



Intellectual Property Regimes to Protect Computer Software: Indonesia and the United States

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Abstract

The national's legal framework consists of separated regimes on protecting Intellectual Property Rights. One of them being possibly one of the oldest regimes that is copyright, is a declarative protection which makes it distinctive than other regimes. Considering that copyright is an Intellectual Property right that is easier to obtain with respect of the nature of the protection itself, therefore making copyright a popular method in protecting software, including in Indonesia. However, a more developed nation such as The United States covers the protection of software through copyright and patent protection. This paper will analyze Copyright regime in Indonesia for protecting computer software through a practical comparison to the United States. The aim of this paper is to furthermore examine on how copyright regime is the most suitable protection for computer software in Indonesia.

Keywords: Computer Software, Copyright, Intellectual Property Rights, Indonesia, The United States.

A. Introduction

Understanding the protection of copyright as a brand of Intellectual Property Rights adds an exclusive legal right by a higher authority towards a natural person(s).¹ According to World Intellectual Property Organization, Intellectual property (IP) means the creations of the human mind which consists of inventions, literary and artistic works, also symbols, names, and images used in commerce.² IP rights stimulate creativity and innovation which boost competitiveness.³ However IP has a system which enables people to earn financial benefit or as simple as recognition for their creations or invention.⁴ This system gives out protection towards creators and these rights are written in Article 27 of the Universal Declaration of Human Rights. Article 27 mentions the protection of moral and material interests generated from authorship from artistic creations, literary and scientific inventions as well as the right to benefit from them.⁵

The protection of computer software within the Intellectual Property scope varies. In Indonesia, the protection of computer software is covered through copyright regime under Law Number 28 Year 2014 on Copyright. Given the declarative nature of the copyright

¹ Reddy, Anjaneya and Lalitha Aswath, "Understanding Copyright Laws: Infringement, Protection and Exceptions", *International Journal of Research in Library Science Vol 2 Issue 1 2016*, at 48.

² What is Intellectual Property? By WIPO INTL. Accessed through https://www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf

³ The Protection of Intellectual Property. Accessed through https://www.eesc.europa.eu/sites/default/files/files/factsheet_-_the_protection_of_intellectual_property_0.pdf

⁴ Topic 1: Introduction to Intellectual Property. WIPO Practical Workshop. Accessed through https://www.wipo.int/edocs/mdocs/tk/en/wipo_iptk_ge_14/wipo_iptk_ge_14_wipo_presentation_1.pdf

⁵ United Nations, *Universal Declaration of Human Rights*. Accessed through https://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf?

protection, making it the most popular protection for computer software. Compared to the United States, the protection for computer software is through copyright regime or obtained via patent protection. The practice of obtaining a patent for protecting computer software in the United States embarked through Supreme Court decisions in *Diamond v. Diehr* and *Diamond v. Bradley* that permit the practice of patenting software algorithms.⁶

This paper will provide an analysis on the most suitable Intellectual Property regime to cover the protection of computer software through a practical comparison approach towards the protection of computer software in the United States. The first chapter will discuss the succinct background towards the matter of Intellectual Property protection on computer software. The second chapter will analyze the protection of computer software through copyright regime in Indonesia and the protection of computer software through copyright and patent regime. The third chapter will examine the answer towards which Intellectual Property regime covers computer software in Indonesia best.

B. Research Methods

This paper employed a normative juridical approach. The type of approach used is a statutory approach and comparative regulation on Intellectual Property Regimes to protect Computer Software in Indonesia and in the United States. This paper is a descriptive analysis paper which analyze, describe, and summarize various conditions, situations from various data collected from national's practice and regulations.

C. Results and Discussion

1. Copyright Protection in Indonesia

There are doctrines and theories of copyright protection according to Djumhana. Here are the doctrines:⁷ The Doctrine of Publicity; Making Available and Merchandising right; Fair use/ fair dealing; Work Made for Hire; Protection of character; Traditional knowledge within copyright; New scopes in Copyright Protection.

According to Robert Sherwood, the legal recognition along with the protection of IP (in this case copyright protection) is essential based on the following theories: Reward theory : that any person who has succeeded in finding or creating intellectual works needs to be given recognition and appreciation in the form of protecting their works as a reward for their creative efforts; Recovery theory : that any person who has spent time, money, and energy in producing their intellectual work needs to be given the opportunity to obtain something from what they have made; Incentive theory : that any person needs incentives to spur the development of useful discoveries and research; Risk theory : that IP is a work that contains risks, which has a possibility of other people finding out about their work and improve it thus claim it as themselves. Therefore it is important that the creators/ inventors to be given legal protection for efforts or activities; Economic Growth Stimulus theory : that IP protection is a means of economic development which has an overall goal of building an effective IP protection system.⁸

Based on the theories mentioned above, it is become clear that copyright protection is essential. The urgency of this protection has been recognized for a long time, as previously mentioned before it even existed in Indonesia during the Dutch colonization which this protection is based on *Auteurs Wet (S.1912.600)*.⁹

⁶ Graham, Stuart and David Mowery. *Intellectual Property Protection in the U.S Software Industry*. at 7.7

⁷ Muhamad Djumhana, *Perkembangan Doktrin dan Teori Perlindungan Hak Kekayaan Intelektual*. Bandung: PT Citra Aditya, 2006.

⁸ Hamda Zoelva, *Globalisasi dan Politik Hukum HaKI*, Law Review, Volume X No. 3- Maret 2011, p. 323 and 324.

⁹ Inda Nurdahniar, *Analisis Penerapan Prinsip Perlindungan Langsung dalam Penyelenggaraan Pencatatan Ciptaan*, Jurnal Veritas Et Justitia UNPAR, Vol 2, No. 1, 2016, p. 232

Software, along with other works such as : a. Photography, Portrait, Cinematographic works, Video games, Compilation of written works, Translations, interpretations, adaptations, anthologies, databases, adaptations, arrangements, modifications, and other works resulting from a transformation of work, Translations, adaptation, arrangement, transformation or modification of traditional cultural expression, Compilation of works or data, either in a format that can be read by a computer program or other media and Compilation of traditional cultural expressions as long as the compilation is an original work, are valid for protection under Indonesian copyright law for 50 (fifty) years following the announcement (economic rights)¹⁰.

According to Law Number 28 Year 2014, a copyright is an intellectual property granted by the Indonesian government to creators in the field of science, art and literature that has a strategic role in supporting national development. Based on Article 5 through Article 18, a creator is subject to moral rights and economic rights. The authors/ creators inherit the moral rights granted by Article 5 of the law to :

- a. Continue to include or not include their name in related with the use of their work in public;
- b. Use their alias or pseudonym;
- c. Change their work in accordance with the appropriateness of the society;
- d. Change the title and sub-title of the work; and
- e. Defend their rights in the event of any distortion of their work, mutilation of the work, modification of the work, or anything that is detrimental to their honor or their reputation.

The moral rights as referred can not be transferred as long as the Creator is still alive. However the exercise of these rights can be transferred by will or other causes in accordance with the legal provisions after the Creator dies. Based on Article 9, a Creator is subject to the following rights to :

- a. Publishing of works;
- b. Reproduction of works in all their forms;
- c. Translation of works;
- d. Adapting, arranging, or transforming the work;
- e. Distribution of works or copies thereof;
- f. Performance of creations/works;
- g. Announcement of works;
- h. Communication of works;
- i. Leasing works.

However, everyone exercising economic rights as mentioned before must obtain permission from the Author or Copyright Holder. Any person is prohibited from carrying out reproduction and or commercial use of the work without the permission of the Creator or the Copyright Holder. Creators are subjected to exclusive economic rights for certain period of time which could be found on Article 59 through Article 61.

Copyright protection has an automatic protection principle where the exclusive rights occur automatically based on declarative principle after a work is manifested in a tangible form inline with the legal provisions.¹¹ However, creators can register their works, although it should be noted that the protection is automatic. The submission of the application is written in Bahasa Indonesia by the authors/creators , copyright holder, related rights owner to the Minister. The application can be submitted on an electronic base or non electronic, pay the fee, which includes:

- a. Examples of works, related rights products or their substitutes;
- b. Certificate of ownership of works and related rights;

¹⁰ Law Number 28 Year 2014 on Copyright

¹¹ Article 1 Number 1 Law Number 28 Year 2014

In other words, although the registration of work won't generate the protection of copyright (as mentioned before, the protection is automatic), however, the action of registering the work will make it easier for Creators to register their works to avoid any distress if a dispute ever occurred even though in case of protection, it should be able to provide a sense of security for the Creators.¹²

2. Computer Software: an Introduction

Computer software is a product that software engineers build and then continuously support over the long term. Computer software encompasses programs that executed within a computer. It takes on a dual roles. It is indeed a product as well as a vehicle for delivering a product. As a product, computer software delivers the computing potential embodied by a computer hardware. Whether the computer software resides within a tablet, mobile phone, or a computer device, it is an information transformer which has a purpose to produce, manage, acquire, modify, display or transmit information. Software takes a role as the basis for the control of the computer, networks, and the creation plus control of other programs.¹³

According to Melwin¹⁴, software can be classified as follows :

i. Operating system software.

Operating system software is a software which configures computers so that these computers can accept various basic commands given by input. System software is also a collection of programs written to support other programs. Here are the examples : MACINTOSH, FREEBSD , LINUX, UNIX, JAVA (SUN OS), WINDOWS, and Application software.

ii. Application Software

Application software is a ready-to-use program used for applications in particular fields. This application is also classified into several fields as following :

- a. Business and Office Application : Office applications are used to complete office work.
- b. Database Application : Applications used in data processing can be used in a local network based system, web base, or stand-alone. For examples : Oracle and MS SQL.
- c. Graphic Design : Application that are used to create two-dimensional sketches for room design, furniture, industrial model machines as well as human. For examples : Pro Design and AutoCad.
- d. Antivirus and Utility Tools : This software is deployed for minor operations that work behind the system that are useful for improving the performance of the operating system or applications and also hardware performance. For example : Pandasoft, Norton, and MC Affee.
- e. Development Tools : Computer programming language system equipped with a specific compiler as a source of media in preparation of application programs. For example: Clipper and TurboAssembler.
- f. Communication Application : An application used to build communication between one computer and another computer in a local or global network. For example: Yahoo Messenger, MSN, and ICQ
- g. Others : Such as Multimedia player like WinAmp, Network & Security Applications, and PC Games.

3. The Copyright Protection of Software under National's Copyright Law

Based on Article 1 Number 9 of Copyright Law, computer program is a set of instructions that are expressed in the form of language, code, schema, or in any form that is intended for the computer to work to perform particular functions or to achieve certain results. As mentioned before, a software is protected under Article 9 of the law.

¹² Inda Nurdahniar, loc cit. p. 234

¹³ Roger Pressman, *Software Engineering: A Practitioner's Approach*. New York: Mc Graw Hill Education. 2014. P. 3

¹⁴ Melwin Daulay, *Mengenal Hardware-Software dan Pengelolaan Instalasi Komputer*. Yogyakarta: Andi, 2007.

After understanding the definition of software and several kinds of software, it is becoming apparent that the creation of software is generated from the creativity and effort of human minds. Without these human contributions, these works won't exist. The creation of a software requires an idea as to what would be created. This idea itself doesn't have protection. However, the protection is automatically given when the idea is manifested into a tangible form.¹⁵ The copyright protection of software is granted by Article 9 Law Number 28 Year 2014 which includes computer software as part of the protected works.

Here are the following limitations of software copyright based on Article 45 Law Number 28 Year 2014, the limitation to the software copyright :
Article 45

- (1) The act of duplicating one copy or the act of adapting a computer program by a legitimate user can be done without the permission of the creator of the Creator or Copyright Holder if the copy is used for :
 - a. Research and development of the computer program; and
 - b. Archives or backups of the computer program legally obtained to prevent loss or damage.
- (2) When the use of the computer program has ended, the copy or adaptation must be destroyed.

The provision mentioned above means that when a user who is not a copyright holder of a computer program made a single copy or adaptation for personal use or when a user conducted a research and development of the computer program, are not considered copyright infringement. However, the destruction of copies or adaptations of computer programs is intended to avoid troubles such as unauthorized use by other people.

4. Registration of Copyright for Software and Duration of the Protection

Although it is clear that the protection of copyright is automatic, some people seek to register their works, in this case software, to the Minister based on Article 64. Based on Article 66, Creators (could also be Copyright Holders or Related Rights Holders) must file an application written in Bahasa Indonesia to the Minister.

Application should include a statement letter, the copy of work (program's manual and source code in pdf format), a certificate of ownership of works and related rights, a copy of National's Identification Card, and pay the fee. However, in case of when submitting an application where the copyright holder is not the creator, they should attach proof of the transfer of copyright.¹⁶

The Minister will examine the application referred before. This examination is done to determine whether or not the software is eligible to be registered. The Minister shall issue a decision whether to accept or reject the application within a maximum period of 9 (nine) months following the submission.

Based on Article 57, the span of moral rights protection is infinity. Moral rights protection are inherent within a creator for their manifested work that is the software. Moral rights are described as inalienable and are attached to the Creators.¹⁷ They cannot be removed for any reason, even if copyright or related rights have been transferred. For example, the inclusion of the Creator's name in their work is their moral right. However, the option of not to be included in the work for future reference is also their moral right.¹⁸

However, based on Article 59, the span of economic rights for software are 50 (fifty) years. Economic rights are right to obtain economic benefits from their creations or works, in

¹⁵ Article 2 of Berne Convention

¹⁶ Direktorat Jenderal Kekayaan Intelektual. Accessible through <https://dgip.go.id>

¹⁷ Nikhil Agarwal, *Moral Rights: International Framework and Indian Approach*. Christ University Law Journal, 6, 1 2017, at. 5

¹⁸ Abdul Gani Abdullah, *et.al.* . *Laporan Tim Naskah Akademik RUU Hak Cipta*. Accessed through <https://www.bphn.go.id/data/documents/cipta.pdf>

this case is a software. These rights enable owners to derive financial gains from the use of their works.¹⁹ Works that don't have copyright protection become public domain.²⁰

5. Intellectual Property Rights on Computer Software in the United States

The legal protection for computer software was picked out by lawmakers back in the 1970 through copyright. Based on the National Commission on New Technological Uses of Copyrighted Works, the most appropriate means of protection for computer software is through copyright protection. This recommendation was addressed directly to the U.S Congress. Therefore, this recommendation was turned into an adoption within the U.S Copyright Act 1980.²¹

One of the most important cases of copyright litigation over packages software is Apple Computer, Inc. v. Franklin Computer Corp. The court found that Apple's specific code was protected by copyright and therefore strengthened copyright protection as a whole, created an extension of scope within the protection of copyright to such non literal elements of software.²²

However, Lotus Development v. Borland International has weakened a considerably good start of copyright protection for computer software. In 1990, the finding of the district court found that Borland had infringed the plaintiff's spreadsheet software. Furthermore, the Court of Appeals reversed a few of the district court's conclusion. Following the weakened protection of copyright, U.S software companies have beginning to rely on patent protection.²³

A computer program is deemed a literary work and therefore eligible for copyright protection. The protection of computer software through copyright only applies to the software code, however it does not protect functionality of the program. Therefore, other software developers could develop other software that has the same function of a specific copyrighted computer software in a different way without infringing the existing copyright. 17 U.S Code § 101 in 2000 states that a literary work is any work:

"Expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phone records, film, tapes, disks, or cards in which they are embodied."²⁴

Obtaining copyright protection is exceptionally inexpensive, considering the nature of the protection itself that stimulate creativity, competition and technological advancement.²⁵ The ease of obtaining copyright protection allows computer software developer to form computer software code without the worry of infringing on another person's copyright. The protection of copyright also has a rather long span of protection, enduring the life of the author and in addition, 70 years after the author's death.²⁶ In the case if a work is a work made for hire, the protection of copyright endures for 95 years from the first year of its publication or form a span of 120 years from the first year of its creation, whichever expires first.²⁷

The practice of copyright registration in the United States involves three important elements: a completed application form, filing fee, and a deposit. Both the filing fee and the deposit are nonrefundable and nonreturnable. The U.S Copyright

¹⁹ Understanding Copyright and Related Rights. Accessed through https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf

²⁰ *Ibid.*

²¹ Graham, Stuart. *supra note.* at. 7-5

²² *Ibid.* at. 7-6

²³ *Ibid.*

²⁴ 17 U.S Code. § 101 in 2000-

²⁵ Oman, Ralph. "Computer Software as Copyrightable Subject Matter: Oracle v. Google, Legislative Intent, and the Scope of Rights in Digital Works.", *Harvard Journal of Law and Technology* Vol 31, Special Issue Spring 2018. at. 652.

²⁶ 17 U.S Code. § 302(a) in 2000

²⁷ 17 U.S Code § 302(c) in 2000.

Office strongly advises all authors to submit application before publication of work and to apply online through the Office's e-registration system. Each submission of application for copyright protection is intended to cover only one version of a computer program. Therefore, each multiple version for the computer software shall be submitted separately with separate application, filing fee, and deposit fee. The copyright protection covers HTML, deposits and trade secrets, derivative computer programs, CD-ROMs, computer screen displays, user manuals, video games, and object code.²⁸

In contrary to copyright, the federal court decisions have continuously broadened and strengthened the economic value of computer software patents. Through both *Diamond v. Diehr* and *Diamond v. Bradley* cases in 1981, the Supreme Court has permitted the patent protection for software algorithms. As an impact of this much stronger protection of patent, in 1994 a court decision ruled in favor of *Stac Electronics* and found that *Microsoft* was guilty of patent infringement.²⁹

The trend of patenting computer software has becoming a popular method of protection in The U.S. Technicalities of software has becoming more sophisticated therefore computer software developers are expecting their products to be protected in a form of a patent. First requirement, patent has to be useful. Any algorithm which has a useful application could be covered by the U.S patent regime. Secondly, Under 35. U.S Code § 101, the innovation is a patentable subject matter as stated below:

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

Third, the innovation has to meet the “novelty” requirement. This requirement is stated under 35. U.S Code § 102 that defines novelty as :

“(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—
(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention ...”

Fourth requirement that has to be met for obtaining patent is that the invention has to be non-obvious. An invention would be “obvious” if a person of ‘ordinary skill’ in the same field, as the filing date of application would have thought the invention was obvious. 35. U.S Code § 103 states that :

“35 U.S.C. 103 Conditions for patentability; non-obvious subject matter. A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”³⁰

²⁸ “Copyright Registration of Computer Programs” Circular 61. Accessed through <https://www.copyright.gov/circs/circ61.pdf>

²⁹ *Ibid.* at. 7-7.

³⁰ 35. U.S Code § 103

Fifth requirement is the enablement requirement. This requirement is stated under 35. U.S Code § 112 :

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains...to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

Patent protection grants an exclusive right over any algorithm which performs the same function and solves the same problem as the patented program. The protection is in contrary with copyright protection that protects expression. The span of patent protection is 20 years from when the application was filed, making it a major disadvantage of patent. After the span of 20 years, software goes into the common domain. In addition, the entire application process of obtaining a patent could take up to 24 months to issue. Another disadvantage to obtaining a patent is that the cost is relatively high. The filing fee alone could range between USD 1000 up to USD 3000.³¹

However, despite the disadvantages above, many developers seek to obtain patent to protect their hard work because of the limitation of copyright law. In obtaining a patent, the application has to prove that the software is an invention and not an abstract idea.³² Under 35. U.S Code § 154, A patent grants inventor an exclusive right to make, use, license and sell software invention.³³ For instance, a patent protection can prevent others from creating software programs that performs patent protected functions and to prevent others from utilizing certain algorithms. In another word, patent protection will grant protection over functional aspects of the computer software, whereas in contrast, copyright protection protects the form of expression of an idea that is protected. For instance, copyright protection wouldn't stop others from creating their own code that implemented the same method

D. Conclusion

According to Law Number 28 Year 2014, a copyright is an intellectual property granted by the Indonesian government to creators in the field of science, art and literature that has a strategic role in supporting national development. Computer software is protected by copyright in Indonesia. The protection is based on declarative principle, meaning that the protection is inherent to creators once the idea is manifested into a tangible form. In comparison to the United States, there are two possible Intellectual Protection, copyright and patent. In contrast to Indonesia, the obtainment of patent protection in the United States is rather popular. However, as a developing country, the most suitable Intellectual Protection over computer software in Indonesia is through copyright. Patent protection over computer software will prevent others from utilizing certain mathematical algorithms and this would hamper science and innovation in Indonesia as a developing country. Whereas with copyright protection, software developers would be able to create their own code that implemented the same method as existing computer software. Therefore, the copyright protection over computer program in Indonesia as a developing country will continue to boost creativity, competition and technological advancement.

³¹ Ambrogi, John. *et. al.* "Intellectual Property Protection for Computer Software in The United States" Accessed through http://www.advitamip.com/wp-content/uploads/2012/02/ProtectingComputerSoftware_022006.pdf

³² See *Alice Corp v. CLS Bank International* in 2014. The court found that abstract ideas will not receive patents. Following this ruling, courts have revoked some software patents under these guidelines.

³³ 35. U.S Code § 154

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