users: They are the people who use the computer.

Based on the foregoing, computer software can be defined as: “a set of instructions that may be expressed in any language or code in any way to the computer to reach a specific result or purpose” (Hussein, 2008, p.13).

4-The functions of computer software

Computer software is divided in terms of functions into two types:

- (1) Operational software.
- (2) Applied software (Al-Rahali, 2014).

They operate on the same principles and write in the same languages; However, the operating software work inside the computer, while the applied software appears to the user and perform the tasks he desires.

Programs, like other advanced basic ideas, may contain an idea that has not been previously discovered, and in this sense, it falls within the scope of inventions, and takes its ruling, but most of them consist of new changes to the ideas put forward, and in this sense, they enter the circle of protected ideas such as literature.

5-The birth cycle of computer software

The program is generated in the programmer's mind first as an idea, then the programmer implements this idea in writing on paper

within the language he chooses to program his program, where an image of a design or logic table appears, then it turns into computer-specific language instructions that are predominantly symbolic. In this case, the program is called: the initial or original image, and then to tools in the machine that include signals that the computer understands (Al-Rahali, 2014).

It is important to point out that the conditions that must be met in a computer are the same as the general conditions that must be met in works of creation and innovation.

As for innovation, it is not necessary for the programmer to come up with new ideas for the program, but rather the presence of originality and self-creativity. Therefore, computer software enjoys protection, whatever the way they are expressed, as they enjoy protection at all stages of their installation. (Al-Osaimi, 2017).

The court of T.G.I.de Boligny on December 11, 1978, which completely compared the computer software to a literary work and therefore considered it innovative in its composition or type of expression.

This landmark decision was supplemented by another decision dated October 18, 1980 by the Court of Commerce in Paris, which clarified that computer software can be protected by copyright. (Homs)

On the other hand, the Supreme Court of Australia decided on May 8, 1966 in the case (Computer Edge prop Ltd U/Apple Computer inc) that computer software is creative literary works according to the provisions

of article 32 of the Copyright Act, and the concept of innovation in this article does not mean that the work must be an expression for an innovative or invented idea, but rather must be in expressing these ideas, with the emphasis that it is not necessary for the idea to be innovative or new, but rather the way it is developed and communicated to the public is the most important, and it is required that the work is not copied from a previous work and that it is issued by its author, as innovation is a matter of degrees that take into account the importance of the work that was necessary in order to create the effect that it constitutes an innovative literary work. (Homs)

6- Infringement forms on computer software

Copying methods for infringing computer software is divided into two categories:

- (1) Literal copying of programs: It is the complete reproduction of the program and its accessories, or imitation without adding or decreasing or making any modification to it. It is one of the most widespread and common forms of software abuse among the public. In most cases, copying of this program is attributed, whether in whole or in part, to the ease of doing so, without making an effort. This type of abuse is attributed to in an attempt to reduce the material cost of the original program .
- (2) Non-literal copying of programs: This means plagiarism, by appropriating the ideas of others. The forms of this aggression are evident in the case of a copy taken from the original and closely matching it, and

the reason for that is due to the exact borrowing of some elements, and the more the copyist has a great ability to show this copy in the best way, the greater the opportunity to produce a workbook or something new (Hamdi, 1992).

7-The moral rights of software programmers

The international conventions on copyright and the majority of jurisprudential opinions have tended to consider that the copyright of the author and the programmer is considered one of the rights associated with human personality. Hence, that the author and the programmer is unable to dispose of them or waive them, and they do not expire by statute of limitations, and it is not permissible to seize it, and is not passed on to the heirs but can be protected by them after his death at least until the expiry of the economic rights, and they are included in the Latin laws related to copyright, but in the Anglo-Saxon laws they are generally protected according to the general principles. (Badr, 2002).

As a result, the author in general, or the programmer specifically, may claim authorship of the work and object to any distortion, mutilation, or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honour or reputation. (Berne Convention, 1971). TRIPS agreement (1994) stipulated that computer software shall be protected as literary works under the Berne Convention (1971).

It is also worthy to mention that the French judiciary played a major role in clarifying the concept of the moral right and its characteristics. It stated:

The artist who throws some of his paintings into one of the trash bins on the public road after he tore them up and crossed them out, continues to enjoy his copyright over the parts of his paintings that he threw in the trash bin. He has the right to repair the damage or to collect its parts and display them in a public place, because by doing so, he would be violating the copyright of the painter, and that it would be absurd to rely on articles (539-713) of the French Civil Code, which stipulate that abandoned funds are considered public funds, because The provisions of these two the two articles do not apply to the artist who throws away parts of his paintings after tearing them apart, because the intention of leaving was focused only on the material thing and not on the scenery itself, which is due to his talent and taste (Hussein, 2008, p.41)

8-The economic rights of programmers of computer software

There are rights that are not related to the human personality, such as printing or exploiting the work, so that the author may dispose of them or waive them in whole or in part, and they are also transferable by inheritance or legal disposal.

In terms of computer software, according to the European directive on the legal protection of computer programs (1991) the main rights that the rightsholder of a computer software enjoys are:

- (1) Reproduction of a computer program.
- (2) Translation, adaptation, arrangement and any other alteration of a computer program and the reproduction of the results thereof.
- (3) Any form of distribution to the public.

9-The procedural protection for computer software

The procedural methods differ according to the damage that results from the infringement on these programs or the rights of their author. The aim of the procedural protection is to stop the damage or prevent its occurrence, and it may be to limit the damage that actually occurred as a result of the infringement by Judicial reservation, and the matter may reach the extent of destroying the work (program) and tools used in infringing it.

The main procedural protection methods are:

- (1) An order to stop copying or publishing the infringed copy to end and prevent the continuation of the act of infringement.
- (2) Conducting a detailed description of the imitated work (program) to distinguish it from other works in the same field.
- (3) Modifying the work or taking parts of it in certain cases in order to eliminate the reasons for stopping the publication of the work if not published yet.

- (4) Judicial reservation or forfeiture of imitated works to prevent its owner from carrying out any legal or material action that hide his money.
- (5) Destroying the imitated work. (Hussein, 2008).

All these procedures are permissible and subject to the discretion of the court, and the expenses of such claims should be on the shoulders of the infringer.

10- The substantive protection for computer software

To encourage intellectual production and innovation, and to motivate the authors and programmers to produce more works, the substantive protection for computer software has been enforced. The substantive protection, as a concept, is to provide full civil protection for computer software within copyright laws or in some cases in patent laws. Civil protection is no less important than criminal protection, and the main objective for it is to compensate the victim for the damage he sustained because of the infringement on his program.

According to TRIPS agreement (1994) The judicial authorities shall have the authority to order the infringer to pay the right holder damages adequate to compensate for the injury or expenses incurred.

Such liability may arise from contractual protection, which is the consequence of the breach by non-implementation of the terms of the contract or mostly by the rules of tort law (Hussein, 2008).

Civil protection is referred to after the procedural protection methods have been exhausted, or if the judicial authority deems it unnecessary to refer to procedural protection.

It is also important to note that the burden of proof falls on the programmer, who must prove that there is an infringement from others and damage done to him as a result of such infringement. On the contrary, A part of jurisprudence held that it is impossible for the programmer to prove the damage he suffered as a result of the infringement of his moral right and consequently the judge may assume that the damage occurred directly after such infringement without the demand for proof (Hussein, 2008).

The Saudi Copyright law (2003) has guaranteed the right to financial compensation as a method of objective protection for programmers of computer software. It stipulates that among the penalties for violating the provisions of the copyright protection system are: Financial compensation for the infringed copyright owner who submits a complaint, and the compensation is commensurate with the extent of the infringement and the damage incurred (article.22)

However, there is nothing to prevent the application of in-kind compensation as well, as in-kind compensation may be beneficial in restoring the situation to what it was before the infringement, and this is the original and best for the programmer.

the Jordanian Copyright Law (1993) states that:

the cultural status of the author and the literary, scientific or artistic value of the work must be taken into account, and the extent of the return to the infringer as a result of exploiting the work, when

estimating the amount of compensation to which the author is entitled (article. 49)

11-The legal duration of protection for computer software

It should be noted that the economic rights are granted to the owner of the right, but it is restricted to a certain period differs from law to law. According to Berne Convention (1971) the moral rights shall be maintained after death at least until the expiry of the economic rights. It is important to mention that several laws tend to grant eternal protection to moral rights.

Computer software as TRIPS agreement (1995) stated that computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971). As a result, computer software enjoys protection, in terms of economic rights, as literary works for a period of no less than fifty years from the date of their first production if the author is an anonymous or pseudonymous person, and the life of the programmer and fifty years after his death provided that his identity is determined.

12-The criminal protection for computer software

Many types of infringement, such as imitation, theft, or disclosure of the secret of their manufacture occur commonly on programs, which represent a phenomenon that threatens, in a certain way, the investment return of the producers of these programs.

Under TRIPS agreement (1995) countries shall provide for criminal procedures and penalties to be applied at least in cases of wilful

trademark counterfeiting or copyright piracy on a commercial scale. The general rule here is that any distribution of the program to the public, exploitation, or unauthorized use should be deemed an infringement of programmer's rights.

It is important to point out that some jurisdiction tends to state that the infringement of computer software does not require a specific criminal intent to be considered as a crime as the general criminal intent is sufficient, which necessarily includes the knowledge of the accused that his act constitutes an infringement of copyright (Hussein, 2008).

13-In which law does the countries protect computer software?

In the context of computer software, there has been a tendency to protect these programs through patent law. However, in 1966, there was a shift in not protecting it under the umbrella of the patent law, when the US Patent Office issued instructions not to accept computer protection unless it leads to “utilitarian steps” and that is the opposite of what is called “intellectual steps”.

Accordingly, the physical conversion of a computer into a device intended to perform a utility must result in the program being patentable.

At the level of comparative judiciary, we see that the predominant trend is to give computer software protection within the copyright laws (Al-Osaimi, 2007, p.103).

In this regard, the American judiciary ruled that computer works are works of authorship, because the series of instructions and the choice

of the method of assembling them express the ideas of programmers, as the Court of Appeal (Third Circuit) in the United States of America concluded in the case filed by (Apple), which claimed that the defendant infringed on its rights when she copied information systems designed by it, which constituted an infringement on the intellectual rights of the plaintiff company, considering those works as literary works protected under the copyright law. (Al-Osaimi, 2007, p.102).

Conclusion

The research discussed the legal protection for computer software as a legal notion and its types. The focus of protecting mental production globally began to be paid in the eighteenth century. Most laws did not set a specific term for computer software due to the rapid development of computer software. However, computer software can be defined as: “a set of instructions that may be expressed in any language or code in any way to the computer to reach a specific result or purpose” (Hussein, 2008, p.13). It is not a requirement for computer software protection to be new, but rather it must be innovative and creative. As for computer software itself, computer software is divided functionally into two types: (1) operational software, (2) applied software (Al-Rahali, 2014), they operate on the same principles and write in the same languages; However, the operating software work inside the computer, while the other one appears to the user and perform the tasks he wants. There are two types of rights granted to programmers. On the other hand, the moral rights in many laws are eternal and not transferable unlike the economic rights which are

granted to programmer, but it restricted to a certain period differs from law to law. Many laws tend to protect the economic rights for a certain period of no less than fifty years from the date of their first production if the author is an anonymous or pseudonymous person, and the life of the programmer and fifty years after his death provided that his identity is known. Under TRIPS agreement (1995) countries shall provide for criminal procedures and penalties to be applied at least in cases of wilful trademark counterfeiting or copyright piracy on a commercial scale. It is beneficial for the programmers to regulate the cases in which computer software may be patentable as such protection is stronger than copyright, and to have an international standard that the moral rights should be eternal and not limited to the expiry of the economic rights.

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