

**TURKISH REPUBLIC
ANKARA UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF INTELLECTUAL PROPERTY RIGHTS, TECHNOLOGY
POLICIES AND INNOVATION MANAGEMENT**

SOFTWARE LICENSE AGREEMENTS

Master Thesis

Elif Ezgi SIVACIOĞLU

Ankara, 2019

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(MASTER THESIS)

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17.12.2019

Tez Doğruluk Beyanı Belgesidir.

**T.C.
ANKARA ÜNİVERSİTESİ
Sosyal Bilimler Enstitüsü Müdürlüğü'ne,**

**Dr. Öğr. Üyesi Zehra ÖZKAN ÜNER danışmanlığında hazırladığım
“Software License Agreements (Ankara-2019) ” adlı yüksek lisans tezimdeki
bütün bilgilerin akademik kurallara ve etik davranış ilkelerine uygun olarak
toplanıp sunulduğunu, başka kaynaklardan aldığım bilgileri metinde ve
kaynakçada eksiksiz olarak gösterdiğimi, çalışma sürecinde bilimsel araştırma
ve etik kurallarına uygun olarak davrandığımı ve aksinin ortaya çıkması
durumunda her türlü yasal sonucu kabul edeceğimi beyan ederim.**

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ABBREVIATIONS

ASF	: Apache Software Foundation
AÜSBFD	: Journal of Ankara University Faculty of Social Sciences
BSD	: Berkley Software Distribution
CC	: Creative Commons
CJEU	: Court of Justice of the European Union
Ed.	: Editor
EPC	: European Patent Convention
EPO	: European Patent Office
EU	: European Union
EULA	: End-User License Agreement
FOSS	: Free and Open Source Software
FSF	: Free Software Foundation
GNU	: GNU is Not Unix
GNU GPL	: GNU General Public License
GNU LGPL	: GNU Lesser General Public License
IEEE	: Institute of Electrical and Electronics Engineers
MIT	: Massachusetts Institute of Technology
MPL	: Mozilla Public License
No.	: Number
OEM	: Original Equipment Manufacturer
OSI	: Open Source Initiative
p.	: Page
pp.	: Pages

TCL	: Turkish Commercial Law
TLO	: Turkish Law of Obligations
TRIPS	: The Agreement on Trade-Related Aspects of Intellectual Property Rights
USA	: United States of America
Vol.	: Volume
WCT	: WIPO Copyright Treaty
WIPO	: World Intellectual Property Organization

INTRODUCTION

Today in the 21st century, software technology is everywhere, and it affects nearly all areas of our life, not only in business environments but also in daily surroundings. Moreover, industry 4.0 which refers to a new phase in the industrial revolution that focuses heavily on topics such as artificial intelligence, automation, machine learning, internet of things has taken place after the developments of the software-based technologies.

When software is created and saved into a physical medium, such as CD-ROM or memory card, another right takes place beside these tangible media. This right which has been arisen from software itself become a subject of the intellectual property.

According to the No. 5846 Law on Intellectual and Artistic Works, software is included in literary works and protected as intellectual property expressly. According to meaning of the law software as a literary work can be a subject of legal transactions, therefore, it contains intellectual rights. In practice, one of the significant legal transactions regarding software is license agreements which constitutes the main subject of our study.

Software license is a transaction that the owner of an economic right arising from software transfers the right to exploit relevant right to another person while retaining ownership to it. The creator or developer of a software may desire to benefit from its work or to protect it against infringements. Thus, creator or developer may set forth legally binding rules without assign the whole rights and without losing the control over the work completely by means of software license agreements. However, there are different variations such as types and classifications regarding software license agreements that can be chosen. Despite the fact that these different types are used in practice by persons, there is no specific regulation in Turkish law regarding software licenses and their types, validity, conclusion methods and so on. The rules regarding license agreements in No.

5846 Law and other laws are applied by analogy to software licenses. Therefore, software license agreements have been addressed to imply their characteristics, conditions and applicability in Turkish law according to doctrine, international regulations, and court decisions where necessary. But in order to specify these license agreements, the concept of the software and several technical terms which are encountered while licensing procedures has been addressed in the first chapter. Then, as the main second subject, the legal protection opportunities of software have been explained in detail. Principle of exhaustion regarding software license has been considered to be addressed as under the copyright as a separate subject due to its exceptional characteristic and it has effect on rights and obligations of the parties in terms of software licensing, and it has been also explained international and national level court decisions to clarify this subject.

The legal protection provided by the laws is crucial due to the fact that there is more than one opportunity to protect software. Moreover, there are non-protectable elements of software by copyright and it is important to specify the other protection means related to software license as well. Furthermore, patents, as another protection offered to software, are still controversial both in doctrine and application. So that patent protection has been explained within the frame of the doctrinal views, law and international regulations to clarify the intellectual property protection ways of software in the first chapter.

In the second chapter, it has been addressed software license agreements' legal characteristics, its validity condition, its comparison by different agreements, and its parties have been identified and discussed in terms of Turkish legislation and where necessary according to international regulations and court decisions. Apart from that, due to lack of consensus regarding the legal characteristic of the software license agreement with respect to the transferred rights, different related views in doctrine has been explained. In this study software license agreements have been accepted as an obligatory

transaction and legal consequences are explained in this sense. On the other hand, the software license agreements have been compared by certain agreements. Because of the characteristics of software, the differentiation of software license agreement renders significant as to clarify its place in law to detect which rules shall be applied to them.

In the third chapter, types of software license agreements have been studied according to different classifications. License types are divided as non-exclusive and exclusive license agreements according to division of law; as shrink wrap, click wrap, browse wrap under the non-negotiated license concept; as traditional and free and open source license agreements according to business models to develop a software. Open source software license agreements and their generation are explained in a detailed way because of the differentiation of the rights and concepts granted by copyright identified in law. There are new concepts have taken place by these licenses such as copyleft and it has become very prevalent in practice which generates legal issues. Therefore, characteristic of these agreements has been studied within the frame of doctrine, court decisions and international approaches.

In the fourth chapter, obligations of the agreement's parties, termination of the software license agreement subjects has been addressed and has been explained according to software licensing practices and law as well.

It should be stated that software license agreement studies in the doctrine are very limited and there is no separate regulation in law regarding these agreements. Furthermore, there are still ongoing debates about software license's concept, validity, rights conferred by them, and legal protection of the software as the main subject of the agreement, and new license ways which used in practice frequently. Hence, it is aimed to contribute to the existing discussions regarding software license agreement by addressing its legal grounds, its place in law and its characteristics, validity, legal protection, and

rights which they provide, their different types and categorizations within the new concepts and approaches in doctrine.

CHAPTER 1

SOFTWARE AND LEGAL PROTECTION

I. CONCEPT OF SOFTWARE

A. IDENTIFICATION OF SOFTWARE

1. In General

Given the fact that huge legal and economic importance of the intellectual labor which software represent; it might be expected the question of what software means for in the context of intellectual law. First, it must be identified what a computer is to understand what we aim to express with software. Although there are many definitions with regards to the term, computer, one of the basic identifications can be accepted as this: computers are electronic devices which can process data to convert information quickly and error-free¹.

Hardware and software are two basic components of a computer. “Hardware” is all the physical elements of the computer such as a keyboard, mouse, sound card, mainboard etc. and it is also perceived as contrary to the term “software”².

¹ **YALÇIN, Kadir**; Temel Bilgisayar Teknolojileri Eğitimi, Konya 2011, p.19-20; **ATEŞ, Mustafa**; The Software Copyright Protection under European Law, Ankara 1999, p.5. See for the other definitions of computer: Computer is mechanical device that accepts input, performs some computational operations on the input, and produces some output. **LAPLANTE, Philip A.**; Dictionary of Computer Science, Engineering and Technology, CRC Press, 2000, p.94

² See for the definitions: IEEE Standard Glossary of Software Engineering Terms Terminology, USA, 1990, p. 26. See for more information about hardware: **DERİN, Hasan Nadir / ERDAL, Feride (ed.)**; Temel Bilgisayar Kullanımı, Middle East Technical University Head of Department of Information Technologies,

Software is used to bring about a particular result when used in a computer to achieve data processing. A computer cannot operate without instructions, it is merely hardware and cannot perform any task by itself. These instructions given by the computer user by using so-called “computer programs” or “software”, which could be incorporated in a computer or any other digital device, but software is often stored, reproduced, and distributed on a portable media³ or via the internet nowadays⁴. Chiefly, it can be said computers work with the software which are created by human endeavor⁵.

Just as the term, computer, there are more than one definition with regards to the software⁶. One of the simple definitions of software can be accepted as this: the instructions that tell the hardware what to do⁷ and software is generated for computers to figure out a specific matter or to perform a particular function⁸.

2. Difference between the Computer Program and Software

Ankara 2009, p.6-14; **YALÇIN, Kadir**; p. 22; **AKSU, Mustafa**; Bilgisayar Programlarının Fikri Mülkiyet Hukukunda Korunması, İstanbul 2006, p.45

³ Such as USB keys, CD-ROMs etc.

⁴; **ARIKAN, Ayşe Saadet**; Bilgisayar Programlarının Korunması AB ve Türkiye, Türkiye Barolar Birliği Dergisi, 1996/3, p.323; **PARAMESWARAN, R**; Computer Application in Business, S. Chand Publishing, 2008, p.64; **COGDELL, Andrew**; Copyright Protection for Computer Programs in Object Code in ROM, North Carolina Journal of International Law and Commercial Regulation, Vol. 10, No.3, Article 7, Summer 1985, p.670; WIPO - Patent Expert Issues: Computer Programs and Business Methods http://www.wipo.int/patents/en/topics/computer_programs.html (accessed 28.11.2019)

⁵ **YALÇIN, Kadir**; p.22

⁶ See for detailed information regarding software definition and its scope: **AKSU, Mustafa**; p.43-44

⁷ **SMALL, Cathleen**; What Are Hardware and Software, Encyclopedia Britannica, 2017, p.5

⁸ **GEMIGNANI, Michael C.**; The American Mathematical Monthly, Vol. 88, No. 3, March 1981, p.186

In this study, in order to prevent confusion regarding terms of software and computer program the differences between these terms should be clearly identified.

Software is a broader concept when it is compared with computer program⁹. Even these concepts are used interchangeably, there are still minor differences between the computer program and software¹⁰.

“Computer program” is “*set of instructions capable, when incorporated in a machine-readable format, of causing a machine that has information-processing capabilities to indicate, perform, achieve a certain function, result, or task*”. However, “software” is “*a collection of programs for the specific aim of solving an externally stated problem*”. When speaking of “software”, it is spoken of its “external qualities”. In this respect, it can be said that a computer program is also a software and software acts as an interface between its user and the computer¹¹.

Even though some people claim that “software” is basically same definition for “computer programs”, software is not only the programs themselves, but also all related documentation and configuration data that is necessary to make these programs run correctly. A technologically advanced software system is often more than a sole program. The system generally includes several separate programs and configuration files that are used to set up these programs. It may also consist of “*system documentation*”, which

⁹ **PARAMESWARAN, R**; p.64

¹⁰ For the terminological comparison of computer program v. software see IEEE Standard Glossary of Software Engineering Terms Terminology, p. 19 and p.66. Software encompasses works which are clearly not programs, such as some program documentation, and that certain programs embodied in hardware items are not software. For the same discussions see **WARNOT Jr, James R.**; Software Copyright Protection in the European Community: Existing Law and an Analysis of the Proposed Council Directive, Vol. 6, Issue 2, Santa Clara High Technology Law Journal, 1990, (footnote 1) p. 355

¹¹ **NEUHOLD, Erich / MANFRED, Paul**; Formal Description of Programming Concepts, IFIP State of the Art Reports, USA 1991; p. 258; **PARAMESWARAN, R**; p.64

designates the structure of the system; “*user documentation*”, which explains how to utilize the system; and “*websites*” for users to download latest product information¹². That is to say, the concept of “*software*” commonly refers to all the “*non-hardware*” accoutrements of computer processing. These include computer programs, flow charts diagramming program logic and algorithms, file layouts, input and output formats, and documentation manuals. The concept of “computer program” means the combination of instructions which tell the computer what to perform. Computer programs are based on the logic flow charts, file layouts and input and output formats for that specific program's design¹³.

The term “*software*” is preferred instead of “*computer program*” or “*software program*” throughout this study. One of the reasons for this is, the software includes these concepts technically as it is mentioned above¹⁴. In terms of license agreements, the term software is the preferred use instead of the term computer program or software program or, any other term¹⁵.

¹² **SOMMERVILLE, Ian**; Software Engineering, 9th Edition, 2011, p.5

¹³ IEEE Standard Glossary of Software Engineering Terms Terminology, p. 19; **JOHNSON, Virginia**; Copyright Protection for Computer Flow Logic and Algorithms, The John Marshall Journal of Information Technology & Privacy Law, Volume 5 Issue 2 Computer/Law Journal - Fall 1984, p. 257 (footnote 1); **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; Fikri Mülkiyet Hukuku, Ankara, 2018, p. 151.

¹⁴ See also WIPO Model Provisions on the Protection of Computer Programs (WIPO Model Provisions), WIPO Publication No. 814(E), 1978, [http://ftp.wipo.int/pub/library/ebooks/wipopublications/wipo_pub_814\(e\).pdf](http://ftp.wipo.int/pub/library/ebooks/wipopublications/wipo_pub_814(e).pdf) , p.17 (accessed 28.11.2019)

¹⁵ Nevertheless, according to Turkish doctrine there are contrary views. See **GÜNEŞ, İlhami**; Uygulamada Fikir ve Sanat Eserleri Hukuku, Ankara, 2015, p.66. But it is more prevalent to use software term in practice. If it would be found ambiguous it would not be used by most of the giant enterprises. See for the examples: Microsoft Software License Agreement, http://download.microsoft.com/documents/useterms/excel_2013_english_ba55c3bb-de1f-4878-a005-95e103539bcf.pdf (accessed 28.11.2019); Oracle License And Services Agreement ,

3. Concept of Software in Law

Software and computer program terms should be scrutinized in Turkish legislation and its grounds regarding the usage of the term software to comprehend the legal meaning of it.

It should be stated that the starting point of the legal protection of the software was grounded on “WIPO’s International Bureau WIPO Model Provisions on the Protection of Computer Software” (1978). In these “Model Provisions” there were offered patent or *sui generis* protection ways as alternative ways, however, in essence these Provisions had a copyright-driven basis¹⁶. Model Provisions define “computer program” 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 result*” (Art.1.) EU Directive 2009/24/EC provides that concept of “computer programs” shall comprise preparatory design material and will include programs “*in any form, including those which are incorporated into hardware*” as said in Article 7 of the preamble¹⁷. Therefore, in this Directive the computer program refers to software and it is

<http://www.oracle.com/us/corporate/pricing/olsa-ire-v122304-070683.pdf> (accessed 28.11.2019); Mozilla Firefox End-User Software License Agreement Version 2.0, <https://www.mozilla.org/en-US/about/legal/eula/firefox-2/> (accessed 28.11.2019); GNU General Public License, <https://www.gnu.org/licenses/gpl-3.0.en.html> (accessed 28.11.2019)

¹⁶ Turkey is a member of WIPO Convention which established the WIPO since 12 May 1976 (https://www.wipo.int/treaties/en/remarks.jsp?cnty_id=164C) (accessed 28.11.2019) ; AKSU, Mustafa; p.22

¹⁷ This provision is the same in the former version of which is Directive 91/250/EEC. But it should be stated that Turkish legislation has amended according to the Directive 91/250/EEC.

adopted as the same for No. 5846 Law¹⁸. Furthermore, in the preamble of the Directive the term software has been mentioned expressly to imply the protection purpose of the Directive.

Turkish law has been regulated in terms of software by means of adoption of “EU Council Directive 91/250/EEC of 14 May 1991 on The Legal Protection of Computer Programs” due to the harmonization of the EU legislation for the EU membership¹⁹. The law adopted the regulations and additions regarding software on 07.06.1995 with No. 4110 Law²⁰ and it has been adopted that the software shall be protected under the “Law on Intellectual and Artistic Works” just as the No. 91/250 EU Directive Article 1 has stated. It has added provisions in the law instead of creating a separate specific chapter with regards to this subject²¹.

Before this amendment of law, there were views and court decisions regarding software to be protected under the “Law on Intellectual and Artistic Works”²².

Article 1/B-g of the “No. 5846 Turkish Law on Intellectual and Artistic Works”²³ defines the “computer program” as a “*set of instructions arranged in a way that will make*

¹⁸ **DALYAN, Şener**; Bilgisayar Programlarının Fikri Hukukta Korunması, Doctorate Thesis, Ankara, 2008, p.11

¹⁹ European Commission’s Directive 91/250/EEC, which has been repealed and replaced by Directive 2009/24/EC afterwards as Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0024>. (accessed 28.11.2019). But the No. 5846 Law on Intellectual and Artistic Works has been grounded on European Commission’s Directive 91/250/EEC.

²⁰ No. 22311 Official Gazette dated 12.06.1995.

²¹ **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 150

²² See **GÜNEŞ, İlhami**; p. 67

²³ Law No. 5846 of December 5, 1951 on Intellectual and Artistic Works (as amended up to Law No. 6552 of September 10, 2014) in English can be accessed from here:

*a computer system carry out a special process or task and the preparatory work that will lead to the creation and development of such set of instructions”.*²⁴

Another situation regarding the legislation in Turkey which must be referred to here is that the legislator has used “computer program” in the No.6769 Turkish Industrial Property Law²⁵ despite the “No.551 Decree Law Pertaining to the Protection of the Patent Rights”²⁶ which is repealed and replaced by No. 6769 Law had used the term “software”. This approach of the legislator can be considered as one of the indications of the legislator’s intention to use software and computer program within the same concept.

According to the Turkish doctrine of law, the software has been described as all programs, routines, program languages, and documentations which give life to the hardware and used in the information process and, any elements of a computer which will not be deemed as “hardware”²⁷.

The software should be used to include all the necessary works because it is broader than the computer program and its dynamic structure is changing day by day due to fast

http://www.wipo.int/wipolex/en/text.jsp?file_id=440050 (accessed 28.11.2019) and see for the latest codified version of the law: <http://www.mevzuat.gov.tr/MevzuatMetin/1.3.5846.pdf> (accessed 28.11.2019)

²⁴ The set of instructions which has been stated in this article has not been described or explained what it refers to in the law expressly. For this reason, it should be assessed when the program takes place which is set of instructions it is referring to.

²⁵ No.6769 Turkish Industrial Property Law has been entered into force in 10 January 2017 <http://www.mevzuat.gov.tr/MevzuatMetin/1.5.6769.pdf> (accessed 28.11.2019)

²⁶ Decree Law No.551 Pertaining to the Protection of the Patent Rights <http://www.mevzuat.gov.tr/MevzuatMetin/4.5.551.pdf> (accessed 28.11.2019)

²⁷ **EREL, Şafak N.;** Fikri Hukukta Bilgisayar Programlarının Korunması, Prof. Dr. İlhan Öztırak’a Armağan, AÜSBFD, Vol. 49, Issue. 1-2, January-June 1994, p. 142; **AKSU, Mustafa;** p.43-44; **KARASU, Rauf / SULUK, Cahit / NAL, Temel;** p. 151.; **DALYAN, Şener;** p.10

developing technologies according to our opinion. Therefore, an inclusive term can be legally useful to sustain the legal meaning.

B. CREATION PROCESS OF SOFTWARE IN GENERAL

The significant points of the intellectual law protection of software are the development process of it, its elements, and which elements of it shall enjoy from intellectual law protection²⁸. So as to understand the scope of software in terms of law, the development process of it should be identified.

Software development process is transforming certain necessary instructions into a format that a computer has been designed to accept. This process is just like a literary exercise of writing a book or an essay²⁹. Thus, development of software is a complex activity which is highly sensitive to human interaction and teamwork³⁰.

It is accepted that all software goes through the same steps in terms of developing process of them which are “*conception, requirements gathering/exploration/modeling, design, coding and debugging, testing, release, maintenance/software evolution, and retirement*” respectively. Some of them can compress portions of these stages or incorporate two or more stages into a one piece of work, however, all of follow up whole

²⁸ DALYAN, Şener; p. 14

²⁹ WHITMEYER, Randall M.; Plea for Due Processes: Defining the Proper Scope of Patent Protection for Computer Software, Vol. 85 No.4, Northwestern University Law Review, 1103 (1990-1991), p. 1107

³⁰ YILMAZ, Murat / O’CONNOR, V. Rory / CLARKE, Paul; A Systematic Approach to the Comparison of Roles in the Software Development Processes, In: Proceedings 12th International Conference on Software Process Improvement and Capability Determination, CCIS Vol. 290. Springer-Verlag, Heidelberg, Germany 2012, p.1 http://doras.dcu.ie/17072/1/10.1007%3A978-3-642-30439-2_18.pdf (accessed 28.11.2019)

phases of this life cycle which means the “development process”³¹. According to law scholars, a software goes through four generations before it can be used by a computer: flowchart, “source code”, “object code”, and object form³².

Software developers must identify the purpose of what software is to achieve and what problem that needs to be solved by the software. Namely, software developers must have knowledge of the aimed result by the software to the letter. Numerous matters should be determined by the software developer such as; what needs to be done by the software, what types of the data should be entered, which output needs to be obtained, which hardware and operating system is needed, and elements of software’s color and sound etc.³³ The software developer must first ascertain a problem capable of a computerized solution³⁴. This process is multi-step and at the outset the software developer identifies the objectives and plans the program’s structure and organization. Developers generally use *flow charts* during the process. Then the developer transforms or codes the *program structure* and *algorithms* into computer language. Computer instructions written in these languages named as “source code”. However, the “*source code*” must be converted to the “*object code*” that is a machine-readable form by the specialized software which are *compilers* or *interpreters*³⁵. It is obvious that the process of software development is

³¹ **DOOLEY, John F.**; Software Development, Design and Coding With Patterns, Debugging, Unit Testing, and Refactoring (Chapter 2), Apress, Berkeley, CA 2017, p. 7

https://link.springer.com/content/pdf/10.1007%2F978-1-4842-3153-1_2.pdf (accessed 28.11.2019)

³² **AKSU, Mustafa**; p.46; **GEMIGNANI, Michael C.**; Law and the Computer, CBI Pub. Co., 1981, p.80

³³ **DALYAN, Şener**; p. 13

³⁴ **WHITMEYER, Randall M.**; p. 1108

³⁵ For further identification regarding computer languages and “source code” See: **FRIEDMAN, Mark M.**; Copyrighting Machine Language Computer Software-The Case Against, Computer/Law Journal, Vol. IX, 1989, p. 4.; **WEBER, Steve**; The Success of Open Source, Harvard Uni. Press, 2009, p. 4

toilsome and requires significant intellectual endeavor. Thus, the creation of that intellectual endeavor should be protected by law.

Since software includes program description and supporting material and the computer program³⁶, computer program as a part of software and its elements has been detailed below and then the other elements of software have been examined which are *program description* and *supporting material*.

The issue of which elements of software shall enjoy the intellectual law protection has been addressed in following subjects.

1. Computer Program and Its Elements as a Part of Software

a. Program Flow Chart

The result of a rough software design is a *program flow*: an expression of data flow, either explicit in a flow chart or implicit in a written expression of the design³⁷. In this rough design of the software there are general steps of the process that designates how the software functions. By this way, software developers prepare the code which is appropriate to the flow chart³⁸. During the process of creating the steps of the software each step can be set out by the software developer with a symbol. These graphical symbols which represent the logical solution are used in order to show the logical relation between the program's instructions and, to state the program logic that will find a solution for the aimed result in the flow charts³⁹.

³⁶ AKSU, Mustafa; p. 48; KUMAR DAS, Jatindra; Law of Copyright, Delhi, 2015, p. 149

³⁷ WHITMEYER, Randall M.; p. 1108

³⁸ TOPALOĞLU, Mustafa; Bilgisayar Programları Üzerindeki Haklar ve Bu Hakların Korunması, İstanbul, 1997, p.21-22

³⁹ ARIKAN, Ayşe Saadet; p.324

b. Algorithms

After the preparation of the program flow is set, during the software development process, the software is set to algorithms. The algorithm is a list to specify the issues with the software program step by step to solve the targeted problem⁴⁰. The algorithm categorically reveals the steps and conditions to those applied in a sequence necessary to get a certain problem's solution. If these steps are followed as predicted the result is achieved. It is required multiple algorithms during the development of a software. There are various types of algorithms such as; search algorithms, sorting algorithms, matrix or graph algorithms etc. and software developers use one or more of them according to developer's need and knowledge⁴¹.

c. Source Code and Object Code

The coding phase begins after the preparation of the program, the flowchart, and algorithm.

At first software had been written as "object code", however, the development of software in terms of scope, function and content, and preparing them according to the binary system were making the testing phase difficult because of the fact that coding was made as object code which consists of 0 and 1's and processable by the computer as set of instructions⁴². Therefore, the programming languages that can be only understood by competent people on this subject has been created in due course. The software coding

⁴⁰ **TOPALOĞLU, Mustafa;** Bilgisayar Programları, p. 25

⁴¹ **DALYAN, Şener;** p. 15

⁴² **KAYPAKOĞLU, Serhat;** Bilgisayar Programlarının Hukuki Korunması, İzmir 1997, s. 5; **AKSU, Mustafa;** Bilgisayar, p. 47

begins primarily with high level programming languages nowadays. Software is written according to these high or low-level programming language's functions and characteristics. The "algorithm" expressed in such a language is referred to as "source code" which is created by writing in high level language programs that a human can read, understand, fix or modify⁴³.

A computer, however, cannot understand a software written in "source code" and it can only execute machine-language instructions. Therefore, the source code is translated into machine language that consists of a long string of 0's and 1's (binaries) which can be understood by a computer and it becomes an object code. Most commercial software is released to the market in machine language or so called binaries that a computer can read but a human cannot⁴⁴. After being translated into "object code", a software may be stored in a number of various devices such as; printed form, punched cards, magnetic disks, silicon chips, or bubble memories⁴⁵.

d. Interface

"User interface" or simply an "interface" is part of a computer and its user interacts with the software through that. This part of software is can be seen, heard, touched, talked to or otherwise be understood or directed by people. The "interface" is the bridge to the capabilities of the software and user's window to understand the system's competences⁴⁶. A standard user interface of a software

⁴³ **WEBER, Steve**; p. 4

⁴⁴ **WEBER, Steve**; p. 4

⁴⁵ **COGDELL, Andrew**; p.670

⁴⁶ IEEE Standard Glossary of Software Engineering Terms Terminology, 1990, p.41 and p.80; **GALITZ, Wilbert O.**; The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques (Third Edition), Wiley, 2007, Chapter 1 p.5; **AKSU, Mustafa**; Bilgisayar, p. 124

comprises a menu bar, buttons, windows, toolbar, and other controls for attaching functionality as it is developed⁴⁷.

The user interface has fundamentally two components as “input” and “output”. “Input” is the way that communicate with the computer, or its software according to user’s needs. Examples for widely used input devices are keyboard, mouse, user’s voice for spoken instructions and user’s finger for touch-sensitive screens. “Output” is how the computer and its software transmit the effects of its computations and necessities to computer user. An example for the output device is the display screen⁴⁸.

2. Program Description

The program description is a *“complete procedural presentation in verbal, schematic or other form, in sufficient detail to determine a set of instructions constituting a corresponding software”*⁴⁹. Namely, the categories which indicate the data flow and the program flow are involved in this scope⁵⁰.

3. Supporting Material

The supporting material refers to *“any material, other than a computer program or a program description, created for aiding the understanding or application of a*

⁴⁷ MCCONNELL, Steve; Software Project Survival Guide, Microsoft Press, 1997, p. 207;

CHRISTENSSON, Per.; "User Interface Definition", 31 March 2009,

https://techterms.com/definition/user_interface (accessed 28.11.2019);

⁴⁸ GALITZ, Wilbert O., Chapter 1 p.4

⁴⁹ See the Section 1 / 1- (ii) of WIPO Model Provisions

⁵⁰ AKSU, Mustafa; Bilgisayar, p. 48

software”⁵¹. The supporting material term covers the software which is typically supplied to users, in addition to the computer program and program description, in a software package and facilitates the use and possible adaptation of the software. The supporting material also covers the explanatory documentation, which is generally indispensable, and explains how the software is to be used and the data is to be prepared. It indicates the types of computers in which it can be used⁵².

C. CATEGORIZATION OF SOFTWARE

Software has been categorized as three parts in this study. However, traditionally the software is categorized into two classes as “system software” and “application software”⁵³. The reason behind the three-class categorization is the “utility software” is generally accepted in one of the other categories of the software as well⁵⁴. Therefore, the system software, the application software, and the utility software are addressed below.

1. System Software

System software assists the operation of the computer and help in communicating and controlling the computer and its basic task to operate the hardware appropriately. The system software is used by the user as the communication and controlling element in order to get work done from the computer. System software is in fact separate programs

⁵¹ For instance, problem descriptions and user instructions. See also the Section 1 / 1- (iii) of WIPO Model Provisions

⁵² WIPO Model Provisions; p. 12

⁵³ **WHITMEYER, Randall M.**; p. 1112

⁵⁴ **SAHOO, Reeta / SAHOO, Gagan**; Computer Science with Python, 2016, p.1.22

which are accountable for a particular transformation of the source program. Assemblers, loaders, linkers, operating system are the instances for the system software⁵⁵. Compilers and interpreters are also traditionally considered system software⁵⁶. One of the direct examples for the system software is “operating systems”⁵⁷. An “operating system” is a bundle of programs and system performances as an “interface” between the “user” and “hardware” of the computer. It aims to make available an environment for the user to execute a software. The “operating system” controls and manages the use of the computer hardware between the different application software for the various users⁵⁸. Prominent instances of the operating systems are *Linux*, *Windows (Windows 10, Windows XP etc.)*, and *Macintosh*⁵⁹.

2. Application Software

“Application software” is set of programs considered for the specific uses or performance of a task given by the user and it is used for the specific application. Some examples of the application software are *MS Office*, *Media Player* etc.⁶⁰

⁵⁵ **JOSEPH, M.;** System Software, Firewall Media, 2007, p. 1 (for the detailed information about aforementioned terms see. p. 2-3)

⁵⁶ **WHITMEYER, Randall M.;** 47.th footnote, p. 1112

⁵⁷ **WHITMEYER, Randall M.;** p. 1112

⁵⁸ **GHATE, Shital Vivek;** Operating System Concepts and Basic Linux Commands, Edu-creation Publishing, 2017, p.2; **SAHOO, Reeta / SAHOO, Gagan;** p. 18

⁵⁹ **ÇALIŞKAN, Hasan;** Temel Bilgi Teknolojileri, Unit 3, Anadolu University, 2002, p. 58

⁶⁰ **SAHOO, Reeta / SAHOO, Gagan;** p. 19

3. Utility Software

Utility software or utilities are part of the system software of the computer. They help control and maintain the computer resources. Utility software is generally a minor program that help users to manage a computer at an optimum level. The examples for these software are virus scanning software, archivers, back-up software, and scandisk etc.⁶¹.

II. LEGAL PROTECTION OF SOFTWARE

A. IN GENERAL

Software enables persons to fulfil many various tasks with computers. Unfortunately, since it is very widespread, some people make and use unauthorized and illegal software copies which means use of software without right holder of the software's consent. It is obvious that the intellectual endeavor and creativity are vital for the research and development processes of the software field. There are regulated and debated protection types in Turkey within the same line of EU because of the requirement of the legal protection of the software to protect the intellectual endeavors attached to it.

It is accepted that there is more than one way to protect a software according to the doctrine which are intellectual law protection within the context of No. 5846 Law of Intellectual and Artistic Works, patent protection within the context of No. 6769 Industrial Property Law, the law of contracts protection that has been addressed under the unfair competition in this study within the context of No. 6102 Turkish Commercial Law

⁶¹ SAHOO, Reeta / SAHOO, Gagan; p.22

(TCL) and No. 6098 Turkish Law of Obligations (TLO) and, protection as a trade secret within the context of TLO and TCL⁶².

One of the most debated issue is the fact of the software as a work⁶³ should be protected under which scope of the branch of law. In this scope, protection of copyright has been adopted by No.5846 Law on Intellectual and Artistic Works. Accordingly, it has been accepted that the software will be protected as a “literary work” within the meaning of definition of Berne Convention⁶⁴ related to literary work⁶⁵. However, there are different legal tools proposed to protect the software which are addressed in detail below.

In this part, the possible protection opportunities according to Turkish legislation with regards to software has been studied. Nevertheless, because of the fact that this subject includes very broad concepts, only the main points of the software protection opportunities has been explained according to the aim and framework of this study. Copyright protection has been studied more detailed.

⁶² **ARIKAN, Ayşe Saadet;** p.333; **AKSU, Mustafa;** p.23 and following pages; **GÜNEŞ, İlhami;** p. 67; **KARASU, Rauf / SULUK, Cahit / NAL, Temel;** p.150

⁶³ See for more detailed information meaning of the work within intellectual law: **EREL, Şafak N.;** Türk Fikir ve Sınai Hukuku, Ankara 1998, p. 25; **TEKİNALP, Ünal;** Fikri Mülkiyet Hukuku, İstanbul, 2004, p.97; **AYİTER, Nuşin;** Hukukta Fikir ve Sanat Ürünleri, Ankara, 1981, p. 43-44

⁶⁴ First of all, Turkey had become a party to the Berne Convention’s altered version of 1948 in 01.01.1952 and has become a party to the Berne Convention’s the latest version of 1979 with the publication in the No.22341 Official Gazette in 12.07.1995.

See for Berne Convention for the Protection of Literary and Artistic Works http://www.wipo.int/treaties/en/text.jsp?file_id=283698 (accessed 28.11.2019)

⁶⁵ **AKSU, Mustafa;** p.63; **KARASU, Rauf / SULUK, Cahit / NAL, Temel;** p. 151

B. COPYRIGHT PROTECTION

The international consensus which emerged regarding the suitability of copyright to protect software has been reflected in two significant international agreements⁶⁶ which Turkey has ratified.

Article 10/1 of the TRIPS Agreement⁶⁷ states that “*Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971)*”. A similar statement is included in Article 4 of the WIPO Copyright Treaty (WCT)⁶⁸.

Copyright protection grants immediate protection from the time a software is created, without any need for any registration formalities and it shall be recognized internationally in other countries which have joined the Berne Convention⁶⁹.

Within the context of these ratified international agreements it is clearly understood that the “software” is aimed to be protected by copyright and these are considered as “literary works”. According to the Turkish legislation, just like aforementioned fundamental international treaties it is indicated that the software shall be protected under

⁶⁶ CIFUENTES, Cristina / FITZGERALD, Anne; The Legal Status of Reverse Engineering of Computer Software, Annals of Software Engineering, Volume 9, Issue 1–4, May 2000, p.339

⁶⁷ Turkey is one of the charter members of the World Trade Organization and has become a party to the TRIPS Agreement while WTO has been establishing. The TRIPS provisions have been started to be applied in 2000 after 5 years of the establishment of the WTO. See TRIPS Agreement https://www.wto.org/english/docs_e/legal_e/27-trips.pdf (accessed 28.11.2019)

⁶⁸ Turkey has ratified the WCT with the Law No. 5646 Pertaining to The Approval of Adopting the WIPO Copyright Treaty which has been published in the No. 26876 Official Gazette in 14.05.2008. WIPO Copyright Treaty http://www.wipo.int/wipolex/en/treaties/text.jsp?file_id=295157 (accessed 28.11.2019)

⁶⁹ CIFUENTES, Cristina / FITZGERALD, Anne; p.339

the copyright terms of No.5846 Law as a work⁷⁰. The product of the intellectual endeavor must fulfil the certain conditions with regards to this definition. Thus a work should bear the characteristic of its author, being a product of intellectual endeavor and being one of the types of the works that the law implies as *numerus clausus*.

The crucial feature of the copyright protection is granting intellectual law protection without any requirements of form or registration upon the software which has the characteristic of the work within the meaning of law from the beginning of its creation. Moreover, the author of the software enjoys the long protection period of time. One of the other important aspect is the intellectual rights are provided by law which are exclusive and can be claimed to third parties by the author. These aspects can be considered as the more appropriate way to protect software within the scope of law of copyright⁷¹.

1. Characteristics of Software as a Work

Article 1/B-a of No. 5846 Law defines the “work”. Article 2 / 1 of the law states that “*the works that are expressed by language and writing in any form, and computer programs expressed in any form together with their preparatory designs, provided that the same leads to a computer program at the next stage shall be deemed as literary and scientific works.*” “*Computer programs expressed in any form*” defines the structure of the software which are written by the object code and the source code. Software codes

⁷⁰ TEKİNALP, Ünal; p. 109. No. 5846 Law describes work as “*any intellectual or artistic product bearing the characteristic of its author, which is deemed a scientific and literary or musical work or work of fine arts or cinematographic work.*” (Article 1/B-a)

⁷¹ ARIKAN, Ayşe Saadet; p. 336; KAYPAKOĞLU, Serhat; p. 25-26

are written structures and they can be easily seen as a form of writing. Thus, software is a “literary work” within the copyright framework⁷².

There are no significant differences between software and other types of work which are stated in the law except a software’s own specific characteristics. Thus, the general provisions of the law regarding literary works shall be applied to software as long as if it is not contrary to its qualifications⁷³.

According to doctrine, there are generally two conditions are stated to grant copyright protection to a software in this respect: it should bear characteristic of its author, and it should be included in software category of work which is implied in No.5846 Law⁷⁴.

⁷² **ARIKAN, Ayşe Saadet;** p.336

⁷³ **DALYAN, Şener;** p. 67

⁷⁴ **KARASU, Rauf / SULUK, Cahit / NAL, Temel;** p. 152. See the views for the subjective condition which means bearing characteristic of its author is enough alone to consider the software as a work: **ÖZTAN, Fırat;** Fikir ve Sanat Eserleri Hukuku, Ankara 2008, p. 119, **DALYAN, Şener;** p. 69; **GÜNEŞ, İlhami;** Bilgisayar Programlarının Korunması Hakkındaki 91/250 Sayılı AB Yönergesi ve 5846 Sayılı Kanunun İlgili Hükümlerinin Karşılaştırılması, Terazî Hukuk Dergisi, Issue 6, February 2007, p.33

a. Conditions of Copyright Protection in Law

The software must bear the “characteristic of its author” to enjoy the copyright protection⁷⁵. This stipulation is named as “subjective condition”⁷⁶.

⁷⁵ There are different approaches regarding identification of “characteristic of author” according to doctrine. See for different approaches and identifications: According to HIRSH the work is an output of the creative endeavor. If a work is a product that can everyone may create the characteristic cannot take place and there is no public interest to protect such work like this: **HIRSH, Ernst**; Hukuki Bakımdan Fikri Say II, İstanbul, 1943, p. 12; According to ARSLANLI, HIRSH’s view creates more limitation than the aim of the Law and most of the work cannot be protected if they are not unique. Hence, high level characteristic should not be considered to grant copyright protection to a work: **ARSLANLI, Halil**; Fikri Hukuk Dersleri II: Fikir ve Sanat Eserleri, İstanbul, 1954; p.6-7; YARSUVAT has considered the characteristic within the concept of originality and stated that there are differences between the categories of works for the level of originality detection. Accordingly, the originality in the literary and scientific works rely on the operation and presentation style of the idea: **YARSUVAT, Duygun**; Türk Hukukunda Eser Sahibi ve Hakları, İstanbul, 1984, p.53; TEKİNALP has considered that the characteristic of the author indicates itself with the expression. Expression reflects the artistic personality, creativity and it’s the stamp. Another words, all expressions include creativity and these are individual and subjective. But this individuality and subjectivity not always at the same level and everyone is different and do not require novelty. In terms of software TEKİNALP states that knowledge is individual and thus persons’ accumulation of knowledge is different from another one and characteristic of the author is different due to knowledge differences. Characteristic of the author is expression in a broad sense. The usage of the knowledge by virtue of scientific methods reflects the characteristic of the author in terms of software: **TEKİNALP, Ünal**; p. 99-100. EREL has indicated that a work should be independent intellectual effort’s output ad reflects the author’s characteristic regarding creative power while detecting the characteristic with regards to software, however, originality or independence within this meaning is not an absolute form of never been heard or seen. It is enough to be accepted as different from the existent software at present: **EREL, Şafak N.**; p.144. AYİTER has claimed that work must bear the intellectual features that reflects authors’ individual independence. The work must be slightly different from another person could create: **AYİTER, Nuşin**; p.40 and subsequent pages. According to ÖZTAN the work must be the product of the individual creative soul’s and bear the

The software must have a feature which is distinctive from other creations that any person could create. But this distinctiveness should be addressed in simplistic way according to doctrine. So that, all software shall attract copyright protection except which are substantially simple and banal⁷⁷.

Another important point to consider the characteristic of the author if there is a work which can be accepted different from the existent software at present⁷⁸. When it is compared to the previous software it does not need an assessment of quality if it includes more creativity, facilities, or otherwise complicated. So as to obtain copyright protection, it is adequate for a software to be an intellectual output of its own creator and it should not be copied from another software work within the same time⁷⁹.

characteristic of its creator. The author has stated that in terms of all works expressed by the language gets characteristic from the main theme which the creator has created in his or her mind besides the intellectual exercise with usage style of the words. The author considers the work types and characteristics according to their own features because for instance logarithmic table and cinematographic work are different for considering of characteristic level of author: **ÖZTAN, Fırat**; p. 92-95. According to **KARASU/NAL/TEMEL** for the determination of the characteristic of the author with regards to software characteristic level should not have to be high and should not be sought high qualification or aesthetical value: **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 46 and 152.

Besides, it should be stated that there is no “originality” term with respect to the No.5846 Law. But the characteristic of the author has been considered according to the Article 1 of EU Directive’s identification of originality which was the reason of amendments regarding software on the No.5846 Law. See **GÜNEŞ, İlhami**; p.68.

⁷⁶ **ATEŞ, Mustafa**; Fikir ve Sanat Eserleri Üzerindeki Hakların Kapsamı ve Sınırlandırılması, Ankara 2003, p. 56-57; **GÜNEŞ, İlhami**; p. 59; **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p.42; **KILIÇOĞLU, Ahmet M.**, Sınai Haklarla Karşılaştırmalı Fikri Haklar (Sınai Mülkiyet Kanunu’na Göre), Ankara, 2018, p. 109; **YAVUZ, Levent / ALICA, Türkay /MERDİVAN, Fethi**; p.65

⁷⁷ **AKSU, Mustafa**; p.24

⁷⁸ **DALYAN, Şener**; p. 69

⁷⁹ **EREL, Şafak N.**; Bilgisayar Programları, p.144

If the classification, configuration, compilation, selection of the data and instructions included by the software are not similar with other software, it has the characteristic of the author⁸⁰. Fundamental part of which the creator can express his or her particular creation is setting up the structure of the software and algorithms. The way and type of implementing the algorithms can represent the characteristics of the creator⁸¹.

According to the Article No.5846 Law only the software which holds the software developer's characteristic shall be covered under the copyright protection. In terms of software, just like the other creations of the authors, only the expressions shall be protected by law not the ideas. The expression comprises the software's code lines and the structure. All forms of expression of a piece of software shall be protected. Therefore, source code and object code of a software are kinds of expressions that are entitled to obtain protection of copyright⁸². Hence, when a software has been created, this shall be accepted as a work if it is considered it bears the characteristic of its author⁸³.

Objective condition refers to be included in the categories of works which the law states as *numerus clausus*⁸⁴.

⁸⁰ **AKSU, Mustafa**; p.83

⁸¹ **AKSU, Mustafa**; p.87-88

⁸² **MEMİŞ, Tekin**; Fikri Mülkiyet Hukuku Yıllığı, Fikri Hukuk Bakımından Kaynak Kodlarının Korunması, İstanbul, 2009, p. 293-308; **AKSU, Mustafa**; p.102

⁸³ **DALYAN, Şener**; p. 69

⁸⁴ **YAVUZ, Levent / ALICA, Türkay / MERDİVAN, Fethi**; p. 64; **ÖZTAN, Fırat**; p. 91; **KILIÇOĞLU, Ahmet M.**; p. 117. Court of Cassation's view with regards to objective condition is in the same direction: 11th Civil Chamber of Court of Cassation Date: 13.11.2009, Case No.:2008/7336 Decision No.:2009/11814; General Civil Assembly of the Court of Cassation Date:05.10.2016, Case No.:2014/107, Decision No.:2016/957. **KARASU/SULUK/NAL** identifies objective condition as being perceivable directly or indirectly for instance by means of usage of a technical device such as CD-ROM or USB. But in order to gain copyright protection saving into a physical medium is not required and this cannot be deemed as fixation: **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 47-48.

It has been expressly stated by Article 2/1 of the law that “*computer programs expressed in any form together with their preparatory design provided that the same leads to a computer program at the next stage*” are deemed as literary and scientific works. Therefore, there is no uncertainty that the software shall be protected in terms of copyright.

b. Optional Registration

In order to fall under the copyright protection, there is no requirement for registration. This can be accepted as a beneficial side effect of the copyright protection⁸⁵. However; there is an optional way to register a software. Provisions regarding the recording and registration of a software has been explained in the Article 7 of the “Regulation about Recording and Registration of Intellectual and Artistic Works” which is dated to 17/05/2006 and published on No. 26171 Official Gazette. According to this, the owner of the software may apply for the optional registration which can be made record and registration of the software by submitting the documents implied in the mentioned Regulation⁸⁶.

⁸⁵ DALYAN, Şener; p. 33-34

⁸⁶ Regulation about Recording and Registration of Intellectual and Artistic Works <http://www.resmigazete.gov.tr/eskiler/2006/05/20060517-7.htm> (accessed 28.11.2019). See also: DALYAN, Şener; p.115 footnote 330.

2. Subject of the Protection and Its Scope

a. As General

Software comes into existence by going through different phases. Creation phases of a software may be categorized such as identification of the product, general design, detailed design, coding and testing⁸⁷. These phases both generates software's structure and they consist of grounding idea and principles. Hence, these phases and structure has a significant role to qualify and designate the rights of the owner of the software, and the one who obtains it legally, such as users, and licensee etc.⁸⁸

There is no express regulation regarding which elements of a software would be included within the frame of the protection of copyright in No. 5846 Law. On the other side, the last subparagraph of the Article 2 of the No.5846 Law states that "*ideas and principles on which any element of a computer program is based, including those on which its interfaces are based, are not deemed works*". That is, rather than counting the elements of software one by one, legislator has set forth a general statement regarding which of the elements shall be protected by copyright⁸⁹. However, elements of the software which enjoy the copyright protection can be inferred from the statement of Article 2 of law⁹⁰. There is consensus according to the doctrine with regards to the fact

⁸⁷ KARASU, Rauf / SULUK, Cahit / NAL, Temel; p. 152

⁸⁸ TEKİNALP, Ünal; p.110

⁸⁹ DALYAN, Şener; p. 71

⁹⁰ According to this provision, computer programs expressed in any form together with their preparatory designs, provided that the same leads to a computer program at the next stage shall be deemed as work.

that “flow chart”, “source code”, and “object code” will be protected within the intellectual law scope⁹¹.

Non-protectable elements of software are the “preparatory design” which are not capable of transformation into a software, and “interfaces” and “algorithms” which are ideas and principles on elements of a software is grounded as mentioned below.

b. Copyright Protectable Elements of Software

(1) Preparatory Designs

“Preparatory designs, if these leads to a software at the next stage” shall be protected by copyright⁹². It is expressly stated by law that the preparatory design of a software shall be protected. According to the Article 1/B-g and 2/1-1 preparatory designs are regulated as a literary and scientific work as well. Aforementioned detection of the next stage that whether the preparatory designs lead to a software provision can be seen problematic because how this detection shall be made is unclear. The preparatory designs must be capable of transformation into a software. But it does not have to be transformed to a software in order to obtain copyright protection⁹³. So that, a preparatory design which leads to a software at the next stage means that the previous stage of it in which it has not been converted to codes that a computer is able to understand⁹⁴. In other words, a

⁹¹ **ATEŞ, Mustafa**; Hakların Sınırlandırılması, p. 397; **KAYPAKOĞLU, Serhat**; p. 83 and subsequent pages; **TOPALOĞLU, Mustafa**; Bilgisayar Programları, p. 89-92.

⁹² See Article 2/1-1 of the No.5846 Law. According to **ATEŞ, Mustafa**; Fikrî Hukukta Eser, Ankara 2007, p.93 this provision is granting a special protection to the non-completed works. Also see **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 152; **AKSU, Mustafa**; p.96; **GÜNEŞ, İlhami**; p. 68

⁹³ **AKSU, Mustafa**; p.99-100

⁹⁴ **KAYPAKOĞLU, Serhat**; p.64

preparatory design should be the intellectual product of its author and should not be copied from another work. This ability is sufficient to gain protection within the scope of the No. 5846 Law as well⁹⁵.

(2) Program Flow Chart

The underlying idea of a software can be understood from the program flow chart⁹⁶. Program flow charts have been identified as the result of a rough design of a software⁹⁷ and graphical or symbolic solutions to software development for preparing the code and represent the logical solution that shows a logical relation between the instructions and find a solution for the desired result⁹⁸. It guides software developers during stage of writing code and shows the components of the software while it also indicates how, and in which order the instructions shall perform their functions in a graphical format⁹⁹. A program flow chart can be thought of as an expression of the underlying idea of a software. The idea of a software can be equated with the software's purpose or function¹⁰⁰.

Developing a flow chart or flow logic requires more effort than stage of writing code because, code words are selected to implement the steps in logic. Hence, the software developer's major effort is in the development of underlying logic therefore these must be in the scope of the protection of copyright due to the law's rationale related

⁹⁵ **ÖZDEN, Selin**; Karşılaştırmalı Hukukta Bilgisayar Programlarının Korunması, Master Thesis, Ankara 2007, p.57; **GÖKYAYLA, Emre**; p.83

⁹⁶ **DALYAN, Şener**; p.15

⁹⁷ See p. 18-19. **WHITMEYER, Randall M.**; p. 1108

⁹⁸ **ARIKAN, Ayşe Saadet**; p.324

⁹⁹ **DALYAN, Şener**; p.78

¹⁰⁰ **WHITMEYER, Randall M.**; p. 1108

to software. Due to the fact that anyone could reach to the flow chart of a software one can easily put it in the coding stage and may develop a software. Ultimately, the flowchart is a significant element of software and if the flow chart could not obtain copyright protection the protection of software would not be that significant¹⁰¹. So that, according to the essence of the Article 1/B-g of the Law flow chart in the software should be protected by copyright as well¹⁰².

(3) Codes

The last stage of the software developing process which is the completion of intellectual expression is writing its codes.

In this stage, the “source code” is created by writing by means of one of the high-level languages or assembly language and then that “source code” turn into the “object code” in which the computer can understand by the translation programs¹⁰³. Hence, the ideas are converted to the expressions in a detailed way, “source code” and “object code” have protection by law of copyright¹⁰⁴.

The foremost reason for why the software is considered within the scope of intellectual law is its characteristic that it consists of codes¹⁰⁵. It is accepted that the literary phase of the software development process is writing the “source code” and

¹⁰¹ **JOHNSON, Virginia**; Copyright Protection for Computer Flow Logic and Algorithms, Computer/Law Journal, Vol.5 No.2, Fall 1984, p.268

¹⁰² See for the protection of the flow chart as a preparatory design **DALYAN, Şener**; p. 79; **TOPALOĞLU, Mustafa**; Bilgisayar Programları, p.90; **ARIKAN, Ayşe Saadet**; p.324

¹⁰³ **DALYAN, Şener**; p.23 and p.80. Also see p.21,23,24.

¹⁰⁴ **TOPALOĞLU, Mustafa**; Bilgisayar Programları, p. 90; **ARIKAN, Ayşe Saadet**; p. 17; **AKSU, Mustafa**; p. 103; **KAYPAKOĞLU, Serhat**; p. 83

¹⁰⁵ **KAYPAKOĞLU, Serhat**; p.5

therefore, source code and object code are “literal elements” of a software¹⁰⁶. Therefore, copyright protects the software codes as a part of its author’s original expression and a duplication of the source code or a copy with a small part or with minor variations of it infringes on the copyright¹⁰⁷.

As mentioned before after being translated into object code, a software may be stored in a number of various means such as printed form, punched cards, magnetic disks, silicon chips, etc.¹⁰⁸. However, the tangible medium in which the code is stored is unimportant in terms of copyright protection¹⁰⁹.

The writing technique of a software and confidential data which cannot be easily understood by third parties when it is converted into object code. It only becomes possible when the object code is translated by reverse-engineering method to source code that will be addressed in below subjects. So that, the software is presented to the market as object code and source code are not shared with users as a rule¹¹⁰.

c. Excluded Elements from the Copyright Protection of Software

(1) Algorithms

The algorithm is the essence of the fundamental thought and the structure of a software¹¹¹. Algorithm are series of steps telling a processor how to perform a given task. A software algorithm is a detailed method of solving a computer’s specific problem. The

¹⁰⁶ **TOPALOĞLU, Mustafa**; Bilişim Hukuku, Adana 2005, s. 8.

¹⁰⁷ **JOHNSON, Virginia**; p. 267; **DALYAN, Şener**; p. 81; **KAYPAKOĞLU, Serhat**; p.5

¹⁰⁸ **COGDELL, Andrew**; p.670

¹⁰⁹ **DALYAN, Şener**; p.81; **TOPALOĞLU, Mustafa**, Bilgisayar Programları, p. 90

¹¹⁰ **TOPALOĞLU, Mustafa**, Bilgisayar Programları, p. 26.

¹¹¹ **AKSU, Mustafa**; p.52

steps of the algorithm must be written to be understood and executed by a processor. Examples of software algorithms comprise methods for searching, sorting, fitting a curve to a set of points, encrypting, compressing files, etc.¹¹².

According to the Article 2/4 of the No.5846 Law it is clearly stated that “*ideas and principles of which any element of a computer program is based, including those which its interfaces are based, are not deemed works*”. From this point of view, it can be understood that this identification of the “*ideas and principles of any element of a computer program*” includes the algorithms as well¹¹³. Thus, the algorithm is not protectable due to the fact that algorithms are the content of the software that is protected by the law of copyright as a literary work. This law of copyright does not protect the idea’s itself¹¹⁴. There are views in doctrine that the algorithms can be partially protectable by copyright¹¹⁵. However, these cannot be separately protected as a literary work separated from the software because of the express provisions in the No. 5846 Law¹¹⁶.

(2) Interfaces

Interfaces can be explained as “*the shared boundary across which the information is passed*”. It is a software element and it links components for the objective of information passing from one to another in a computer system¹¹⁷. Article 1/B-g of the No.5846 Law defines the interface as “*the parts of a program that form the interaction and connection between the hardware and software elements of a computer*”.

¹¹² WHITMEYER, Randall M.; p. 1123

¹¹³ AKSU, Mustafa; p.108

¹¹⁴ AKSU, Mustafa; p.110

¹¹⁵ AKSU, Mustafa; p. 107-120

¹¹⁶ AKSU, Mustafa; p.116; TOPALOĞLU, Mustafa; Bilişim, p. 27; DALYAN, Şener; p.94

¹¹⁷ KARASU, Rauf / SULUK, Cahit / NAL, Temel; p. 152; TEKİNALP, Ünal; p. 111

Moreover, it is clearly stated in the law that “*the ideas and principles on which any element of a computer program is based, including those on which its interfaces are based, are not deemed works*” within the frame of No. 5846 Law (Art. 2/4)¹¹⁸.

3. The Author’s Rights as General in terms of Copyright

Author’s rights are regulated under the intellectual rights’ title in No. 5846 Law as *numerus clausus*¹¹⁹. So that, it shall be only possible to employ these enumerated rights on software which are deemed as work.

Author’s rights arising out of No. 5846 Law consist of both “economic rights” and “moral rights” on a software. Economic rights has been regulated between the Articles 14 to 17, and moral rights are regulated between the Articles 20 to 25 of the No. 5846 Law and application terms of moral right has been indicated in the articles of 18 and 19 of law. These rules are applied by analogy to the software as a work.

a. Moral Rights

It has been addressed moral rights as general and their types to limit the scope of this study.

Moral rights are arising from the fact that the author has created a work and it is granted directly to the author’s personality. Moral rights are “exclusive” and “absolute

¹¹⁸ See for the design protection can be granted to the interfaces if it meets the conditions within the scope of Industrial Property Law **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 311

¹¹⁹ **TEKİNALP, Ünal**; p. 150 and 167; **ÖZTAN, Fırat**; p. 285

rights” which can be propelled against any third party by the author. These rights are included in law as *numerus clausus*¹²⁰.

Transfer of moral rights is not possible, but it is possible to transfer the right to use of moral rights¹²¹.

Protection period of moral rights are indefinite and the protection period of 70 years of economic rights shall not be applied to moral rights by analogy¹²².

Another issue is, after the author’s death it is contradictive in doctrine that whether moral rights can be transmitted by inheritance¹²³.

Moral rights have difference with regards to software because software is developed due to functional purposes other than artistic purposes. Therefore, it can be claimed that moral rights stays in the background with regards to software when it is compared to other works enumerated in law¹²⁴.

¹²⁰ **TEKİNALP, Ünal**; p. 150

¹²¹ **TEKİNALP, Ünal**; 152; **EREL, Şafak N.**; p. 250; **AYİTER, Nuşin**; 206; **TÜYSÜZ, Mustafa**; Fikri Haklar Üzerindeki Sözleşmeler, Ankara, 2007, p. 52

¹²² **KILIÇOĞLU, Ahmet M.**; p. 355; **TEKİNALP, Ünal**; 151

¹²³ Inheritance issue is not addressed in detail so as to limit the scope of this study. See for discussions regards to transmitting moral rights by inheritance **TEKİNALP, Ünal**; 151; **ARBEK, Ömer**; Fikir ve Sanat Eserlerine İlişkin Lisans Sözleşmesi, Ankara, 2005, p. 130; **ARSLANLI, Halil**; p. 80; **EREL, Şafak N.**; p. 240; **AYİTER, Nuşin**; 200 and subsequent pages; **KILIÇOĞLU, Ahmet M.**; p. 235; **ÖZTAN, Fırat**; p.538 and subsequent pages; **TÜYSÜZ, Mustafa**; p. 50.

¹²⁴ **GÜNEŞ, İlhami**; Bilimsel ve Edebi Eser Sahiplerinin Manevi Hakları, Terazı Hukuk Dergisi, Vol. 11, Issue 117, May 2016, p.71

(1) Authority to Disclose the Work to the Public

Disclosing work to the public refers to making work public throughout the country or in a certain territory in the presence of third parties who are out of control of the author or allowing this situation by means of the author's consent¹²⁵.

Author's authority to disclose the work to the public has been regulated under Article 14. Furthermore, it is stated in the Article 20 that "*the right to exploit in any manner or form a work that has not been made public yet belongs to exclusively to the author*".

According to this moral right, "*author of the work shall exclusively determine whether his or her work shall be disclosed to the public, and the time, and manner of its publishing*" (Article 14/1). These all three authorities shall belong to the author or to the person whom the author has granted that authority¹²⁶.

There is no special provision with regards to software in this article. But it is obvious that the creator of the software which is accepted as a literary work has the authority to disclose the software to the public¹²⁷.

Disclosure of work to the public is an instant and one-time action and once it performed it cannot be withdrawn¹²⁸. In doctrine it is claimed that after the first

¹²⁵ TEKİNALP, Ünal; p. 152

¹²⁶ TEKİNALP, Ünal; p. 154

¹²⁷ In terms of disclosure authority accordingly the direct meaning of Article 14/2 "*only the author has the authority to give information on the content of a software of which the whole or a substantial part of it has not been made public, or whose main features have not yet been introduced to the public in any way*". DALYAN, Şener; p. 117

¹²⁸ HIRSH, Ernst; p. 298; TEKİNALP, Ünal; p. 153; ÖZTAN, Fırat; p. 295; ATEŞ, Mustafa; Hakların Sınırlandırılması, p.132

disclosure, if these subsequent disclosures are contrary to the author's consent, the author shall be protected under the economic rights, because only the first disclosure of work shall be protected under moral rights¹²⁹. Typically, the author must decide in terms of his or her right to disclose when an economic right is licensed namely, it has been granted the authority to use of an economic right. Because this moral right has two-sided characteristic which includes both economic and moral side. If author grants the right to use this authority to disclose, it does not mean that this economic right has been granted to that acquirer¹³⁰.

On the other hand, even if there is an approval to others by the author in terms of this right by means of an agreement, *"the author may prohibit the promotion to the public, or publishing of both the work and its adaptation, where the manner of disclosing to the public or publishing of the work is of such nature as could damage the honor and*

¹²⁹ **ÖZTAN, Fırat**; p. 295; **TEKİNALP, Ünal**; p. 153; **ATEŞ, Mustafa**; Hakların Sınırlandırılması, p.132

However, according to precedents of the Court of Cassation it is declared that after using the authority to disclose the work to the public may be infringed by means of subsequent disclosures without the consent of the author and right to disclose has not terminated after first disclosure even if the work had been disclosed to the public, right to disclose to the public can take place in every new subsequent disclosures without the consent of the right owner : See 11th Civil Chamber of the Court of Cassation date: 03.03.2015, Case No.:2014/17888, Decision No.:2015/2846, 11th Civil Chamber of the Court of Cassation date: 06.05.2019, Case No.:2018/1628, Decision No.: 2019/3429, 11th Civil Chamber of the Court of Cassation date: 04.03.2019, Case No.: 2017/4967, Decision No.: 2019/1711.

Also see for the contrary views in doctrine in same line with the recent precedents of the Court: **YAVUZ, Levent**; Eser Sahibinin Eserini Kamuya Sunma Hakkı (FSEK mad.14) ve Manevi Hakların Üçüncü Kişiler ve Eser Sahibinin Yakınları Tarafından Kullanılması (FSEK mad.19), Yargıtay Dergisi, Vol.33, January-April 2007, p.1-2

¹³⁰ **TEKİNALP, Ünal**; p. 154; **ÖZTAN, Fırat**; p. 296-297

reputation of its author. Besides, waiving this power of prohibition by agreement deemed as null and void by law.” (Article 14/3).

(2) The Authority to Designate the Name

“The author has the exclusive authority to decide whether his or her work shall be disclosed to the public or published with or without the name of the author or under a pseudonym” (Article 15/1).

Software generally comes into existence by means of teamwork so there is more than one person who puts intellectual endeavor and it is hard to distinguish the individuality in it. Therefore, designating the author or authors name is not a common issue on software. That is, in terms of software, it can be claimed that it is not obligatory to state the author’s name. In doctrine, it has stated that according to the English Copyright, Design and Patent Law it is not obligatory to indicate the author’s name on the software. Hence, the it has been claimed that it can be reached to the same conclusion in terms of Turkish law by means of interpretation¹³¹.

(3) Prohibition of Modification on Software

Work is integrated with its format and content. Author’s individuality shows itself on every parts and details of the work. So that, the integrity of the work may be distorted and so the individuality of the author by means of modifications, additions or

¹³¹ TEKİNALP, Ünal; p. 157. Also see ÖZTAN, Fırat; p. 311.

11th Civil Chamber of Law of Court of Cassation had dismissed the case with regards to stating author’s name on a software (Case No: 2014/18703 Decision No: 2015/4512 Date: 01.04.2015).

abbreviations as well¹³². Therefore, modifications, additions or abbreviations to a work shall only be possible by the permission of its author (Article 16/1). This authority cannot be waived even it is decided by the agreement if that modification prejudices author's reputation and honor and damages the characteristics and the nature of the work (Article 16/3). But it is also stated in the law that *“a person who adapts, discloses to the public, reproduces, publishes, performs or otherwise distributes a work in any manner under the permission of the law or the author, may make modifications which are deemed indispensable because of the fact that the technique of adaptation, reproduction, performance or publication without special permission of the author”* (Article 16/2). This is an applicable provision to software as work¹³³.

b. Economic Rights

Economic rights are absolute rights which arising from the authorship and grants exclusive powers to the author. Author of the work take advantages of work's economic benefits himself or herself alone and may prevent third party to take advantage of these rights. Purpose of economic rights is primarily to guarantee author to exploit his or her work and to bring about this situation under his or her control. These rights are monopolistic rights and according to Article 20 this characteristic is stated as *“right to exploit in any manner or form a work that has not been made public yet which belongs to exclusively to the author”*¹³⁴. In order to exploit the work economically, it should be evaluated by economic means for example, author may reproduce, perform, publish, adapt, or transmit the work to the public. It may be required third parties to carry out these

¹³² TEKİNALP, Ünal; p. 159

¹³³ DALYAN, Şener; p. 122

¹³⁴ ÖZTAN, Fırat; p. 346; KILIÇOĞLU, Ahmet M.; p. 253; TEKİNALP, Ünal; p. 166

transactions. Various relations come into existence between the author and third parties in this way such as, assignment of economic rights partly or completely, or licensing them etc.¹³⁵.

Economic rights are defined as *numerus clausus* as well as moral rights in law¹³⁶. These rights are independent from each other and disposal and exercise of one of them does not impact other economic rights (Article 20/1). For instance, author of software may license the economic rights which are shown by law separately¹³⁷.

Economic rights pass through inheritance unlike moral rights and these rights can be assigned, transferred and can be a subject matter of lien, legal or contractual pledge and it can be seized as well. However, the authorship status cannot be transferred, seized and cannot be a subject matter of lien, legal or contractual pledge¹³⁸.

The economic rights granted to the author by law is limited to the lifetime of author. When the author's death, these rights last for seventy years from that day. If there is more than one author, this period will end after seventy years of the death of last remaining author of the work (Article 26 and 27). In the situation of the author is a legal person, protection period of seventy years commences from the date that the work was disclosed (Article 27/3)¹³⁹.

¹³⁵ **TEKİNALP, Ünal**; p. 166-167

¹³⁶ **KILIÇOĞLU, Ahmet M.**; p. 253; **TEKİNALP, Ünal**; p. 167; **ÖZTAN, Fırat**; p. 352

¹³⁷ **KILIÇOĞLU, Ahmet M.**; p. 253; **EREL, Şafak N.**; p. 134

¹³⁸ **TEKİNALP, Ünal**; p. 167-168; **ÖZTAN, Fırat**; p. 347; **KILIÇOĞLU, Ahmet M.**; p. 235-237; **KARASU, Rauf / SULUK, Cahit / TEMEL**; p. 90. No.5846 Law regulates lien, pledge, right of retention of the economic rights under the fourth part of "Contracts and Disposals".

¹³⁹ See for the ability for legal persons to be author **ÖZTAN, Fırat**; p. 414

(1) Right of Adaptation

Adaptation refers to a work which is principally generated by means of utilization from another copyrighted work and change of the format. It is not independent from original work. Adaptation is identified in Article 1/B-c of the law. Adaptations and what it shall comprise in this concept is governed by Article 6 and according to Article 21 the right to exploit a work by virtue of adaptation shall belong to the work's author exclusively.

Adaptation, editing or any modification of a software are all deemed as under adaptation concept (Article 6/1-10). But it is not described what editing or modification means in this provision. However, these terms' common characteristic is modifying the software while abiding by that original software¹⁴⁰. According to doctrine, "adaptation" means that software is converted from one programming language to another or, it is converted to "source code" to "object code" or vice versa¹⁴¹. "Editing" means that to connect the individual software or part of them to each other¹⁴². "Any modification" refers to modifications which exceed the necessary modifications for individual use within the scope of Article 38/2. Minor changings are not deemed as adaptation¹⁴³.

In order to accept a software as adaptation, latter software should be created without infringing the creator' rights of original one and it should have the characteristic of its developer as well. Though it is not necessary to be independent from existing one for the new software to be deemed as adaptation¹⁴⁴.

¹⁴⁰ ARBEK, Ömer; p. 127

¹⁴¹ YAVUZ, Levent / ALICA, Türkay / MERDİVAN, Fethi; Fikir ve Sanat Eserleri Kanunu Yorumu, Ankara, 2014, p.172; KARASU, Rauf / SULUK, Cahit / TEMEL; p. 153

¹⁴² AKSU, Mustafa; p. 123-124

¹⁴³ TEKİNALP, Ünal; p. 130

¹⁴⁴ DALYAN, Şener; p. 126-127

Transferring of economic rights arising from a software which is created as adaptation is possible by its creator, nevertheless it is necessary to obtain author's or his or her heirs' written consent to transfer such right or license it to third person (Article 49/1).

(2) Right of Reproduction

Right of reproduction is one of the oldest, conventional and prevalent way to exploit a work by its author. Other economic rights have stemmed from this right. It constitutes the core of today's intellectual property law. Besides, the term, "copyright" which symbolizes the intellectual and artistic works globally refers to right of reproduction¹⁴⁵.

It is governed that *"the right to reproduce the original copies of a work in any form or by any method, in whole or in part, directly or indirectly, temporarily or permanently belongs exclusively to the author"* (Article 22/1).

There is specific provision with regards to software's reproduction in law. It is stated that *"the right of reproduction also covers the acts of loading, displaying, running, transmitting, and storing a software to the extent that such acts require the temporary reproduction of the software"* (Article 22/3).

Software specific reproduction types are very technical ways, and these can be enumerated as main memory or cache memory¹⁴⁶ copying, running and displaying, and copying etc.¹⁴⁷.

¹⁴⁵ TEKİNALP, Ünal; p. 170

¹⁴⁶ See regarding memory types and its functions RAM, B.; Computer Fundamentals, Architecture and Organization, 2009, p. 8 and subsequent pages

¹⁴⁷ DALYAN, Şener; p. 134 and subsequent pages

Reproduction by means of copying a software has significance in practice because software is susceptible to copyright infringement by this way. Modern technology facilitates piracy of them, and it is the reflection of plagiarism in the literary and scientific works in software¹⁴⁸. Reproduction by means of copying a software can be separated into divergent categories as “literal copying” and “non-literal copying”. “Literal copying” is verbatim copying of software codes. “Non-literal copying” is copying the elements of software other than codes and comprise the structure, sequence, organization of software, and elements of software which are the products created by the software’s code’s interaction with the computer hardware, operating system, and the different steps a software developer apply prior to writing the instructions or the “source code”¹⁴⁹. Both acts which non-literal and literal copying of software without the consent of the author has been expressly prohibited by law and these shall infringe the author’s moral and economic rights¹⁵⁰.

Reproduction may be temporary or continuous in terms of software. As an example, downloading temporarily a software in a computer may be deemed as temporary reproduction even though, downloading this software after putting its final form and starting displaying it may be deemed as continuous reproduction¹⁵¹.

¹⁴⁸ DALYAN, Şener; p. 141

¹⁴⁹ RAYSMAN, Richard / BROWN, Peter; Copyright Infringement of Computer Software and the Altai Test, New York Law Journal, Vol. 235, No. 89; May 9, 2006, p. 1

¹⁵⁰ DALYAN, Şener; p. 143

¹⁵¹ KILIÇOĞLU, Ahmet M.; p. 255-256

(3) Right of Distribution

Right of distribution refers to distribution of original work or its copies and to present these to the public knowledge by means of this. This aspect of distribution right give rise to disclosure the work to public which is enumerated as a type of a moral right in law. By way of disclosing the work to the public the distribution takes place. So that, the author's "authority to disclose the work to the public" and right of distribution intertwine and these both are outcome of each other¹⁵².

It is stated in the Article 23 of the law that "*the exclusive right to rent, lend, put up for sale or distribute in any other way, the original or copies of a work, shall belong to the author of the work*". Therefore, "right of renting, lending, selling, licensing, or distribution" by any means of an original software or its copies belong to the developer of software¹⁵³.

Distribution is a stage after the reproduction of a work. Because a work or its adaptation is rent, lent, sold or become subject to a license after reproduction of it. As it is stated in the Article 23 while using the right of distribution, it is possible to take advantage of various legal transactions. These enumerated legal transactions in the article is not limited and these all are examples¹⁵⁴.

The subject of the distribution right is copies of software which are obtained by means of reproduction. According to law using the right of distribution takes place by virtue of transferring the physical property or possession of original or reproduced copies of software by any way. That is, submitting a software for exploitation of third parties over the internet cannot deemed as selling or renting. These kinds of acts can be deemed

¹⁵² KILIÇOĞLU, Ahmet M.; p. 257

¹⁵³ DALYAN, Şener; p. 144

¹⁵⁴ ARBEK, Ömer; p. 141

as indirect representation or using the right to transmit software electronically to the public¹⁵⁵.

(4) Right of Performance

Performing a work in such ways of “*reciting, acting or, displaying it on public premises either directly or by virtue of enabling the transmission of signs, sounds or images is deemed as performance*” and shall be protected accordingly the Article 24/1. This economic right is granted exclusively to author.

Performance is different from reproduction because it is presented to the public as non-stable and intangible format¹⁵⁶.

Article 24 divides right of performance as two classes: “direct performance” and “indirect performance”. Direct performance means performing a work in ways of “*reciting, acting or displaying it on public premises*” without any device and it directs to the persons and their senses¹⁵⁷. This division has importance in the case of transferring the right of performance¹⁵⁸. The transfer of right of performance shall only include the direct performance if there is no contrary provision in an agreement¹⁵⁹.

It is regulated in the law that “*the transmission of performance from the premises where the performance to the public took place to any other location by way of a technical device*” is a right included in performance right and shall belongs to the author (Article 24/2).

¹⁵⁵ See Principle of Exhaustion and its Application on Software Licensing topic for this discussions on 60th page.

¹⁵⁶ EREL, Şafak N.; p. 151; ATEŞ, Mustafa; Eser, p.178

¹⁵⁷ AYİTER, Nuşin; p. 137; EREL, Şafak N.; p. 152

¹⁵⁸ TÜYSÜZ, Mustafa; p. 63

¹⁵⁹ EREL, Şafak N.; p. 153; ATEŞ, Mustafa; Eser, p.184

Performance right is also applicable in terms of software¹⁶⁰. Software is only used by virtue of computer, perception of software via human senses is possible only by means of computer as well. That is, it is mentioned of direct performance if a software is performed by means of computer and by using big monitors to the audiences. However, there is indirect performance if a software or its codes introduced to the public by means of television or internet due to using of technical devices¹⁶¹.

(5) Right to Transmit a Work to Public by Electronic Means

This economic right refers to that transmitting the original work or copies of it by means of broadcasting¹⁶². It is regulated that *“the author has the exclusive right to communicate the original work or its copies by means of broadcasting by organizations that broadcast by wire or wireless means such as television and radio, satellite or cable, or by devices providing the transmission of signs, images or sounds including digital transmission, or by means of rebroadcasting by other broadcasting organizations which obtain the work from such broadcasts”* (Article 25/1). This right is a special type of indirect performance due to the fact that it has the characteristics of benefiting from the work temporarily just for that moment and performance of work is directed to the public¹⁶³.

According to the Article 25/2 it is stated that *“distribution or supply of the work or its reproduced copies to the public by wire or wireless devices and communication of work to the public is transmitting of work”*. Hence, if a work is distributed on the internet

¹⁶⁰ TOPALOĞLU, Mustafa; Bilgisayar Programları, p. 54; KAYPAKOĞLU, Serhat; p. 79

¹⁶¹ TOPALOĞLU, Mustafa; Bilgisayar Programları, p. 54-55

¹⁶² TÜYSÜZ, Mustafa; p. 63

¹⁶³ EREL, Şafak N.; p. 157-159

or enabling it over internet shall be deemed as transmitting the work to the public by electronic methods. Owing to internet has become very prevalent, usage of software by means of downloading or accessing to it through the internet has increased. Downloading a software or enabling it for usage of people over the internet is a typical example of “right to transmit a work to public by electronic means” within the scope of Article 25/2. This right is also can be transferred to other persons by written agreement¹⁶⁴.

4. Specific Rules Regarding Legal Exceptions for Software Copyright

Protection

As mentioned, the software shall be subject to copyright protection and it is protected as “literary work” according to law. However, even though the software and copyright protection fit well together, this situation cannot be deemed as a normal literary work such as the way that a novel is copyright protected. There are certain specific aspects of software that do not fit in with traditional copyright rules and often these aspects are based on specific practices in the software industry¹⁶⁵. Therefore, Turkish law just same as in EU law exerts software specific rules to address possible problems.

There are some exceptions that are granted for a person who legitimately obtains software within the scope of exception for personal use. Obtaining the software in legal ways is a precondition for the application of these exceptions¹⁶⁶.

¹⁶⁴ DALYAN, Şener; p. 152-153

¹⁶⁵ JOHNSON, Virginia; p. 258

¹⁶⁶ TEKİNALP, Ünal; p.194

a. Reverse Engineering

Reverse engineering means that object code version of a software is converted into a more readily understandable version, such as the source code. Thereby, the principles behind a software including its architecture and internal structure is uncovered and analyzed. This converted version allows the software developer to discover how the software works and this information will then be used to develop a new software which may eventually be a competing software. This technique is known as *decompilation* for *interoperability*¹⁶⁷ purposes¹⁶⁸. However, different types of reverse engineering are possible depending on the level of abstraction chosen; decompilation is accepted as only one type of it¹⁶⁹.

Some of the prevalent reasons for implementing reverse engineering of software are interoperability, error correction, security testing, enhancement of program performance and porting, reengineering of legacy applications, assessing the quality of databases, understanding the underlying ideas behind the software, detecting infringement of copyright or patents¹⁷⁰.

In Turkish law (Article 38/5), just as in EU law, it is only permitted that reverse engineering decompilation technique to be used for the objectives of achieving interoperability¹⁷¹. The decompilation right makes it lawful to convert a software that is expressed in a “low-level language” into a version in a “higher-level language” and to

¹⁶⁷ According to the Article 1/B- i of No.5846 Law the “interoperability” is identified as “*the ability of computer program parts to jointly function, to interact and to mutually use the exchanged information.*”

¹⁶⁸ **AKSU, Mustafa**; p. 154-156; **TEKİNALP, Ünal**; p.111; **SOMMERVILLE, Ian**; p.249

¹⁶⁹ See for the detailed information regarding types of reverse engineering **CIFUENTES, Cristina/ FITZGERALD, Anne**; p.337-339

¹⁷⁰ **CIFUENTES, Cristina/ FITZGERALD, Anne**; p. 341

¹⁷¹ Article 38/5 imposes a number of stipulations for applying decompilation.

copy it incidentally during converting the code. Decompilation via reverse engineering is not permitted as a rule but in some conditions, it is allowed by law. It must be obligatory for the reproduction of software or for converting code for interoperability purpose. In order to decide the obligation level, it should be indispensable to acquire the information which is essential to achieve the “interoperability” of a software which has been created independently with others (Article 38/5). This operation must comply with this obligatory purpose and should not exceed the limitation stated by law. This limitation has three sub-limitations and these sub-limitations cannot be exceeded either. These are purpose, to whom be submitted, and usage limit. So as to change the version of the code namely for decompilation without having the permission of its right owner, three conditions should be met mentioned in the law. However, there is a main limitation upon these three conditions¹⁷². The legal freedom of decompilation and related operation regarding it cannot be interpreted as a usage permission which is unreasonable interference against the right owner’s legitimate interests¹⁷³. Hence, these exceptions should be interpreted in

¹⁷² **TEKİNALP, Ünal**; p.196 Firstly, this operation should be made by the licensee or by another person who has the right to use a copy of the software, or on their behalf by a person authorized to do so (Article 38/5-1). Secondly, the information necessary to achieve interoperability has not previously been readily available to the persons referred to in point (Article 38/5-2). Thirdly, the decompilation acts should be confined to the parts of the original program which are necessary in order to achieve interoperability (Article 38/5-3).

¹⁷³ This limitation is a reflection of the “three-step test” in law on intellectual and artistic works and it is to prevent excessive application of limitations or exceptions. See: **ÖZDEN MERHACI, Selin**; Fikri Haklara İlişkin Uluslararası Sözleşmelerde Üç Adım Testi ve Yorumlanması, *Terazi Hukuk Dergisi*, Vol. 13, Issue 140, April 2018, p.25 and subsequent pages; **HELVACI, Serap / ATAR, Eray Aksın**; Fikir ve Sanat Eserleri Hukukunda Üç Aşamalı Test, *Marmara Üniversitesi Hukuk Fakültesi Hukuk Araştırmaları Dergisi*, Vol. 22, Issue 3, 2016, pp. 1289 – 1302; **HILTY, Retro M.**; Declaration on the Three-Step Test: Where Do We Go from Here, *Journal of Intellectual Property, Information Technology and Electronic Commerce Law*, Vol. 1, No. 2, July 2010, p. 83-86

a strict way to abide by the essence of the protection of copyright granted by the law¹⁷⁴. Accordingly, it can be inferred that it is not legal to use decompilation if the necessary information is already available for the interoperability or without a valid license to use the software.

In addition, in terms of software license agreements which will be addressed in below subject in detail, a licensee is not restricted to what is permitted in the license agreement, for example, the purpose for which the software can be tested could purportedly be restricted in the license agreement, and the licensee can rely on the full breadth of the exception of reverse engineering. This exception regarding decompilation makes it possible to gain access to the technical details of a software as well and thus this plays a significant role in the software industry with regards to enhancing the competition as well¹⁷⁵.

b. Back-Up Copies, Adaptation and Reproduction, Error Correction and Testing

Lawful acquirer of software may reproduce¹⁷⁶, adapt, correct errors on the condition that these acts of this person should be appropriate for the considered purpose for benefiting from it. Benefiting for the considered purpose means that the situation of expected advantage is depends on reproduction and adaptation of that software. The

¹⁷⁴ AKSU, Mustafa; p.157; TEKİNALP, Ünal; p.196

¹⁷⁵ AKSU, Mustafa; p.156

¹⁷⁶ “The right of reproduction covers the acts of loading, displaying, running, transmitting, and storing the software to the extent that such acts require the temporary reproduction of software” (Article 22/3).

reproduction and adaptation right of software may be removed or mitigated¹⁷⁷. Therefore, the No.5846 Law has governed that these acts of lawful acquirer which can be considered as necessary to run the software within the extent of normal use is allowed according to Article 38/3 and 38/4¹⁷⁸.

The lawful acquirers of a software can make a “back-up copy” of the software if they need to have such a copy for the lawful use of software in accordance with its intended aim.

The lawful user can legally adapt the software or copy it if this is essential for the lawful use of software, however, this could be prohibited by the terms of an agreement. The “lawful user” also has the right to correct errors in software to hold it if otherwise it would deprive the lawful user of full use of software and some of his or her contractual rights¹⁷⁹. Act of making of back-up copy by lawful user cannot be banned by agreement as it is essential to ensure the use of such software (Article 38/3).

Besides, it has is stated in the Article 38/4 that “*The lawful acquirer may observe, analyze, and test the functioning of the software to determine the ideas and principles underlying any element of it while performing any acts of loading, displaying, running, transmitting or storing it which he or she is entitled to do*”.

These regulations are specific provisions for the software’s lawful acquirer and grant freedom for the acts stated above which are included in the reproduction right of the author.

¹⁷⁷ **TEKİNALP, Ünal;** p.194-195

¹⁷⁸ **DALYAN, Şener;** p. 183

¹⁷⁹In other words, when required for the intended use of a software, the duplication and adaptation of a software including error correction by the person who has legally obtained it are allowed by law. **AKSU, Mustafa;** p.144; **KAYPAKOĞLU, Serhat;** p.107

5. Principle of Exhaustion and Its Application on Software Licensing

When the intellectual law applies to tangible copies of literary works, the purchaser of that copy takes advantage of particular rights under “principle of exhaustion” or “first-sale doctrine”. These particular rights comprise the authority to use and resell the tangible copy without any restriction the copyright owner might desire to place on it. Due to its exceptional characteristic in terms of software license it has been considered to address it as a separate subject.

According to third sentence of Article 23/2 it is has been stated that “*provided that the authorities of rental and public lending remain with the author, the resale of specific copies following their first sale or distribution within the country by way of transfer of ownership as a result of exercise of the distribution right by the right holder shall not infringe the right of distribution granted to author*”. As a result of taking advantage of distribution right within this scope cannot be prevented by the author of the work. A copyright owner’s authorized sale of a software exhausts his or her exclusive distribution rights such that the purchaser of a software may use or resell it without infringing the author’s rights. This rule is a fundamental limitation to distribution right which is one of the economic rights of author¹⁸⁰. It should be stated that it is an imperative provision and expressly implied in Article 23 of the law¹⁸¹.

¹⁸⁰ **AKSU, Mustafa;** Fikir ve Sanat Eserleri Hukukunda Yayıma Hakkının Tükenmesi ve Avrupa Adalet Divanının 3 Temmuz 2012 Tarihli UsedSoft/Oracle Kararının Hukukumuzda Bu Açıdan Etkisi Bağlamında Değerlendirilmesi, Ticaret ve Fikri Mülkiyet Hukuku Dergisi, Vol. 1, Issue 1, Haziran 2015, pp. 1-28, p.4;

¹⁸¹ **YILDIRIM, Mustafa Fadıl;** Bilgisayar Programlarında Akdi ve Teknik Kullanım Sınırlamaları ve Kullanıcının Hukuki Konumu, Ankara Üniversitesi Hukuk Fakültesi Dergisi, Vol 6., Issue 1-2, June 2013, p. 573.

According to the law, it is allowed that after the first sale or transferring of property right of original software or its copies within the boundaries of Turkey, the transferee can distribute it by reselling. Despite the fact that the right to sell is belong to author as a rule, after the property of work is sold and transferred once, the purchaser can resell the original or copies of that work without infringing distribution right of author. In order to apply first sale rule, work's first sale must be made with the author's permission. In the case of obtaining original work or its copies without author's consent and putting it into circulation by selling it, the first sale rule cannot be applied. Because in this case the distribution right of the author is infringed. Besides only selling and distribution exhausts the author's distribution right and without these two transactions the distribution right of author shall not be exhausted. Another words, the transactions which do not transfer the ownership does not give rise to application of first sale rule¹⁸².

The law accepts territorial exhaustion. After the first sale or permission of distribution does not exhaust the right neither over the EU nor internationally. This authority still lasts over other countries and the exhaustion of distribution right takes place according to laws of each countries. If the work or its copies is sold abroad with the permission of author since the right has not been exhausted in Turkey, the importation right of these belongs to author. Permission regarding reproduction does not cover the permission of importation and author can transfer the importation right to other persons. If the work or its copies is put into circulation abroad by selling or distribution without the permission of its author, the right of distribution shall not be exhausted in Turkey. This act constitutes infringement of the author's economic right. Another result of this

¹⁸² **TEKİNALP, Ünal**; p. 177; **DALYAN, Şener**; p. 209; **EROĞLU, Sevilay**; p. 104; **ASLAN, Adem**; Türk ve AB Hukukunda Fikri Mülkiyet Haklarının Tükenmesi (Mukayeseli), İstanbul, 2004, p. 203 and subsequent pages; **ÖZTAN, Fırat**; p. 369; **YAVUZ, Levent** / **ALICA, Türkay** / **MERDİVAN, Fethi**; p.961

rule is after first sale only the right to sell and right to distribute shall be exhausted. Right to rent and lent to public shall remain with the author and the distribution right related to these continues¹⁸³.

The principle of exhaustion does not properly fit for software though. Because the software suppliers or right owners typically want to restrict the economic rights and how the software can be used or transferred after it is delivered to the user or purchaser¹⁸⁴. So that, they license their software instead of selling it and they generally impose limitation provisions regarding it¹⁸⁵.

In terms of software, the principle of exhaustion can be evaluated in three different levels: software reselling and transfer of it with the original software medium as is, reselling and transfer of it separately from medium and, reselling and transfer of software which is obtained by means of downloading from internet¹⁸⁶.

Principle of exhaustion does not allow the licensee of the software to use or resell the software without any restriction that the licensor has employed it. Namely, any copy made other than the one that purchased must be authorized by the software license, otherwise, this copies made on hard drive of a computer shall infringe the copyright of the licensor¹⁸⁷. Moreover, software is a different kind of literary works and must be copied repeatedly so as to function. The purchaser or legally user of a software license as a licensee might have one tangible copy of the software saved in a tangible device¹⁸⁸.

¹⁸³ **TEKİNALP, Ünal**; p. 177; **ÖZTAN, Fırat**; p. 369 and subsequent pages; **ARSLANLI, Halil**; p. 101; **DALYAN, Şener**; p. 211-212

¹⁸⁴ **LANDY, Gene K.**; p. 26

¹⁸⁵ **MANN, Ronald J.**; Electronic Commerce, 2014, p. 812

¹⁸⁶ **AKSU, Mustafa**; Yayıma Hakkının Tükenmesi, p.133

¹⁸⁷ **WINN, Jane K. / WRIGHT, Benjamin**; p. 13-12

¹⁸⁸ Such as CD-ROM.

Licensee can run the software on a computer but he or she needs to make copy on hard drive of that computer to use it and when the software is running on that computer, another copy is being created in the random access memory so called “RAM” technically¹⁸⁹. Accordingly, first sale rule cannot apply on the condition that first time that software has licensed. Because principle of exhaustion takes place if there is transfer of ownership¹⁹⁰.

There is a controversy in terms of which economic right shall be taken into account in the situation of a software is put into commercial use by means of internet. According to majority opinion of doctrine, if a software is obtained by virtue of downloading from internet, the “right to transmit the work to public by electronic means” should be applied rather than distribution right which is regulated in Article 25 of law. Because it is considered that distribution right is related with the works have tangible existence¹⁹¹. The controversy here is arising from whether the first sale rule shall be applied to software downloaded from internet or not.

There is a significant ruling of The Court of Justice of European Union (CJEU) which has detailed content with regards to this issue directly. This decision of court has

¹⁸⁹ **WINN, Jane K. / WRIGHT, Benjamin;** p. 13-12

¹⁹⁰ **DALYAN, Şener;** p. 209 and subsequent pages

¹⁹¹ **KARASU, Rauf / SULUK, Cahit / NAL, Temel;** p. 15; **YAVUZ, Levent / ALICA, Türkay / MERDİVAN, Fethi;** p.948 and 962; **ÖZTAN, Fırat;** p. 364 and 374; **MEMİŞ, Tekin;** Fikri Hukuk Bakımından İnternet Ortamında Müzik Sunumu, Ankara, 2002, p. 111 and subsequent pages; **BOZBEL, Savaş;** Fikir ve Sanat Eserleri Hukuku, İstanbul, 2012, p. 110 and subsequent pages; **GÖKYAYLA, Emre;** p. 172; **BAŞPINAR, Veysel / KOCABEY, Doğan;** İnternette Fikri Hakların Korunması, Ankara, 2007, p. 112. See for the minority opinion which states that it should not be reached different conclusions in terms of software which saved into a physical medium of downloaded from internet: **EROĞLU, Sevilay;** p. 104 and subsequent pages; **YILDIRIM, Mustafa Fadıl;** B, p. 563 and 574.

utmost importance while evaluating the downloading or licensing software from internet and reselling of it in terms of license agreements and rule of exhaustion of rights. Because in terms of member countries of European Union CJEU rulings are binding. Besides, in terms of Turkey, it is implied that the rules regarding software in No. 5846 Law adopted from EU Directive. Therefore, interpretation and examining of CJEU decision is related with how the related law should be applied to disputes has importance due to the fact that harmonization of rules. However, CJEU's decision had grounded on the Article 4/2 of the 2009/24 Directive which had replace and repealed the 91/250 Directive which was the base of the regulations regarding software of the No.5846 Law. Principle of exhaustion has been regulated by Article 4 of the 2009/24 Directive and it has been done no rearrangements on the No.5846 Law in terms of this amendment¹⁹².

The CJEU's decision with regards to the dispute between *Oracle* and *UsedSoft* is related with whether used software licenses can be sold to other third parties. A copy of the software is downloaded by the customer directly to the computer from *Oracle*'s website by the internet. Software of *Oracle* is named as "client-server-software". The right of the user in term of that software, which is contracted by a software license agreement, comprises the "right to store" software's copy perpetually on a server and to permit a particular quantity of users to access software by downloading it to the workstation computers' main memory. Based on the "maintenance agreement", updated versions of the software and additional software for correcting faults, namely "patches", may be downloaded from website of Oracle as well. The software is also given on *DVD* or *CD-ROM* if customer requests¹⁹³. The license provisions forbid the customer from transferring the license to any third persons. It can be evaluated that the market for

¹⁹² YAVUZ, Levent / ALICA, Türkay /MERDİVAN, Fethi; p.971

¹⁹³ In short, Oracle provides "intangible copy" of its software, which can be downloaded from its website, and grant a perpetual, "non-exclusive license" for this "intangible copy".

second-hand software licenses was precluded by this business model of *Oracle*. Grounded on this software licensing model, *Oracle* has contested the resale of used *Oracle* licensed software by *UsedSoft* which is a reseller company of second-hand software. *UsedSoft* has claimed that a software supplier who sells a copy of a software cannot object to the subsequent sale of such copy based on copyright regarding principle of exhaustion of right under EU copyright law. Then, *Oracle* has contested that the rule of exhaustion of right cannot apply to “intangible copies” of their software which are “licensed” rather than “sold”. In conclusion, CJEU has ruled that if a copyright owner makes available to her customer a copy no matter it is tangible or intangible and simultaneously concludes a “perpetual license agreement” instead of payment of a fee, this equals a “sale” of the related software and the copyright owner exhausts its “exclusive distribution rights” over it. The court has interpreted the first sale extensively despite the existence of non-exclusive software license’s provisions. The court also imposed certain limitations to apply rule of exhaustion of right. Firstly, if the software license obtained by the first acquirer relates to a greater number of users than it actually needs, the acquirer is not authorized to divide the software license and resell only part of the user rights for that software. That is, licensee cannot resell a surplus of licenses which he or she has available under the software license agreement. Secondly, the first acquirer has to make its own copy unusable at the time of resale. Therefore, such licensee have to make it unavailable for further use or erase such copy of the software¹⁹⁴.

As it has been stated above, in terms of Turkish doctrine majority view accepts that “principle of exhaustion” is available for the distribution of software that is saved into a

¹⁹⁴ Judgment of the Court (Grand Chamber) related to the case of *Oracle vs. UsedSoft*,

ECLI:EU:C:2012:407, 3 July 2012,

<http://curia.europa.eu/juris/document/document.jsf?docid=124564&doclang=EN> (accessed 28.11.2019);

AKSU; Mustafa; *Yayma Hakkının Tükenmesi*, p. 9 and subsequent pages

physical medium, however, software which is made available over the internet should be considered within the frame of the “right to transmit the work to public by electronic means”. In spite of majority opinion, the minority opinion claims that in terms of software which are downloaded over the internet the first sale rule should be applied directly or by analogy. It is understood that the CJEU accepts the minority opinion and the provisions of the software license agreement should not be construed as to suppress and limit the exhaustion rule due to the fact that the exhaustion rule is imperative according to law¹⁹⁵.

One of the latest disputes regarding this subject has taken place between Microsoft and Verisil companies in Turkey that should be mentioned here. In this dispute, defendant Microsoft sells its operating system software independent from hardware namely computer itself or by means of OEM (Original Equipment Manufacturer) selling business model. OEM selling refers to software is sold with computer as downloaded into it. Plaintiff Verisil buys the Microsoft’s OEM or shrink-wrapped licensed software which are released to market before and resells them. According to software license agreement, Microsoft imposes that the software cannot unbundled from the computer and software can only be sold with the computer. In this case the plaintiff Verisil has demanded for declaratory judgment in order to prove that releasing second hand software to the market by this way complies with the law. According to the first instance court’s decision made in this case¹⁹⁶, after the “first sale” of a copy of software, the copyright owner loses her “exclusive right” to distribute it, and reselling that used software shall not infringe the copyright owner’s right to distribute if the original copy of that software has been deleted or made unusable. Besides that, provisions of software license agreement related to

¹⁹⁵ **AKSU; Mustafa;** Yayma Hakkının Tükenmesi, p. 14-15

¹⁹⁶ Istanbul 1st Civil Court of Intellectual and Industrial Property Rights Decision Date: 27.06.2014, Case No: 2011/96, Decision No: 2014/117. This decision has been ratified by 11th Civil Chamber of Law of Court of Cassation’s decision dated 30.06.2014 Case No:2014/17376, Decision No:2014/8772.

restrictions of reselling executed between the Verisil and Microsoft has been deemed as invalid due to the fact that the it is contrary to Article 23/2 of law¹⁹⁷. The ratification decision of the “Court of Cassation” in this case is significant because it is in same line with the decision of the CJEU’s *Oracle vs. UsedSoft* case and legalizes the trading of second hand software licenses in Turkey according to Article 23/2 with respect to “exhaustion of distribution right”.

C. PATENT PROTECTION

1. As General

When the software is considering, patent is another candidate for the protection due to the fact that computers and by extension software are clearly functional items that relate to science and technology.

Article 82/1 of No. 6769 Industrial Property Law states that “*a patent shall be granted to an invention if it is novel, offers a new technical solution to a specific matter, and applicable to the industry*”. Patent is the certificate that is issued by the authorized institution and grants an exclusive and monopolistic right for an invention for 20 years¹⁹⁸. Having patent protection can be considered as the invention cannot be commercially used, made, distributed, sold or imported by other persons without the permission of the patent’s right owner within the meaning of Article 85 and 68 of the No.6769 Law.

¹⁹⁷ **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p. 16; **AKSU, Mustafa**; Verisil Versus Microsoft Kararı, p. 144 and subsequent pages

¹⁹⁸ **GÜNEŞ, İlhami**; Sınai Mülkiyet Kanunu Işığında Uygulamalı Patent ve Faydalı Model Hukuku, Ankara, 2019, p.19

Internationally, patentability of software has not harmonized yet in terms of related law. Yet some countries have embraced the software patentability and others have adopted approaches that recognize inventions supported by software¹⁹⁹. Therefore, it is necessary to mention important international approaches for patents and software here.

According to the Article 27 of TRIPS Agreement it is implied that the patents will be applied to all inventions which are in the field of technology as long as these are applicable to the industry. The second and third paragraphs of Article 27 allows contracting states to exclude patentability of some inventions with regards to particular categories to protect living beings and health or to avert from severe damage to the environment. However, “TRIPS Agreement” has not had any exceptional provisions in terms of software or computer programs and this aspect has been left to the member states. Thus, “TRIPS Agreement” has not clarified the patentability of software²⁰⁰.

In the early 90s it had been accepted that the ideas and principles behind a software had been excluded from the patent protection according to “European Patent Law”. However, despite the regulation which had stated the software had not had the characteristic of an invention and patent protection of it restricted²⁰¹, but recent practices have converged to the practice of the United States that grants patent protection to

¹⁹⁹ WIPO, Copyright Protection of Computer Software

<https://www.wipo.int/copyright/en/activities/software.html> (accessed 28.11.2019)

²⁰⁰ **KAYA, Talat**; A Comparative Analysis of the Patentability of Computer Software Under the TRIPs Agreement: The US, The EU, and Turkey, Ankara Law Review, Vol. 4, No.1, Summer 2007, s. 6162.

²⁰¹ Under the EPC, a computer program claimed "as such" is not a patentable invention (Article 52/2-c and 52/3 of EPC).

software²⁰². According to the practice of “European Patent Office”²⁰³ which rely on Article 52 of the European Patent Convention²⁰⁴, “*a patent should be granted for any invention, in any field of technology, if it is new, and involves an inventive step, it is therefore susceptible to industrial application and is not expressly excluded from patent protection*”. Hence, inventions having a technical character that are or may be implemented by a software are “not excluded” from “patentability”²⁰⁵.

Thus, it can be considered that internationally there is no specific and certain application with respect to patentability of software and it is left to states’ discretion.

No. 6769 Law identifies the conditions of granting patent protection. Article 82 of the law states that “*the patents shall be granted to the inventions in all fields of technology as long as the invention is new, involves an inventive step and is susceptible to industry*”. Namely, a patent shall be granted if the invention is “novel”, has the “inventive step (non-obviousness)” and “applicable to the industry” in same line with EPC. If the invention is not included in the “state of the art”, it will be considered as “novel” (Art. 83/1). “The state of the art” covers the information reachable by the public, before the application is submitted to the Turkish Patent and Trademark Office and is presented anywhere in the

²⁰² AKSU, Mustafa; p.21; KARASU, Rauf / SULUK, Cahit / TEMEL; p.243

²⁰³ The European Patent Organization (EPO) was founded as an intergovernmental organization with the signature of EPC in 1977 in order to centralize and harmonize the patent granting procedure in Europe. <https://www.epo.org/about-us/foundation.html> (accessed 28.11.2019)

²⁰⁴ European Patent Convention https://www.epo.org/law-practice/legal-texts/html/epc/2016/e/EPC_conv_20180401_en_20181012.pdf (accessed 28.11.2019). Turkey is a contracting party of the EPC system since 2000. See the ratification decision of the TGNA regarding the EPC https://www.tbmm.gov.tr/tutanaklar/KANUNLAR_KARARLAR/kanuntbmmc084/kanuntbmmc084/kanuntbmmc08404504.pdf (accessed 28.11.2019)

²⁰⁵ EPO, Patents for Software? European Law and Practice, Munich, 2013, p.12

world by introducing in writing or made verbally or publicly by usage or any other means (Art. 83/2). “Industrial applicability” is if the invention is producible and usable in any industrial area including agriculture, the invention shall be considered as applicable to the industry (Art. 83/6).

Furthermore, the No. 6769 Law also clearly indicates what cannot be considered as an “invention” and what stays out of patentability. According to the Article 82/2-c computer program namely software is expressly not deemed as an “invention” in same line with Article 52/2-c of the EPC has stated²⁰⁶.

Patent protection is a very favorable form of intellectual property owing to patent grants the owner a monopoly in an invention, enabling the owner to exploit the invention for twenty years in Turkey²⁰⁷ to the exclusion of third parties²⁰⁸. But it is stated that the software is excluded from the patent protection by the law. Thus, it can be interpreted that the patent protection is not possible when the protection is sought just for the software itself according to Turkish legislation. However, this regulation shall not be understood as if the software never enjoys the protection of the patent²⁰⁹. In certain circumstances there can be granted patent protection to software-related inventions. These circumstances are addressed under the software-implemented inventions.

²⁰⁶ Along with computer programs, discoveries, scientific theories and mathematical methods; mental acts, business activities or game related plans, rules and methods, products with aesthetical creations, belles-lettres, artworks and treatise, presentation of the information are excluded from the invention concept according to same article of the No.6769 Law.

²⁰⁷ Article 101 /1 of the No.6769 Industrial Property Law

²⁰⁸ **REDDING, Philip A.**; Report on the Protection Afforded Computer Software in the face of Computer Software Piracy, Work in Progress, 3 The Journal of Information Law and Technology (JILT), 2006, p.2, https://warwick.ac.uk/fac/soc/law/elj/jilt/1996_3/redding (accessed 28.11.2019)

²⁰⁹ **EROĞLU, Sevilay**; Rekabet Hukukunda Bilgisayar Programlarının Korunması, İzmir, 2000, p.21

Patent protection sometimes may create needless monopolies by providing more protection than it is economically required to encourage invention mostly in software domain. Furthermore, it is not consistent with the patent law's essence. Moreover, EPO's decisions regarding software patents are inconsistent as well²¹⁰. So that, if the practice and written law are contradicting each other, there must be revisions in law to meet contemporary needs arising from technological developments for the legal clarity and predictability. Moreover, patenting software should be interpreted within the context of EPC which the Turkey is a contracting party and EPO's application with regards to it. In terms of the patenting software-implemented inventions the EPO's European Patent Convention (EPC) is the source text according to doctrine²¹¹.

2. Patenting Software-Implemented Inventions

Turkey as a contracting party should comply with the rules and the decisions of the EPO with regards to patenting software²¹². According to the EPO, it is suitable to confer a limited patentability of "computer-implemented inventions" that involve a "technical

²¹⁰ AKSU, Mustafa; p. 21

²¹¹ AKSU, Mustafa; p.170

²¹² See for the milestone of the patentability of the Computer-related inventions the EPO Board of Appeal's decision of 15.7.1986 for VICOM System Inc. Case No. T. 208/84, <https://www.epo.org/law-practice/case-law-appeals/recent/t840208ep1.html> (accessed 28.11.2019) and the EPO Board of Appeal's decision of IBM Case No. T 1173/97 which has been implied that computer as such referred only to those that were non-technical character. It is also acknowledged that it does not make any difference whether a computer program is claimed by itself or as a record on a carrier and therefore if the computer program is technical it is patentable no matter which medium used to record it. See IBM case decision <https://www.epo.org/law-practice/case-law-appeals/pdf/t971173ex1.pdf> (accessed 28.11.2019)

effect”²¹³. “A computer-implemented invention” embraces the use of a computer, computer network or other programmable device, where one or more features are realized entirely or partly by way of a software²¹⁴. As it has been mentioned before, patents cannot be granted solely for software and this rule applies regardless of the content of the software. For patentability, the invention must then comprise of something other than the software: it must be a computer-related invention because computer-related inventions are not excluded from the patent protection. A computer running under the control of one software is a divergent piece of device from the same computer when running under the control of another software. That is to say, the computer when controlled by a software or a process of controlling a computer by a software or a method of executing a process by use of a computer could be assessed in terms of protection of patent and software can be protected with the invention within this scope²¹⁵.

Article 52 of the EPC and Article 82 of the No.6769 Law is within the same direction. Therefore, it is appropriate to adopt the way of the interpretation of the EPO by the Turkish law. Accordingly, the software which brings solution to a technical problem can be patented as a part of the invention in Turkey if it is related to a machine or process and, if it has the criteria of the patentability.

Due to the fact that Turkey is party to the EPC, the patents granted by the EPO shall be valid in our country if it fulfils the application process such as paying the required fees and the translation of the application to Turkish language. Therefore, if it has not been granted patent protection to software related inventions which have EPO patent, this can

²¹³ **GONZALEZ, Andres Guadamuz**; Legal Challenges to Open Source Licenses, SCRIPT-ed, Vol. 2, Issue 2, June 2005, p.260

²¹⁴EPO, Patents for Software? European Law and Practice, EPO Munich 2013, p.3

²¹⁵ **KAYA, Talat**; p. 78-79

be discrimination against these inventions in our country on the contrary to the EPC rules²¹⁶.

Consequently, the invention must be addressed as a whole in assessing whether a technical effect occurs as a result of the software and if it meets the other standard requirements for patentability²¹⁷. In other words, if the software is technical, the medium in which it is recorded is irrelevant, and it is accepted as patentable²¹⁸. For example, a legal service software's itself cannot be patentable. But a software which controls an automobile's braking system can be patentable as a software-implemented invention with that system if it meets the patent requirements stated in the law²¹⁹.

D. UNFAIR COMPETITION

1. As General

Even though competition should comply with the *bona fides*, the practices can be contrary to it most of the time. Therefore, there are regulations in effect to prevent dishonest and contrary acts which can distort fairness in a competition environment.

The unfair competition is addressed both in the No.6102 Turkish Commercial Law²²⁰ and No. 6098 Turkish Law of Obligations²²¹.

²¹⁶ **KAYA, Talat**; p. 79

²¹⁷ **AKSU, Mustafa**; p.216; EPO, Patents for Software? European Law and Practice, Munich, 2013, p.12

²¹⁸ **JEDRUSIK, Anna**; Patent Protection for Software-Implemented Inventions, WIPO Magazine, February 2017, p. 5 http://www.wipo.int/wipo_magazine/en/2017/01/article_0002.html (accessed 28.11.2019); **TEKİNALP, Ünal**; p.501

²¹⁹ **KARASU, Rauf / SULUK, Cahit / NAL, Temel**; p.243

²²⁰ See Articles between 54-63

²²¹ See Article 57

Article 57 of the TLO states that a person whose client number is decreasing, or that person faces the risk of loss because of the spread of misleading information, or such kinds of advertise, or due to other acts contrary to *bona fides*, can demand these acts to be ceased and if there is fault, he or she can demand to be indemnified. According to the second paragraph of this article it is implied that for the unfair competition regarding commercial affairs the provisions of TCL is reserved. Therefore, in the case of unfair competition arising from commercial affairs the TCL rules shall be applied and the TLO shall be applied for unfair competition situations regarding non-commercial affairs.

Because of the fact that it is difficult to identify all acts can be deemed as unfair competition due to the modern commercial methods such as the sale, advertisement, and marketing techniques have presented a considerable increase in fraudulent methods of competition²²², there is no direct description both in TLO and TCL regarding what is unfair competition²²³. Only the frequently encountered acts in practice have been indicated as an example in TCL. Briefly, these acts are: causing confusion, misleading, false allegation, providing wrong or deceptive information, representing himself or herself as highly proficient by using titles, profession names, symbols or ratings, disclosure of secret information or exploiting it, taking advantage of another's achievements (free riding), comparative advertising, manipulating third person employees to violate their duties, and violating terms of business life. These acts are not considered as *numerus clausus*²²⁴. So that, acts as a deviation from competition which actually should have been relying on *bona fides* are deemed as "unfair competition" in

²²² **HAINES, Charles Grove**; Efforts to Define Unfair Competition, Yale Law Journal, Vol.29, Issue 1, Article 5, 1919, p.1

²²³ **ARKAN, Sabih**; Ticari İşletme Hukuku, Ankara, 1997, p.291

²²⁴ See Justification of Law of Turkish Commercial Law on Article 55, p. 16

<https://www2.tbmm.gov.tr/d23/1/1-0324.pdf> (accessed 28.11.2019)

terms of law²²⁵. Therefore, the acts must be evaluated case by case whether it constitutes unfair competition or not.

Unfair competition is comprised of acts that affect the relations between the competitors or, the suppliers and customers by means of deceptive, dishonest, fraudulent or other contradictory business practices (Article 54/2 of TCL). Accordingly, the protected persons against unfair acts by means of these rules regarding unfair competition are competitors, suppliers, buyers, and especially consumers²²⁶.

The purpose of the regulations regarding unfair competition is to prevent misusing rights against *bona fides* and to sustain an undistorted competition environment (Article 54/1 of TCL)²²⁷.

In order to protect an intellectual product under this scope, intellectual creation cannot be evaluated in intellectual law or patent law protection. Namely if the product shall not be protected by copyright or patent then the unfair competition rules can be applied²²⁸.

²²⁵ **GÜNEŞ, İlhami**; Uygulamada Fikri Mülkiyet Hakları ve Haksız Rekabet, 2018, Ankara, p.18.

Unfair competition is accepted as a special type of the tort. See **CAMCI, Ömer**; Haksız Rekabet Davaları 2, İstanbul 2002, p. 151; **TİRYAKİOĞLU, Bilgin**; Rekabet Hukukundan Doğan Kanunlar İhtilafı, Ankara, 1997, p. 153; **ÜNAL, Şeref**; Karşılaştırmalı Hukuk Açısından Haksız Rekabet, Milletlerarası Hukuk ve Milletlerarası Özel Hukuk Bülteni, Vol. 8, Issue 1, 1988, p.79. Court of Cassation's decisions are in same line with the doctrine. See 11th Civil Chamber of Court of Cassation, Case No.: 2014/16908 Decision No.:2014/18171 Date 24.11.2014; 11th Civil Chamber of Court of Cassation Case No.: 2014/7852 , Decision No.:2014/10391 Date:03.06.2014; 11th Civil Chamber of Court of Cassation Case No.: 2014/13994 , Decision No.:2014/20317 Date: 23.12.2014.

²²⁶ See Justification of Law of Turkish Commercial Law on Article 55, p. 17

²²⁷ Justification of Law of Turkish Commercial Law on Article 55, p. 16

²²⁸ **TOPALOĞLU, Mustafa**; Bilişim, p.64-65

2. Unfair Competition Regarding Software Protection

Legal transactions with regards to intellectual rights are part of economic processes. Hence, the rules regarding unfair competition can be applied in the domain of intellectual law with regards to software as well.²²⁹

Despite the fact that unfair competition does not constitute a comprehensive option for legal protection of software²³⁰, it can be important regarding literal or partial copying or, reproduction of it illegally.²³¹ On the other hand, with regards to the excluded elements of software from the copyright protection, the unfair competition protection can be a safe harbor for the right holders. Because it has not been sought criteria such as the originality or characteristic of an author in order to be protected by unfair competition rules. Application of rules of unfair competition by courts supports this issue. It is understood from the court decisions regarding software protection by unfair competition rules that these rules only apply when a software cannot obtain copyright protection²³².

²²⁹ There are different views in doctrine regarding how the unfair competition rules shall be applied in intellectual law domain. **EROĞLU, Sevilay**; p. 226. It is asserted that unfair competition rules have a complementary role in the intellectual law domain according to **ÖZTAN, Fırat**; *Fikir ve Sanat Eserleri Hukuku*, Ankara, 2008, p 16; for the approach within the same direction especially regarding software See **AKSU, Mustafa**; p.36. But according to another view, it is asserted that unfair competition rules shall be applied cumulatively which means that it can be applied directly as primary if it meets the requirement along with intellectual law rules. See **TEKİNALP, Ünal**; p. 36; **GÜNEŞ, İlhami**; *Haksız Rekabet*, p.37

²³⁰ The main issue of legal protection of software is to set a legal position regarding the intellectual endeavor behind it as a right. However, despite the intellectual property law the unfair competition law does not confer absolute rights which can be claimed against everyone, it only provides a relative legal position arising from tort against the person who cause unfair competition. See **AKSU, Mustafa**; p. 34

²³¹ **AKSU, Mustafa**; p.33 and references mentioned there.

²³² **ÖZDEN, Selin**; p.91

But the important point here is that software or software elements should be commercially remarkable and a successful product to be evaluated in this protection scope²³³.

In order to apply these rules of unfair competition regarding protection of software, there must be an act in which it is contrary to business morality, both parties of the dispute should be competitors of each other and therefore must have suffered damage as a result of that act, and have a causal connection between that act and the damage²³⁴.

Illegal copying of software is a frequently encountered act, and that act can be evaluated within the scope of unfair competition. But these copies of software should be used for commercial purposes to be considered within the scope of unfair competition. Because without the economic competition there is not unfair competition²³⁵.

One of the other situations for unfair competition is offering similar software which can mislead the consumer²³⁶. Software takes place after enormous efforts and expenditures and therefore, imitating a software is contrary to fairness in competition due to unfair advantages gained by an imitator. Moreover, due to the fact that *“the ideas and principles of which any element of a software is based, including those of which its interfaces are based, are not considered as works”* according to Article 2/3-2 of No. 5846 law enables imitation of software. Because these ideas and principles which are not deemed as works, these can easily be used in another software without providing any reference²³⁷. So that, unfair competition rules can be significant to protect non-copyrightable elements of software from illegal copying.

²³³ AKSU, Mustafa; p.33; EROĞLU, Sevilay; p. 229 and p. 231; DALYAN, Şener; p.42

²³⁴ TOPALOĞLU, Mustafa; p. 69

²³⁵ EROĞLU, Sevilay; p. 223 and 229; ARKAN, Sabih; p.301

²³⁶ KAYPAKOĞLU, Serhat; p.35

²³⁷ EROĞLU, Sevilay; p. 232

In this respect, the TLC's regulation regarding disclosure of secret information or exploiting it can be important in terms of software's codes²³⁸. In order to apply unfair competition rules in this case, the disclosed information should not have been known by everyone and the right owner's desire is to protect this information as confidential and he or she should have current personal interest. For example, most of the time the "source code" of software is kept secret and software is offered to the market as "object code". That is, disclosing its "source code" may cause unfair competition. But there must be a literal copying or latter software should be highly indistinguishable from former one for this rule to apply²³⁹.

On the other hand, it should be stated the Article 83 and 84 of No. 5846 Law which include unfair competition rules. Article 83 implies that *"the title and distinctive signs of a work and the form of the reproduced copies of such work may not be used in another work or in its reproduced copies in such way as to give rise to confusion"*. It also implies that this unfair competition provision shall be applied to persons who infringe even if they are not merchants.

This provision of law can be evaluated with regards to software. Because software is released to the public in a particular name and with a distinctive sign. For instance; *PowerPoint, Adobe Photoshop, Firefox, Norton* are the names of different software and they have distinctive signs as well. Distinctive sign refers to logos which can be generated by different writing of the name of software or it can be a figure near the name²⁴⁰. In the case of using the same or similar name and a distinctive sign of a software in another software may confuse and mislead the consumer and may adversely affect to the reputation of the aforementioned software right owner. These acts can be deemed as

²³⁸ TOPALOĞLU, Mustafa; p. 100

²³⁹ TOPALOĞLU, Mustafa; 72; KAYPAKOĞLU, Serhat; p.37

²⁴⁰ KAYPAKOĞLU, Serhat; p.36

unfair competition and can be subject to sanctions according to No. 5846 Law²⁴¹.

Nevertheless, in order to take advantage of this provision it not sufficient to use a title of the software in another software. It should have been offered to the market or there have been preparations made for the offering. Consequently, the use of the same title and distinctive sign of a software in another software should be considered within the scope of unfair competition and if a similar title and signs are used to cause confusion, this case should be considered as contrary to fairness in competition as well²⁴².

E. TRADE SECRET

The concept of the trade secret has not been described in law²⁴³. According to the doctrine there are definitions regarding what is the trade secret. But in doctrine scholars make general and comprehensive descriptions instead of giving direct identification. This approach may be a result of lack of a situation that involves no description in law yet²⁴⁴.

Trade secret can be identified as the information which has an economic value and is not in the public domain and disclosure of it shall harm the owner's interest or assets and having it constitutes advantage to its owner against his or her competitors who does not have this kind of information while it is providing an economic competitive advantage to its owner²⁴⁵.

²⁴¹ DALYAN, Şener; p.41-43

²⁴² DALYAN, Şener; p.43; GÖKYAYLA, Emre; p.190-191

²⁴³ SULU, Muhammet; Ticari Sırların Korunması, İstanbul, 2017, p.10

²⁴⁴ BİLGE, Mehmet Emin; Ticari Sırların Korunması, Ankara, 2005, p. 5; TURANBOY, Asuman; Ticari Sır, Prof. Dr. Tuğrul Ansay'a Armağan, Ankara, 2006, p.368; YASAMAN, Hamdi; Patent Hukukunda Ticari Sırların Korunması, Fikri Mülkiyet Hukuku Yıllığı, 2009, İstanbul, p.369

²⁴⁵ CAMCI, Ömer; Haksız Rekabet Davaları 1, İstanbul, 2002, p. 94; BİLGE, Mehmet Emin; p. 19. Trade secret also has been explained in the Article 39 of the TRIPS Agreement in detail.

According to law, without registration trade secrets are protected. Namely, without any procedural formalities beyond non-disclosure agreements with regards to software, trade secrets are protected. For an unlimited period of time a trade secret may be protected as well²⁴⁶.

It can be claimed that trade secret protection is the least developed and fragile areas of the intellectual property law. Even though there are trade secret regulations, it does not grant protection against elements of software that are easily ascertainable by the public by way of independent discovery or via reverse engineering. Furthermore, trade secret protection of software is not efficient and appropriate for the standardized technologies that facilitate interoperability, such as smartphone communications technology, since standard-setting organizations require the non-confidential exchange of technical information. Because of its nature, trade secret protection does not allow such non-confidential information sharing naturally²⁴⁷.

However, a software may be desired to be protected by its right owner as a trade secret. Trade secret protection can be a legal tool to protect ideas behind software. If a software has a different structure other than known software combinations and at the same time if it grants a significant advantage to its right owner against its rivals, it is accepted that, that software is worth protection within the scope of trade secret. There is no need to be different from other software in terms of functionality with regards to the software which is protected as a trade secret²⁴⁸.

Yet, a software that is protected within the frame of trade secret is not a “property” in terms of intellectual law because it is only a secret. Law does not prevent independent

²⁴⁶ **NIRWAN, Prajwal;** Trade Secrets: The Hidden IP Right, WIPO Magazine, December 2017, https://www.wipo.int/wipo_magazine/en/2017/06/article_0006.html (accessed 28.11.2019)

²⁴⁷ **JEDRUSIK, Ania;** p. 4

²⁴⁸ **ÖZDEN, Selin,** p.88

innovators from using the same idea embodied in the corresponding software. On the other hand, protecting software codes as a trade secret is a problem due to complex software projects that may involve hundreds or even thousands of developers and avoiding any leak of source code of the software by insiders or outsiders can sometimes be technically inevitable²⁴⁹.

Consequently, the trade secret protection can be considered as a complementary protection form of software in addition to copyright and patent protection. Nevertheless, its application area is quite narrow in terms of software due to existence of other efficient legal tools like copyright or patent.

F. GENERAL ASSESSMENT OF PROTECTION TYPES REGARDING SOFTWARE

As it has been stated before, there are more than one possible legal tools that offer protection of rights arising out of software which are copyright, patent, unfair competition and trade secret. According to Turkish legislation, it is clearly indicated that software shall be protected under the copyright terms of No.5846 Law as a “literary work” within the same line of EU’s legislation. But “*ideas and principles of which any element of a software is based, including those of which its interfaces are based*” are not considered as “work” and will not be protected under the copyright provisions. So that, in terms of non-protected elements of software, other legal protection tools can be assessed.

Other legal tools stated as “unfair competition” and “trade secret” are not mainly preferred in practice due to their vague and unsuitable concept for software. “Unfair competition” and “trade secret” protection may simply be considered as a complementary

²⁴⁹ **PIANON, Alberto;** Trade Secret Vs. Open Source: And the Winner Is, Erasmus Law and Economics Review 1, February 2004, p.52 and 55

legal protection tool for non-copyrightable elements of software. These concepts are included in this study to imply software and its elements can be protected in other ways except copyright and patents.

Patent protection is one of the desirable forms of intellectual property owing to it grants its owner a monopoly over an invention. Patent protection regarding software takes place in some situations due to software's technical characteristics when it can be assessed as a software-implemented invention. Provided that a computer when controlled by a software or a method of controlling a computer by a software or a method of executing a process by use of a computer can be protected within the scope of the invention. However, "patent protection" is not possible when the protection is just sought for the software itself. Because software itself alone cannot meet the patentability requirement as an invention according to law.

CHAPTER 2

FORMATION OF THE SOFTWARE LICENCE AGREEMENT, ITS CHARACTERISTIC AND PARTIES

I. SOFTWARE LICENSE AGREEMENT, ITS DEFINITION AND LEGAL CHARACTERISTICS

A. CONCEPT OF SOFTWARE LICENSE AND DEFINITION OF THE LICENSE AGREEMENT

1. Concept of License and Application of This Term to Software Licensing in the Realm of Intellectual Rights

The etymology of the “license” word originates from word “*licentia*” “freedom, licentiousness” from “*licere*” “be lawful or permitted” which means to be permitted in Latin²⁵⁰.

License is a global term which refer to the legal situation of the licensee or in other words, all authorization of the licensee. However, nowadays this term is most prevalently confronted in the transfer of authority of the usage of an intangible right which is in domain of intellectual and industrial property by means of agreements²⁵¹.

²⁵⁰ In Medieval Latin it also means authority, permission. See for definitions <https://www.merriam-webster.com/dictionary/license>, <https://en.oxforddictionaries.com/definition/licence> (accessed 28.11.2019)

²⁵¹ OKTAY ÖZDEMİR, Saibe; Sınai Haklara İlişkin Lisans Sözleşmeleri ve Rekabet Hukuku Düzenlemelerinin Lisans Sözleşmelerine Uygulanması, İstanbul, 2002, p.9; ÖZEL, Çağlar; Marka Lisansı Sözleşmesi, Ankara, 2002, p.43

There are various definitions of license agreement in doctrine²⁵². However, “software license agreement” may be defined as it is an agreement that includes the assignment of the exercise of the economic rights in the scope of copyright law with regards to software, the conditions herein, the scope and limits of the right, the rights and obligations of the parties and duration²⁵³. Identifier performance in software license agreements is granting enjoyment permission to the subject of the agreement which is software²⁵⁴.

Software industry is one of the domains which the license agreements are mostly used. Third-party user needs the permission of the software’s right owner which is granted under the license to use and take advantage of a software. The software is protected by intellectual law and therefore software cannot be used without the authorization of the right owner of it. This “software license” authorizes the third parties, so the licensees, to carry out certain acts that could be otherwise restricted by the licensor who is the right owner, such as reproducing, making the software available over the social media etc.²⁵⁵

Furthermore, “license” term is used to define license agreement in the No. 5846 Law²⁵⁶. General scope of licensing of intellectual rights has been regulated in No. 5846 Law under the license agreement provisions. Legal grounds of the software license agreements in the realm of the intellectual law is located in the Article 48 and 56 under

²⁵² For the different definitions see **TANDOĞAN, Haluk**; Borçlar Hukuku Özel Borç İlişkileri, Vol. I/1, Kendisine Özgü Yapısı Olan ve Karma Sözleşmeler, Satış ve Çeşitleri, Trampa, Bağışlama, 6th Edition, Ankara, 1990, p.63; **ONGAN, Burak**; Sınai Haklara İlişkin Lisans Sözleşmelerinde Tarafların Hukuki Durumu, Ankara, 2007, p.17; **OKTAY ÖZDEMİR, Saibe**; p.30; **ÖZEL, Çağlar**; p.42

²⁵³ **TEKİNALP, Ünal**; Fikri, p.217

²⁵⁴ **ONGAN, Burak**; p. 18

²⁵⁵ **BOND, Robert T. J.**; Software Contract Agreements: Drafting and Negotiating Techniques and Precedents, 2004; p.58

²⁵⁶ **AYDINCIK, Şirin**; Fikri Haklara İlişkin Lisans Sözleşmeleri, İstanbul, 2006, p.46

the title of Contracts and Disposal of part four of the No. 5846 Law. Article 48/2 states that “*the authority to merely exercise the economic rights (license) can also be assigned to another person*”. The law defines the license as the assignment of the economic rights to another person (Article 48/2). There is no doubt that these provisions that regulate license shall be applied to the software license agreements as well. Because of the fact that it is always possible to conclude contracts with respect to the intellectual rights on the ground of the basic principle of freedom of contract²⁵⁷.

2. Form of the Software License Agreement

The other significant provision according to the Article 52 it is expressly stated that the form of the license agreements must be in writing. Therefore, software license agreements must be in writing form and the rights subject to the agreement have to be indicated distinctly because they include the economic rights according to the law (Art. 52).

According to the Article 12/2 of the TLO it is stated that if a specific form has been set out with regards to an agreement, that regulation shall be considered as validity condition as a rule, and the agreements which are concluded as contrary to the set-out form in the law shall be deemed as invalid. Therefore, software license agreements must be made in writing due to express statement of the No. 5846 law. Otherwise, it shall be deemed as invalid due to not complying with the law.

The form of the software license agreement does not have to be made as official writing. If it is in writing and includes both parties' signatures, the agreement shall be deemed as legally valid. Furthermore, it does not have to be registered or recorded to be deemed as valid by the official institutions either.

²⁵⁷ ARBEK, Ömer; p. 66

3. Validity Conditions Regarding the Content of Software License Agreement

Due to the result of principle of freedom of contract, parties of software license agreement are free to designate the content of it. However, this designation must be within the boundaries of law. Moreover, it is stated in the law that the content of the agreement *“must not be contrary to compulsory legal rules, public order, public morality, personal rights, and the content must not be impossible to perform”* (Article 26 of the TLO).

4. Legal Consequence of the Inconsistent Software License Agreements with Law in Terms of Form and Content

a. Inconsistency with Law due to the Form of the Software License Agreement

If the software license agreement is inconsistent with law due to its form it shall be invalid and this invalidity type shall be “absolute nullity” because of the fact that it is expressly stated in the Article 54 of the 5846 Law that “written form” is a mandatory condition for the validity of the license agreements and Article 12/2 of the TLO indicates that inconsistent form regarding private regulations related to form of the agreement shall be deemed as invalid. Absolute nullity shall not die out in time or due to ratification. Everyone shall assert this nullity type and the judge takes into account it *ex officio*²⁵⁸.

²⁵⁸ OĞUZMAN, Kemal / ÖZ, Turgut; Borçlar Hukuku Genel Hükümler, İstanbul, 2017, p.154; CANSEL, Erol / ÖZEL, Çağlar; Borçlar Hukuku Genel Hükümler Cilt I, Ankara, 2017, p.211; KAYAR, İsmail; 6098 Sayılı Borçlar Kanunu’na Göre Borçlar Hukuku Genel Hükümler-Özel Borç İlişkileri, Ankara, 2019, p.77; EREN, Fikret; Genel; p. 351-352

This rule of the Article 52 regarding form of license agreements has significant results in terms of software license agreements types and business models due to software's distinctive characteristics, license agreements are made in different ways by virtue of business models and generally these are not signed by the parties as the law mandates. Thus, it can be considered that available legal approaches and regulation are not sufficient for the transactions related to software licensing due to software's dynamic and technologic distinctive structure. Although contemporary law does not confer validity for non-written software license agreements, however, as it will be mentioned in below subjects, most of these agreements does not include any signatures and most of the time these are concluded by parties with just one click to "I agree" button virtually.

In terms of Turkish law, it is accepted that "non-negotiated" forms of software license agreements which are "shrink-wrap", "browse wrap" and "click-wrap" agreements are invalid due to written form regulation of law²⁵⁹. Because according to law these license agreements must be in writing form which means that the agreement should include both licensee's and licensor's signatures and it is the condition for validity in terms of such contracts. So that, shrink-wrap and browse wrap license agreements are not valid according to law due to lack of signatures of parties. These contracts are concluded by clicking "I agree" button in click wrap license or tearing open the software package in shrink-wrap license. Nevertheless, click-wrap license agreement can be deemed as valid if it is signed by means of electronic signature because of the fact that according to Article 5 of No. 5070 Law of Electronic Signature²⁶⁰ secure electronic signature shall result in same legal consequence of the signature which is signed by hand²⁶¹.

²⁵⁹ **KAYPAKOĞLU, Serhat**; p. 130; **TOPALOĞLU, Mustafa**, Bilişim, p. 132

²⁶⁰ No. 5070 Law of Electronic Signature <http://www.resmigazete.gov.tr/eskiler/2004/01/20040123.htm>
(accessed 28.11.2019)

²⁶¹ **TOPALOĞLU, Mustafa**, Bilişim, p. 132-133

Strict form provision related to software license agreements cause invalidity at the beginning. Therefore, these strict rules can be softened and regulated as less strict in terms of copyright and licensing to hold the transaction valid and legislation can be designed to make software license agreements more certain to be enforced. Because there are international examples which does not stipulate provision for written form in terms of software license agreements such as countries Germany, Switzerland and USA²⁶².

b. Inconsistency with Law due to the Content of Software License Agreement

Parties can determine the provisions of an agreement freely. But that freedom must be within stipulated boundaries in law. It is governed that if the provisions are infringing these boundaries the agreement shall be deemed invalid (absolute nullity) (Article 27).

For instance, the licensed software shall not be used by individuals to manufacture, development, or production of chemical weapons due to the fact that it is contrary to the public order and law. Allowing or granting such kind of authorizations by means of software license agreements shall be deemed invalid within the meaning of absolute nullity.

²⁶² **AYDINCIK, Şirin**; p. 97; **LANDY, Gene K.**; The IT/Digital Legal Companion: A Comprehensive Business Guide to Software, IT, Internet, Media and IP Law, 2008, P.414-426; **PHILLIPS, Douglas E.**; The Software License Unveiled: How Legislation by License Controls Software Access, Oxford Uni. Press, 2009, p. 18; **WINN, Jane K. / WRIGHT, Benjamin**; Law of Electronic Commerce, 4th Edition, Aspen Pub., 2011, p. 13-27

B. LEGAL CHARACTERISTIC OF THE SOFTWARE LICENSE AGREEMENT

1. Approaches to Designate the Legal Characteristic of the Software License Agreement with Respect to the Transferred Right

There is no consensus regarding legal characteristic of the license agreement according to the Turkish doctrine. The controversy arises from whether the license agreement is a dispositive transaction or an obligatory transaction²⁶³. This controversy is based on two different law system's approach which are German and Swiss law systems. Even though this license agreement's legal characteristic is controversial in Swiss doctrine, majority opinion is in the way that both exclusive on non-exclusive license grants an individual right, so that is relative right. Accordingly, no matter the license agreement is related with exclusive and non-exclusive license, it shall be an "obligatory transaction". Furthermore, in German doctrine, majority opinion is in the way that exclusive license constitutes a *real right*. In German Intellectual Rights Law, the right over the work cannot be assigned and the provisions of law only allow license transactions regarding rights on the work. So that, accordingly it is accepted that both "exclusive" and "non-exclusive" license has effect of *real right* so that is an *absolute right*²⁶⁴.

Therefore, there is a controversy regarding the characteristic of the software license agreements as well and these two different approaches are significant to determine the parties' rights and assertion of claims. Because assertion of claims and rights of the parties may differ whether they are grounded on *relative* or *absolute right*.

²⁶³ TEKİNALP, Ünal; p.217; ARBEK, Ömer; p.76; AYDINCIK, Şirin; p.77

²⁶⁴ Retrieved from ARBEK, Ömer; p.76-77; AYDINCIK, Şirin; p.77

a. Dispositive Transaction Approach

Dispositive transactions are the transactions which affect a right or a legal relation directly, and limit, alter or terminate their content²⁶⁵.

Some of the scholars accept the license agreement as dispositive transaction as in the “assignment of claim”²⁶⁶. The authority to exploit of economic rights provided by agreement of license is transferred to licensee directly and the licensor’s rights are terminated to the extent of licensed rights²⁶⁷. This identification has an importance both in theory and practice in terms of identifying the relations of the licensee between the licensor and the third parties²⁶⁸. Accordingly, in order to conclude a valid license agreement licensor must have the authority to transfer the license right at the conclusion moment of the agreement. Otherwise, the license agreement shall be deemed as invalid (Art. 48/3)²⁶⁹. For example, before creating a software, it is not possible to conclude a software license agreement regarding it because there is no software yet in the course of conclusion of the agreement and license right related it cannot be transferred to the licensee legally.

According to this view, an absolute right has been given to the licensee and licensee can propel this absolute right against any third parties and even the licensor.

²⁶⁵ **EREN, Fikret**; Borçlar Hukuku Genel Hükümler, 22nd Edition, Ankara, 2017, p. 173; **ANTALYA, Gökhan O.**; Borçlar Hukuku Genel Hükümler, Cilt I, 2nd Edition, İstanbul, 2013, p.85

²⁶⁶ This approach is accepted especially in German doctrine. See **ARSLANLI, Halil**; 175; **EREL, Şafak N.**; p. 263; **TEKİNALP, Ünal**; p.217; **AYDINCIK, Şirin**; p.84 **SEROZAN, Rona**; Sözleşmeden Dönme, İstanbul, 1975, p. 147; **GÖKYAYLA, Emre**; Telif Hakkı ve Telif Hakkının Devri Sözleşmesi, Ankara, 2001, p.51

²⁶⁷ **EREL, Şafak N.**; p. 263; **ONGAN, Burak**; p.43

²⁶⁸ **OKTAY ÖZDEMİR, Saibe**; p. 18; **AYDINCIK, Şirin**; p.77

²⁶⁹ **ARBEEK, Ömer**; p. 76

Therefore, it can be said that the licensee gains safer position according to this approach²⁷⁰. In doctrine, there are opinions which are in the way that the license agreements shall be accepted as dispositive transaction²⁷¹.

b. Obligatory Transaction Approach

If a person enters into a transaction which increase his or her obligations namely his or her passive component of assets without touching the active component of his or her assets it is named as obligatory transaction. Obligatory transactions do not affect directly the assets. Therefore, they have indirect effects. Moreover, obligatory transactions include the commitments such as transferring, limitation, altering or termination regarding the contract debt²⁷².

According to the other scholars' opinions in doctrine, the license agreement is accepted as an obligatory transaction which provides a relative right²⁷³. In this case, there

²⁷⁰ **AYDINCIK, Şirin**; p.80

²⁷¹ **ARSLANLI, Halil**; 175; **EREL, Şafak N.**; p. 263; **TEKİNALP, Ünal**; p.217; **AYDINCIK, Şirin**; p.84 **SEROZAN, Rona**; Sözleşmeden Dönme, İstanbul, 1975, p. 147; **GÖKYAYLA, Emre**; Telif Hakkı ve Telif Hakkının Devri Sözleşmesi, Ankara, 2001, p.51; **YAVUZ, Levent / ALICA, Türkay / MERDİVAN**; p.1495

Court of Cassation's precedents are in same line with this approach: 11th Chamber of Law of Court of Cassation Case No.:2016/3701 Decision No.:2017/2303 Date: 20/04/2017, Case No.:1998/9958 Decision No.:1999/3423 Date: 11.03.1999

²⁷² **ANTALYA, Gökhan O.**; Borçlar Hukuku Genel Hükümler, Cilt I, 2nd Edition, İstanbul, 2013, p.84; **EREN, Fikret**; Genel, p.171

²⁷³ This approach is accepted especially in Swiss doctrine. According to the majority opinion of Swiss doctrine, license agreement does not provide a real right. Even if the subject of the exclusive license is an absolute right, the authority granted to the licensee is an individual right and therefore both exclusive and

is no *absolute right* has been granting to the licensee because the absolute rights can only be a matter on the property unless otherwise stated according to the property law rules. Therefore, in order to mention that there is a real right, there must be a property or, if there is no property, the law must have set forth that a certain property asset shall be the subject of a real right²⁷⁴. By virtue of transferring the right to exercise regarding the absolute right does not mean that this right has moved out from the assets of the licensor. Furthermore, even in the exclusive license, the right of disposition of the licensor continues²⁷⁵. Hence, the licensing right is not a real right according to Turkish legislation. In Turkish law, the conflict is not arising from whether the right which license grants is a real right or not, it is arising because of the fact that whether it is an absolute right or a relative right²⁷⁶.

c. Assessment of Approaches

According to us, the software license agreement is an agreement within the scope of TLO, and it constitutes an obligatory transaction. The licensor should perform

non-exclusive license are accepted as obligatory transaction. See **KILIÇOĞLU, Ahmet M.**; Sınai Haklarla Karşılaştırmalı Fikri Haklar (Sınai Mülkiyet Kanunu'na Göre), Ankara, 2018, p. 283; **ARBEK, Ömer**; p.77. **AYİTER, Nuşin**; p. 211; **ÖZDEMİR, Saibe Oktay**; p.65; **ARKAN, Azra**; Eser Sahibinin Haklarına Bağlantılı Haklar, İstanbul, 2005, p. 223; **ONGAN, Burak**; p.45-46; **HIRSH, Ernst**; p.267; **TÜYSÜZ, Mustafa**; p.80; **HELVACI, İlhan**; Borçlar Hukuku, Miras Hukuku ve Eşya Hukukuna İlişkin Hukuki Mütalaalar (2000-2010), İstanbul, 2010, p. 116-119

²⁷⁴ **AYDINCIK, Şirin**; p.80; **OĞUZMAN, Kemal / SELİÇİ, Özer/ OKTAY ÖZDEMİR, Saibe**; Eşya Hukuku, Filiz, İstanbul, 2011, p. 6-7

²⁷⁵ **ERBEK, Özge**; Fikir Ve Sanat Eserlerine İlişkin Lisans Sözleşmesinin Hukuki Niteliği, Dokuz Eylül Üniversitesi Hukuk Fakültesi Dergisi, Vol. 11, Issue 2, 2009 (publication date 2011), p. 57

²⁷⁶ **AYDINCIK, Şirin**; p.81

everything according to the agreement properly for the licensee who should benefit from the subject of the license. This agreement governs and results in between the parties of the agreement. Therefore, the rights arising from the software license agreement are relative rights which can only be claimed between the contracting parties. Granting a software license, namely transferring the disposition pertaining to an absolute right, has no effect to the assets of the right owner and this transferring does not terminate the ownership of the economic rights of the licensor. In case of which the licensor grants his or her right that has been transferred even with an exclusive license agreement before to another third party again, this transfer is valid even he or she is liable because of the agreement. Besides, accepting the software license as a dispositive transaction, especially for the exclusive license, renders meaningless the separately set forth provisions of the No. 5846 Law for the assignment of the economic rights²⁷⁷.

2. Sui Generis Characteristic of the Software License Agreement

According to the view that we have agreed, license agreements regarding intellectual and artistic works have not been regulated directly in the No. 5846 Law and besides, in this law it has been merely set forth provisions regarding the form and partially content of the license agreement (Art. 52)²⁷⁸. Also, there is not any special provision for neither license agreement nor the software license agreement specifically according to the Turkish Law of Obligations. But there is an attribution in No. 5846 law (Article 56/3) about the rules in TLO with regards to the application of “usufructuary lease” for “non-exclusive license” and “right of usufruct” for “exclusive license”. However, the software

²⁷⁷ See also for the same approach **AYİTER, Nuşin**; p. 213

²⁷⁸ **TEKİNALP, Ünal**; p.217; **ARBEEK, Ömer**; p. 75

license agreement does not comply with these rules of TLO essentially. It is only stated which rules of law shall be applied to a license which arises within the scope of No. 5846 Law. Besides, only stating the “license” term by No. 5846 Law does not constitute the fact that the license agreement has been regulated with its substantive elements objectively in law. It may include some or total characteristics of the *named agreements* which are regulated in TLO or other special laws just like other *hybrid contracts*²⁷⁹. These rules also cannot be deemed as it has granted a name to those agreements as well. Hence, the software license agreement can be identified as *unnamed* and *sui generis* agreement that is, it is an agreement which is concluded within the scope of freedom of the contract and it is not including any of the elements of the agreements which are regulated by the law partially or completely.

Consequently, software license agreements which are accepted as *sui generis* contracts, shall be construed with respect to the *bona fides* and common practices and also most similar agreement provisions in the TLO shall apply to these by analogy with the attribution of No. 5846 law and unless there are no provisions in software license agreement could be applied²⁸⁰.

²⁷⁹ **ARBK, Ömer**; p.80; **AYDINCIK, Şirin**; p.71; **OKTAY ÖZDEMİR, Saibe**; p.53; **EREN, Fikret**; Borçlar Özel Hükümler, 6th Edition, Ankara, 2018, p. 999. There are contrary views in doctrine that license agreements are “named” agreements due to No. 5846 Law includes license. See **TANDOĞAN, Haluk**; p.63; **GÖKYAYLA, Emre**; p.243; **TÜYSÜZ, Mustafa**; p.81

²⁸⁰ See for the application of general rules in the absence of special provisions regarding a contract **ANTALYA, Gökhan O.**; p.152; **YAVUZ, Cevdet / ACAR, Faruk / ÖZEN, Burak**; Borçlar Hukuku Dersleri (Özel Hükümler), İstanbul, 2011, p.13; **EREN, Fikret**; Genel, p.209; **EREN, Fikret**; Özel, p.999-1000; **TANDOĞAN, Haluk**; Borçlar Hukuku, Özel Borç İlişkileri, C. I/1, 3rd Edition, Ankara, 1984, p.14; **AYİTER, Nuşin**; p.211

3. Onerous and Synallagmatic Characteristics of the License Agreement as a Rule

Software license agreement is a bilateral agreement which includes granting of economic rights regarding copyright, its conditions, scope, duration, and the rights, and obligations of the parties. It is typically concluded as onerous agreement as a rule and includes mutual obligations between the parties. Nevertheless, software license agreement may include various elements of other special contract types regulated in TLO and it has not got a uniform characteristic and type.

If there are mutual obligations for both parties, it can be named as synallagmatic agreement which generally includes bilateral obligations just like other intellectual right licensing agreements²⁸¹. According to us, it is not possible to conclude a software license agreement as a gratuitous contract. Because, if a contract grants obligation to just one party and if other party is taking advantage of this contract without any obligation this contract is called as gratuitous contract²⁸². In practice, there are software license types which can be concluded as free and without consideration as it will be mentioned in following subjects²⁸³. However, even if there has not been considered a consideration it does not mean that it is a unilateral contract in terms of a software license. Because even it is considered as free, there will be terms and conditions with regards to responsibilities of the parties as general. So that, it cannot be deemed as gratuitous agreement in practice.

²⁸¹ **EREN, Fikret**; Genel, p.1014; **EREN, Fikret**; Özel, p.1000; **OĞUZMAN, Kemal / ÖZ, Turgut**; p.45-46; **AYDINCIK, Şirin**; p.75-76

²⁸² See for the difference between the onerous and gratuitous contracts in general **EREN, Fikret**; Genel, p.241

²⁸³ See the subject of Free and Open Source Software License in Chapter 3.

4. License Agreement in Terms of Which Set Up a Relation of Continuous Obligation

Software license agreement sets up a relation of continuous obligation in practice. Despite to the sudden executed obligation relationships, it is not possible for the parties to fulfil their obligations at once for the software license agreements. Because in terms of sudden executed obligation relationships the termination of the obligation and the fulfilment of the obligations take place at the same time²⁸⁴. However, licensor's obligation of providing enjoyment the license right for the licensee and the other obligations take place from the license agreement for the licensee do not expire after the assignment of the economic rights. It shall continue as long as the determined period²⁸⁵.

II. COMPARISON OF SOFTWARE LICENSE AGREEMENT AND SIMILAR AGREEMENTS

It is important to address the software license agreements by means of comparing it by another agreement types in order to specify its place in the contract law and application of the legal rules to these. Moreover, according to the No.5846 Law it has been stated that, by giving reference to the TLO, the provisions on usufructuary lease shall be applied for non-exclusive licenses and right of usufruct shall be applied for exclusive license. But, differentiation of software license agreements due to software's characteristics renders significant to address those agreements which grant usufructuary lease and right of usufruct by comparing them with each other. On the other hand, sale

²⁸⁴ OĞUZMAN, Kemal M. / ÖZ, Turgut; p.48; EREN, Fikret; Genel, p.107-108; ANTALYA, Gökhan O.; p.38; ARBEK, Ömer; p. 82

²⁸⁵ EREN, Fikret; Özel, p.1000-1001; AYDINCIK, Şirin; p.73

and license of software is generally confused by each other and these has different characteristics as well. So that these two has been explained below as well. Furthermore, as a last subject the assignment agreements has been addressed as to clarify and detect the software license agreements' place in law.

A. COMPARISON OF SOFTWARE LICENSE AGREEMENT AND SALES AGREEMENT

There are significant divergences between the sales agreement and software license agreement. Sales agreements are synallagmatic agreements between the seller and the buyer and in return for the price of the sold goods the seller undertakes the obligation to transfer and deliver the ownership of that goods to the buyer (Article 207/1 of TLO). The subject of the sales agreement is physical goods despite the subject of software license agreement is intangible intellectual rights mainly.

One of the other differences between the software license agreement and sales agreement is that the seller bears to transfer the ownership of the property of goods to buyer by means of sales agreement²⁸⁶. But in a software license agreement not the software's ownership is granted by the licensor, but the economic rights related to software are granted and these rights transferred to the licensee in a restrictive manner in terms of use, modify, copy, distribution etc. Licensor retains the ownership of the intellectual property of the software. Hence, most proprietary software license agreements contain the terms which to define the transaction as license and states the software is not sold. Besides, *“the transfer of ownership of an original or reproduced copy of software shall not involve the transfer of intellectual rights as a rule if not otherwise agreed”* (Art.

²⁸⁶ ARBEK, Ömer; p. 92

57/1). The licensor retains the rights of each copy the licensee receives or creates by software due to intellectual rights upon it continue²⁸⁷. After the license agreement expires, no matter it is exclusive or non-exclusive, all economic rights granted by that agreement returns to the licensor.

Moreover, the sales agreement constitutes sudden executed obligation relationship despite software license agreement constitutes continuous obligation relationship between the parties. It was mentioned that it is not possible for the parties to fulfil their obligations at once for the software license agreements. Because according to sudden executed obligation relationships, the termination of the obligation and the fulfilment of the obligations take place at the same time. Furthermore, there is possibility to grant sub-license right by means of software license agreement whilst there is no sub-selling right in sales agreement. The economic rights upon the software as an intellectual work can only be transferred or assigned according to No. 5846 Law's provisions. So that, the sales agreement provisions of TLO cannot be applied to software license agreements directly, however, the provisions related to warranty against defects of TLO can be applied by analogy to software license agreements²⁸⁸.

B. COMPARISON OF SOFTWARE LICENSE AGREEMENT AND AGREEMENT OF ASSIGNMENT OF ECONOMIC RIGHTS

According to the No. 5846 Law the agreement of assignment of economic rights and license agreement related to copyright are regulated as two different legal transactions.

²⁸⁷ PHILLIPS, Douglas E.; p. 7

²⁸⁸ ARBEK, Ömer; p. 92-93

Under an assignment agreement the right owner (assignor) transfers the ownership of economic rights which extends to all copies of the copyrighted work within the limits of copyright protection to the assignee and lose the control over the assigned economic rights²⁸⁹. But in terms of software license agreement, right owner retains the ownership of granted economic rights, but allows the licensee to exercise some of these rights legally²⁹⁰. Thus, it can be claimed that software licensing provides licensor more flexibility and certainty because of the fact that licensor has the control over the licensed rights and has the authority over the transactions such as using, distributing, marketing or developing the related work in contrast with assignment agreement.

According to the view that we have agreed, the software license agreement should be considered as an obligatory transaction while the assignment agreement of economic rights is dispositive transaction. Therefore, due to software license agreement confers a relative right, if the third persons infringe the economic rights, only licensor has the right to sue these third persons to prevent infringement²⁹¹. But assignee of the assignment agreement can always claim the economic rights before the court against third parties.

Another situation that must be stated is the “moral rights” of the author retains upon the work²⁹². So that, in case of infringement of “moral rights” by third persons, author enjoys right to sue third parties. According to Article 19/3 of the No. 5846 law it has been stated that the licensor or the acquirer of economic rights shall only claim the moral rights of the author in their own name against third parties provided that they prove legitimate interests, if the author or heirs of the author do not exercise their authorities related to

²⁸⁹ AYİTER, Nuşin; p.207; ARSLANLI, Halil; p. 173; EREL, Şafak N.; p.250

²⁹⁰ PHILLIPS, Douglas E.; p. 8

²⁹¹ AYİTER, Nuşin; p. 213

²⁹² AYİTER, Nuşin; p. 208; EREL, Şafak N.; p. 269

moral rights²⁹³. Consequently, in the situation of infringement of moral rights of the author, these two agreements have same legal option in terms of right to sue the third parties.

Assignment agreements should be concluded in writing form and the assigned rights must be stated as individually and expressly same as in license agreements (Article 52).

Provided that the work related with the license agreement or assignment agreement has not been created or completed yet these agreements are deemed as null and void according to law (Article 48/3).

C. COMPARISON OF SOFTWARE LICENSE AGREEMENT AND AGREEMENT OF USUFRUCTUARY LEASE

The usufructuary lease agreement refers to that in return for paying the rent, the tenant is entitled to use the property and tenant can also use or consume the proceeds of its use or fruits (Article 357 of TLO).

Although Article 56/3 of the No. 5846 Law states that the provisions on “usufructuary lease” will be applied for “non-exclusive” licenses, there are significant differences between the software license agreement and “usufructuary lease agreement”. Usufructuary lease agreements involves a tangible property. But Turkish Law of Obligations does not regulate an intangible right which is a subject of a license agreement and its provisions cannot directly apply to the software license agreements²⁹⁴.

²⁹³ AYDINCIK, Şirin; p. 87

²⁹⁴ See for the same argument ARBEK, Ömer; p. 96 and subsequent pages

Another difference between these agreements that must be mentioned is while usufructuary lease grants an individual right, the software license agreement grants an absolute right to the licensee according to majority view of doctrine²⁹⁵. However, the software licenses grant an individual namely relative right according to us despite the majority approach.

The remuneration as rent is an essential part of the usufructuary lease agreement. However, software license agreements can be concluded without remuneration.

The tenant can sub-lease the property or the right arising from the agreement unless otherwise agreed in agreement, but licensee cannot re-license the economic right granted by software license agreement. Because there must be an express provision in the software license agreement which authorizes the licensee to re-license according to law²⁹⁶.

Moreover, there is no obligation for the landlord to help the tenant but maintenance and support help for software is crucial in terms of software license agreements due to complexity and digital characteristic of the software.

D. COMPARISON OF SOFTWARE LICENSE AGREEMENT AND USUFRUCT AGREEMENT

Right of usufruct is a servitude which enables full enjoyment authority to a person on the property of another person²⁹⁷. The owner of the right of usufruct enjoys the right

²⁹⁵ TÜYSÜZ, Mustafa; p. 82; AYDINCIK, Şirin; p.89-90. Regarding granting absolute right and individual right distinction See the subject of “Approaches to Designate the Legal Characteristic of the Software License Agreement with Respect to the Transferred Right” on the 90th page. According to us software license grants a “relative right”.

²⁹⁶ ARBEK, Ömer; p. 91

²⁹⁷ OĞUZMAN, Kemal / SELİÇİ, Özer / OKTAY ÖZDEMİR, Saibe; Eşya; p. 639

to use, possess and enjoy the property, as well as the right to receive profits from the fruits of the property and thus license agreement is compared to usufruct agreement. However, these two agreements indicate different characteristics. The subject of the usufruct agreement is a real right, though the subject of the software license agreement is economic rights arising from intellectual rights.

Article 56/3 of the No. 5846 Law regulates that the provisions on right of usufruct shall be applied for exclusive licenses. However, the rules regarding right of usufruct of No.4722 Civil Law can only be applied by analogy so long as if these rules are in accordance with characteristic of the exclusive software license agreements²⁹⁸.

III. PARTIES OF THE SOFTWARE LICENSE AGREEMENT

Parties of a software license agreement are the *licensor* and the *licensee*.

There are different mentioned terms regarding parties which can be encountered with in software license agreements besides licensor and licensee such as; software developer, software publisher, software distributor, or you etc. Therefore, it should be also stated in general that there are differences between a “software developer”, a “software publisher” and a “software distributor” to understand the parties of the agreement.

“Software developer” is a person who creates software. “Software publisher” either can generate a software or, obtain it from other software developers, or resort to both options. At all events, the software publisher reproduces copies of the software, or have them reproduced, stocks inventory of the software, and supports the distribution of it. In practical terms it should be indicated that the most of the software publishers

²⁹⁸ AYDINCIK, Şirin; p.92; ARBEK, Ömer; p. 94

distribute software. Software distributor obtains software from publishers and generally stocks an inventory, however, at all times distributes copies by different methods, examples for these distribution methods can be given as sales representatives, mail order, etc.²⁹⁹.

A. LICENSOR

One of the contracting parties of a software license agreement is licensor. According to the No. 5846 Law's Article 48 implies that "*the owner of the work or his/her heirs can transfer the economic rights legally granted to them to other persons in a restricted, or unrestricted manner in terms of duration, place, and contents, with, or without any return*". Therefore, the creator, namely the owner of the work, can be the licensor first, and heirs of the owner of the work can be the licensor as well. The licensee can also be the licensor with the written approval of the owner of the work or her heirs³⁰⁰.

Licensor generally takes advantage of the software license agreement to include certain contractual provisions, with regards to warranties or lack thereof which is related to the software performance, limitations on legal liability, material and adjective law and, termination of the agreement etc.³⁰¹. Even though the licensor grants some legal rights concerning software to the licensee, software code is still in the assets of intellectual property of the licensor and therefore, the licensor may, within legal boundaries and according to the license agreement's provisions, can exploit it by any means.

²⁹⁹ BOND, Robert T. J.; p.60

³⁰⁰ AYDINCIK, Şirin; p.107

³⁰¹ BOND, Robert T. J.; p.59

B. LICENSEE

Other contracting party of a software license agreement is licensee. There are no specific regulated general provisions related licensees in the No. 5846 Law. Hence, it can be claimed that every real or legal person can be the licensee³⁰².

The licensees only enjoy the certain licensed rights. Put it differently, without the express permission of the right owner, licensees cannot redistribute software or change it and adapt it according to their will³⁰³. The licensee can be the user of software, the distributor of software, the publisher of software, the party who modifies, translates or adds codes to the software, the value-added reseller, a joint venture partner, an independent maintenance company, a technology escrow agent; an independent sales representative or agent, a web site owner or host, and so on³⁰⁴.

IV. GENERAL CONTENT OF SOFTWARE LICENSE AGREEMENT

The essence of the software license is copyright-based legal protection according to the Turkish legislation. Conventional distribution by means of licensing of software is grounded on distribution of copies of this object code and preservation of source code by the software developer. The distinction retains the ability of the developer to control production of derivative versions of the software³⁰⁵ and add-on features, both of which

³⁰² AYDINCIK, Şirin; p.137

³⁰³ PHILLIPS, Douglas E.; p.8.; BOND, Robert T. J.; p. 237; See for the general obligation of the parties of the license agreement: EREN, Fikret; Özel, p. 1005

³⁰⁴ BOND, Robert T. J.; p. 59

³⁰⁵ The derivative version of the software is derivative work. The most basic definition of a derivative work is a software that is based on, or incorporates, one or more already existing software works. This can become

are feasible merely with access to the underlying “source code”. One of the most significant issue related to conventional software license is the licensee cannot modify the software or reverse engineer the “object code”. Moreover, generally in software license agreement it is stated that title to the code itself, to the certain copy of software which is in “object code” form that is obtained by the licensee, stays with developer. In short, these conditions and restrictions are legally attached to each copy of software owing to law, and they bind any user who has the software’s copy. Namely, it can be accepted that all use of the software always legally controlled by the copyright owner by the software license agreement³⁰⁶.

Main purpose of the software license is to designate certain limited uses of a software in certain and restricted ways, depend on a varying degree of limitations such as, restrictions regarding making copies, redistribution, decompiling, re-engineering.

The licensees only enjoy the specific licensed rights (Art.52). Therefore, without the written permission of the copyright holder license cannot redistribute the software or change it and adapt it according to her needs³⁰⁷.

Software license agreements generally indicate a long-term relations between the parties, and include customized software tailored to fit the licensee's needs and, in this case, the license agreement typically contains a decompilation prohibition³⁰⁸. This

a complex issue, particularly regarding software, but the primary indicator that a software is a derivative of another software is if it includes “source code” from the original software, even if the “source code” has been modified, including improving, extending, reordering or translating it into another programming language. <http://www.linfo.org/bsdlicense.html> (accessed 28.11.2019)

³⁰⁶ **MADISON, Michael J.**; Reconstructing the Software License, Loyola University Chicago Law Journal, Vol.35, 2003, p.280-282

³⁰⁷ **TEKİNALP, Ünal**; p.217; **BOND, Robert T. J.**; p. 237

³⁰⁸ **O'ROURKE, Maureen A.**; Drawing the Boundary between Copyright and Contract: Copyright Preemption of Software License Terms, Vol 45:479, Duke Law Journal, Number 3, December 1995, p.493

prohibits the licensee to divulge the human readable version, so-called source code, of the software if otherwise has not been accepted in the agreement.

CHAPTER 3

TYPES OF SOFTWARE LICENCE AGREEMENTS

I. DIVISION OF LAW ACCORDING TO CONTENT OF THE RIGHT ARISING FROM SOFTWARE LICENSE

There are two different types of license agreement according to law in terms of the content of the right arising from the license. Accordingly, software license agreements can be concluded as *non-exclusive (simple)* or *exclusive (full) license* agreement in terms of the rights granted to the licensee according to the law (Art. 56). The determinableness such as; place, duration and subject of the software license agreement, which can be concluded as non-exclusive or exclusive, provide versatile usage right with various obligations and rights to the work's author³⁰⁹.

A. NON-EXCLUSIVE LICENSE

The license is a “non-exclusive license” when it does not prevent granting by the owner of the economic right of the same license to other persons. These licenses can be granted to different persons in terms of same content and period. For instance, the “non-exclusive” license upon *Microsoft Word* which is a software can be granted to anyone by the licensor and anyone who acquires this non-exclusive software license legally can use the same software³¹⁰.

According to the law, it is governed as a presumption that there shall be non-exclusive license if there is no provision in the agreement or in the law on the contrary

³⁰⁹ AYDINCIK, Şirin; p.48

³¹⁰ TÜYSÜZ, Mustafa; Fikri Haklar Üzerindeki Sözleşmeler, Ankara, 2007, p. 96-97

(Art. 56/1). According to the Article 56/3 of the No. 5846 Law it is stated that the provisions on usufructuary lease applies for non-exclusive licenses by analogy³¹¹. Rules regarding usufructuary lease are located between 357th -378th Articles in the No. 6098 Turkish Law of Obligations.

B. EXCLUSIVE LICENSE

The license is named as “exclusive license” when it is exclusive to only one licensee. If the licensor commits that the only the licensee can exploit the relevant software and licensor shall not license the software any third party, there is exclusive software license. Unless otherwise understood from the law or the agreement, license is deemed as “non-exclusive license” (Article 56/2). So that, when a software license agreement desired to be concluded as an exclusive license agreement there must be a specific provision in the agreement or in the law. However, there is no provision regarding exclusive software license in the law. Therefore, there must be a certain provision in the agreement which indicates the exclusivity of software license.

The license agreement that only grants license right only one person is sole license agreement different from the exclusive license. In this case, the licensor does not have the right to grant any other sub-licenses for the same place, subject, or period of time³¹².

According to the Article 56/3 of the No. 5846 Law it is stated that provisions of “*right of usufruct*” shall be applied for “exclusive licenses” by analogy³¹³. Rules

³¹¹ TEKİNALP, Ünal; p.213; KILIÇOĞLU, Ahmet M.; Sınai Haklarla Karşılaştırılmalı Fikri Haklar, Ankara, 2018, p. 292

³¹² American Bar Association, Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law, 2007, p. 89

³¹³ TEKİNALP, Ünal; p.213

regarding right of usufruct are located Article 794 and its following provisions of the No. 4722 Turkish Civil Law.

II. NON-NEGOTIATED SOFTWARE LICENSE: SHRINK-WRAP, CLICK-WRAP AND BROWSE-WRAP AGREEMENTS

Intellectual law provides the software developer the right to control distribution of his or her software by means of license agreements. One of the distinctive features of the software is that it may be distributed in various means such as; pre-installed on computer hard-disk, on CD-ROMs, cards in a shrink-wrapped box, uploaded to a server and downloaded to a local computer, or sent as an e-mail attachment etc.³¹⁴. Software licensing agreement can be either “negotiated” or “non-negotiated” depending on distribution ways of a software by means of a license³¹⁵.

Negotiated license agreements fit the standard model of negotiating under contract law and usually go through contract formation phases including an offer- acceptance, mutual consent, and remuneration.

Non-negotiated software license agreement is generated in order to protect the licensor’s rights³¹⁶ and some of its types have become prevalent due to proliferation of computers³¹⁷ and growing internet usage and, desire to conclude these agreements easy and quick beside it. These agreements are used commercially, and licensors who are

³¹⁴ **GOMULKIEWICZ, Robert W.;** Software Law and Its Application, 2014, p.302

³¹⁵ **GORDON, Jeffrey I.;** Software Licensing Handbook, 2008, p. 151

³¹⁶ **LANDY, Gene K.;** p. 421

³¹⁷ **GORDON, Jeffrey I.;** p. 151

vendors use this form of licensing to license their software to licensees who are commercial customers³¹⁸.

Generally, the software license agreements between the purchaser and the vendor is called as “end user license agreement (EULA)”. EULA can be defined as a legal agreement between the user as licensee of the software and a software developer or vendor as licensor³¹⁹. This license agreement designates the rights and restrictions which shall be applied to the software as an intellectual product. The provisions of EULA’s generally cover a wide range of subjects prepared by the licensor typically included in adhesion contracts³²⁰.

EULA is a broader term that comprises vendor-purchaser transactions related to software which are “shrink-wrap”, “click-wrap” and “browse-wrap” licenses³²¹.

Consequently, non-negotiated software licenses can be categorized into three forms: shrink-wrap agreements, click-wrap agreements, and browse-wrap software license agreements.

A. SHRINK-WRAP LICENSE AGREEMENT

“Shrink-wrap license” is so named due to software packages are covered in plastic shrink-wrap and software license agreement is written as it shall be binding after the tearing open of the plastic shrink-wrap which covers software’s package³²². This is an “in the box form” of a software license agreement³²³. This license is generally can be read

³¹⁸ **LANDY, Gene K.**; p. 313-314

³¹⁹ **MADATLI, Kanan**; p. 119

³²⁰ **TOPALOĞLU, Mustafa**; Bilişim, p.131

³²¹ **PHILLIPS, Douglas E.**; p. xvii-xviii; **GOMULKIEWICZ, Robert W.**; p.303

³²² **GORDON, Jeffrey I.**; p. 151

³²³ **LANDY, Gene K.**; p. 421

from the package and provides that the person will be bound by terms of the software license agreement upon if the person tears the wrapping from the package. In case of the purchaser or licensee does not approve the terms and does not want to be bound by these license provisions, it is claimed that purchaser must return the software package as unopened to the vendor. Furthermore, there is no chance to bargain the terms of the “shrink-wrap license” for licensee³²⁴. Despite typical license contracts, most “shrink-wrap licenses” do not include bilateral exchanges of rights or commitments. Instead of these, persons are regarded as entered into a “software license agreement” merely by tearing the wrap³²⁵.

B. CLICK-WRAP LICENSE AGREEMENT

“Click-wrap license” (or known-as click-through licenses) is electronic agreement that comes out during installation of software and it obtains the person’s affirmative acceptance³²⁶. The persons reveal their consent by clicking on an icon that states person’s consent, generally a box shape with the words "I accept" or "I agree" or same phraseology. The terms of this software license agreement are typically more advantageous with regards to the licensor than the licensee because just like the shrink-wrap licenses the licensee do not have the opportunity for negotiation³²⁷.

³²⁴ **CLASSEN, H. Ward**; A Practical Guide to Software Licensing for Licensees and Licensors: Model Forms and Annotations, American Bar Association, 2007, p. 149

³²⁵ **XUE, Jiao**; A Comparative Study of Shrink-Wrap License, Canadian Center of Science and Education Journal of Politics and Law 86, Vol. 2, No. 2, June 2009, p. 87

³²⁶ **PHILLIPS, Douglas E.**; p. xvii; **LANDY, Gene K.**; p. 422

³²⁷ **KIM, Nancy S.**; The Software Licensing Dilemma, Brigham Young University Law Review 1103, 2008, p.1125-1126; **GORDON, Jeffrey I.**; p. 152

C. BROWSE-WRAP LICENSE AGREEMENT

Browse wrap license agreements are website agreements to which the user assents by visiting website and it is typically available on websites or while downloading a software that links to a website³²⁸. The licensee should not have to manifest approval for browse wrap license terms, either before or after deal with the conduct supposed to be administered by kind of terms just like other non-negotiated software license agreements³²⁹. The browse wrap presumes that the person knows of and accepts the license agreement. Moreover, it shall bind the person merely by using the website by that person³³⁰.

III. SOFTWARE LICENSE AGREEMENTS ACCORDING TO BUSINESS MODELS TO DEVELOP A SOFTWARE

Software industry is usually categorized by two distinct development methodologies: “proprietary software” which is typically offers cash and carry functionality for the end user and its “source code” is every time kept secret due to both technical and legal issue and, “open source software” which provides software’s “source code” open to public view and use³³¹.

³²⁸ **KUNZ, Christina L./ OTTAVIANI, John E./ ZIFF, Elaine D./ MORINGIELLO, Juliet M. / PORTER, Kathleen / DEBROW, Jennifer C.;** Browse-Wrap Agreements: Validity of Implied Assent in Electronic Form Agreements, *The Business Lawyer*, Vol. 59, No. 1, American Bar Association, November 2003, (pp. 279-312), p. 279-280

³²⁹ **KIM, Nancy S.;** p.1124

³³⁰ **LANDY, Gene K.;** p. 423

³³¹ **ZITTRAIN, Jonathan;** Normative Principles for Evaluating Free and Proprietary Software, *The University of Chicago Law Review*, Vol. 71, No. 1 Winter, 2004, (pp. 265-287) , p. 265

It has been addressed both traditional and open source software licensing models below and explained their characteristics in terms of various agreements which has become prevalent all over the world due to technological enhancements related to software. Open source as new model of licensing of software has been explained more detailed to convey its legal characteristics with regards to intellectual property law.

A. TRADITIONAL (PROPRIETARY) SOFTWARE LICENSE AGREEMENT

“Proprietary software” or also known as “traditional software” or “commercial software” is a model that software typically developed and possessed by a person or a legal entity and there are commonly restrictions on its use while software’s source code is kept undisclosed and licensed for a fee by license agreements³³². Proprietary software remains as its owner’s property, and it is used by end-users under predefined provisions in the software license agreement. Owing to source code of proprietary software is not available, therefore it is named as “closed-source software” as well³³³.

Releasing the object code without the source code has been a distinctive feature of a proprietary software licensing, complementing the developers’ exercise of a legal right to prohibit the use of source code in novel other works with a technical wall to unlicensed

³³² **GOH, Seow Hiong**; Open Source and Commercial Software: An In-Depth Analysis of the Issues, Business Software Alliance, September 2005, p. 1; Proprietary Software Definition <http://www.linfo.org/proprietary.html>

³³³ **DHIR Swati / DHIR, Sanjay**; Adoption of Open-Source Software Versus Proprietary Software: An Exploratory Study, Strategic Change, Vol. 26 Issue 4, July 2017, (pp. 363–371), p.364. For example, one prominent proprietary software is Microsoft Windows. One can buy it and use it on his/her computer; however, he/she cannot reproduce, modify, improve it or redistribute his/her own version of Windows to others. See for the detailed explanation **WEBER, Steve**; p. 3-4

use of software³³⁴. Commercial software suppliers generally implement the traditional software licensing model that the authorization to use of the software is permitted to the licensee in return for a payment and licensee is typically allowed to adapt, modify, distribute or reproduce software within the boundaries of the license agreement³³⁵.

It is also possible to license the source code with regards to commercial software licensing. This is another variant of commercial software licensing and specifically true for developers of software that are used as components of other software where the capacity to customize and modify the source code is significant to licensee. Licensors keep the source code as trade secret by implementing contractual obligations on every licensee to keep the source secret and to distribute only source code's binary derivatives in this commercial software licensing model³³⁶.

Most of the software developers or creators in the commercial field apply some specific provisions in the license agreement which limit what licensees are permitted to act. These general restrictions imposed on the licensee are usage, number of users, limitations on making copies and, limitations on transfer, and etc. as it is mentioned. Usage restrictions may be applied as to use the software for certain specified purposes and to prohibit from using it for other persons like commercial relicensing prohibition. Furthermore, licensee can solely be allowed to use the software for a limited quantity of end-users or to run the software only on a limited number of processors. However, as it is encountered in practice generally, licensee in some situations may not be allowed to make copies of the software except for back-up or security objectives and licensee may not be able to sale the software to third parties within the scope of transfer restriction of software. When it is needed more end-users, or processors, or it is needed to transfer the

³³⁴ **ZITTRAIN, Jonathan;** p. 271

³³⁵ **GOH, Seow Hiong;** p. 5

³³⁶ **LANDY, Gene K.;** p. 240

software to another company or even business unit, the licensing terms should be extended by acquiring of additional licenses³³⁷.

Copyright law in Turkey reserve the rights of the creator or software developer and subsequent right holders to exploit a software in terms of the concept of author. This can be viewed as the basic monopolistic approach just like for the other intellectual properties in order to grant certain control for the creator or software developer over the use and exploitation of software. This situation enables software's right owner to limit using, modifying and distributing the economic rights stemming from the software. From this point of view, it can be said that the all software, no matter they are traditional or open source, in fact originally "proprietary" because the right owner has the exclusive control over software.

B. FREE AND OPEN SOURCE LICENSE AGREEMENT

"Free³³⁸ and open source software" (FOSS) licensing is very prevalent in today's world. FOSS licensing refers to software where the source code is made publicly accessible according to the provisions of its accompanying license, where the right owner permits the source code of the software to be used, modified, and shared freely subject to certain terms and conditions. Open source software is free in that the source code which is the code readable by humans is made publicly accessible generally without a price, so any person may download the source code, compile it into "binary code" which is the

³³⁷ CLASSEN, H. Ward; Fundamentals, p.8-9

³³⁸ "Free" term here related to free and open source software means freedom of using, running, redistributing etc. of the software, the free term has not been used to refer to price if it has not been stated otherwise. See **GAY, Joshua (Ed.);** Free Software, Free Society Selected Essays of Richard M. Stallman, FSF, 2002, p.20

code readable by machine, and run it on his or her computer. However, on the contrary, the only piece made accessible by the developer or owner of the proprietary software is the binary code³³⁹.

It can be accepted that both the proprietary license and FOSS are similar as a legal tool within the context of licensing software because these both set forth what licensee can and cannot do with the software. But, with regards to their purpose and terms these license regimes are totally opposite and different from each other. FOSS providers furnish relevant software to free public use, and simultaneously these providers use intellectual property law to control the modification and distribution of software³⁴⁰.

1. Legal Foundations of Free and Open Source License and Some Well-Known Initiatives that Created Specific Open Source Software License Agreements

The first forms of FOSS had been encountered exactly in universities between the years 1960-1970. So-called “academic software” was originally distributed under informal terms that permitted modification and redistribution. The one of the most significant of these terms was to furnish an “attribution of the origin” of the code which is to reserve the declaration that asserts related code’s authorship in all following

³³⁹ **WINN, Jane K. / WRIGHT, Benjamin;** p.13-32 and 13-33; **MADATLI, Kanan;** p. 131-132. For example, a copy of a Linux (also known as GNU/Linux) computer operating system just like Microsoft Windows or Apple Mac OS can be downloaded along with its “source code” for free and can be replicated infinitely at zero cost. Besides, everyone has the freedom to contribute to its development. It is a free and open source software unlike proprietary or closed source software like Windows or Apple Mac OS. See **WEBER, Steve;** p.9 and <https://opensource.com/resources/linux> (accessed 28.11.2019)

³⁴⁰ **MCGOWAN, David;** Legal Implications of Open-Source Software; University of Illinois Law Review, 2001; p. 287; **MADISON, Michael J.;** p. 282 and 285; **WINN, Jane K. / WRIGHT, Benjamin;** p.13-32

distribution even of code's modified versions. It was conventional to include these terms spelled out in a script that accompanied the software license. The universities make use of a standardized format of this software license agreement, which generally acquired relevant university's name. The most popular and exploited licenses were licenses coming from Berkeley ("BSD" namely "Berkeley Software Distribution") and from MIT. For this reason, this type of free software distribution is frequently named as "academic licensing", or "attribution only". In those days, sharing the source code by developers in universities was accepted as commonplace³⁴¹.

FOSS developers date back to the 1980s. Software was started to be commercialized as a divergent commercial good on the market of technology and the software was commonly granted costless to customers of hardware device as an add-on accompanied by the source code in those years. The source code allowed clients to "debug" and "modify" software consistent with client's requirements by this way. With the emergence of mass-market computers for personal use in those years, companies of software began to sell and license software as an independent good excluded from the "hardware" and offer their customers only with "closed source versions" of the software. At that time, today's pioneer companies of software industry, for instance *Microsoft* and *Oracle*, bring out the business model of standardized proprietary "closed source software" products. In terms of growing proprietary software, market so-called closed source software industry, the software developers or creators who has interested in analyzing and modifying software had approached this growth as a danger to their way of working with

³⁴¹ Legal Aspects of Free and Open Source Software Workshop, 9 July 2013, European Union, Brussels ,p.32,

<http://www.europarl.europa.eu/document/activities/cont/201307/20130708ATT69346/20130708ATT69346EN.pdf> (accessed 28.11.2019); **LERNER, Josh / TIROLE, Jean**; The Simple Economics of Open Source; p.5 <http://www.people.hbs.edu/jlerner/simple.pdf> (accessed 28.11.2019)

software initially. Then, minor projects, like GNU project of software developer Richard Stallman which has been established in MIT in USA in 1971³⁴², started to create free software which are available for everyone who are interested in both the object code and source code forms of software³⁴³.

Mr. Stallman established the “Free Software Foundation (FSF)” devoted to encouraging computer users’ right to study, use, copy, redistribute, and modify software in 1985³⁴⁴. Rather than releasing the software to the public domain it has been considered to require users to license the “source code” under particular software license agreement. According to this software license agreement it was essential that the software’s “source code” should be freely available and modifications on that software’s code also should be allowed³⁴⁵. In return for being able to distribute or modify the “free and open source” software licensees had to accept making the “source code” of the software freely available.³⁴⁶

The success and recognition of development “open source” licensing and software distribution model has induced the advance of new and alternative license regimes with the contribution of the legal scholars regardless of the different approaches of the different projects.

³⁴² GNU Projesi Hakkında - GNU Projesi – Özgür Yazılım Vakfı,
<https://www.gnu.org/gnu/thegnuproject.tr.html> (accessed 28.11.2019)

³⁴³ **METZGER, A. (ed.);** Free and Open Source Software (FOSS) and other Alternative License Models, Ius Comparatum – Global Studies in Comparative Law, Springer, Switzerland, 2016, p.4

³⁴⁴ **HOSCH, William L.;** Free Software Foundation, <https://www.britannica.com/topic/Free-Software-Foundation> (accessed 28.11.2019)

³⁴⁵ **LERNER, Josh / TIROLE, Jean;** The Scope of Open Source Licensing, Journal of Law, Economics, & Organization, Vol. 21, No. 1, Oxford Uni. Press, April 2005, p.22-23

³⁴⁶ **LERNER, Josh / TIROLE, Jean;** Simple Economics, p.6

The notion of “open-source” was generated in 1998, as an alternative to “free”, by a coalition of programmers who established “Open Source Initiative (OSI)”³⁴⁷ to develop and restate the four software freedoms which are stated in below subjects for determining what is considered as an open source license³⁴⁸.

One of the most renowned initiative is “Creative Commons (CC)” which was established in 2001 by a group of law professors. CC offers standardized copyright license agreements inspired in part by the FSF’s “GNU General Public License (GNU GPL)” that help to be used by copyright-protected works’ authors to distribute their content under a specific license regime. CC licenses provide software’s authors a bunch of selections between retaining all rights and abandoning all rights which means giving the rights to be used in the public domain. This approach is named as “some rights reserved” on the contrary of “all rights reserved” by the CC³⁴⁹. In terms of an “open source software” license, the licensees oblige to duplicate the license terms and disclaimers. Some of CC licenses comprise a “share-alike” clause similar with the “copyleft”³⁵⁰ provisions of “open source software” licenses.

³⁴⁷ See the history of OSI on <https://opensource.org/history> (accessed 28.11.2019)

³⁴⁸ **FODGEL, Karl**; Producing Open Source Software: How to Run a Successful Free Software Project, 2005, p.8, <https://producingoss.com/en/producingoss.pdf> (accessed 28.11.2019)

³⁴⁹ See for Creative Commons <https://creativecommons.org/about/history/> (accessed 28.11.2019)

³⁵⁰ See 126th page for “copyleft” term.

2. General Principles and Legal Characteristics

Underlying principles of the FOSS licensing are the concepts of freedom and access which refer to freedom to use the software according to needs and access to source code of it³⁵¹. A software is “free software” if its users have the four fundamental freedoms³⁵².

OSI states that the “open source” doesn't merely refer to access to the “source code” and the distribution terms of “open-source software” have to conform to the following ten principles³⁵³.

³⁵¹ **PERENS, Bruce**; Open Source Definition, Open Sources: Voices from the Open Source Revolution, <https://www.oreilly.com/openbook/opensources/book/perens.html> (accessed 28.11.2019); **MADISON, Michael J.**; p. 282

³⁵² The freedom to run the software for any purpose (freedom 0).

The freedom to study how the software works and adapt it according to your needs (freedom 1). Access to the “source code” is a precondition for this. The freedom to redistribute copies (freedom 2). The freedom to modify the program and distribute copies of your modified versions to others (freedom 3). Access to the “source code” is a precondition for this. See for the freedoms for free software stated by GNU: <https://www.gnu.org/philosophy/free-sw.html.en> (accessed 28.11.2019)

³⁵³ 1. Free redistribution: the software may be given freely or sold, and the license shall not require a royalty or other fee for such sale. 2. Source code: this should be included or must be able to be obtained freely and intentionally obfuscated “source code” is not allowed. 3. Derived works: the license must allow the redistribution of modifications and must permit them to be distributed under the same terms as the license of the original software. 4. Integrity of the author's source code: the license may require that modifications be redistributed only as patches. 5. No discrimination against any persons or groups. 6. Non-discrimination against fields of endeavor: the license must not limit anyone from benefit from the software in a specific field of endeavor. For instance, the license cannot exclude business users. 7. Distribution of license: the rights attached to the software must apply to all to whom the program is redistributed without the necessity of execution of an additional license by those parties. 8. The license must not be specific to product: the rights attached to the software must not subject to the software's being part of a specific software distribution the software cannot be licensed only as part of a larger software

Apart from philosophical arguments it is clear that the term FOSS comprises both types of these licenses and therefore FOSS licensing term is used according to this approach in this study.

FOSS software license uses copyright law as a tool to achieve an effect contrary to that of “traditional copyright” which protects the work due to the software’s legal framework regarding copyright protection is restrictive by default: rather than restricting the distribution of software, it prohibits everyone, even the author, from restricting the distribution of it³⁵⁴. Furthermore, it must be stated that FOSS should not be conceived as if the creator or right owner’s abandoning his or her exclusive rights. Rather than abandoning of exclusive rights, the right holder retains the exclusive right to control the exploitation of the software by virtue of the license and grants extensive rights of use to persons³⁵⁵.

FOSS licensing mechanism’s legal characteristics can be enumerated as below with the harmonization both OSI’s and FSF’s licensing types which are both considered as FOSS licenses in this study:

- Licensee is free to use the open source software according to his or her needs for any purpose and this system is rendered open to every person. The license

distribution. 9. The license must not restrict other software: the license cannot assert that any other software which is distributed with it should be also open source. 10. The license should be technologically neutral: no provision of the license can be proclaimed on any individual technology or style of interface. See the criteria for the open source of the OSI <https://opensource.org/osd> (accessed 28.11.2019)

³⁵⁴ **FODGEL, Karl**; p.5; **MCGOWAN, David**; p.245; **MCGOWAN, David**; p. 255: The GNU GPL is the archetype of such licenses and is one of the stricter licenses that complies with the definition. See also for GNU General Public License Version 3.0 <https://www.gnu.org/licenses/gpl-3.0.en.html> (accessed 28.11.2019)

³⁵⁵ **MCGOWAN, David**; p. 287

should not have any condition that could hinder the free use of the software, reporting duty, or any obligation to unveil the use that is made of the software.

- Licensee is free to make copies of the open source software and can redistribute it without make any payment.
- The license may not require a royalty or other similar fee for such sale. That is, one can make any number of copies of the software, and sell or give them away, and he/she does not have to pay for these acts³⁵⁶. However, these do not mean that there cannot be a payment to the licensor and the licensor may sell open source software.
- Licensee is free to create derivative works of open source software and can distribute such works. Then, any royalties should not be pay, and any limitation should not be asserted on the type and character of these derivative works of software. This can be stated as a fundamental element for the open source software creation which express the motive of the open source enthusiasts.
- License must be free to access and use the source code of the software.
- Licensee must be free to combine and distribute open source software and the outcome of such combination³⁵⁷.
- Typically, licensee can impose attribution clause in the license agreement to state the actual source of the “source code” in any further distribution which

³⁵⁶ **BOND, Robert T. J.**; p.93

³⁵⁷ **BOND, Robert T. J.**; p.92-95; **MADISON, Michael J.**; p. 282-283; **THIEL, Scott**; Understanding Open-Source Software - Is It the End of Proprietary Software, Managing Intellectual Property, July/August 2014, p.41

may be occur for the respect of the authorship and integrity of the original source code³⁵⁸.

The licenses accepted by OSI and FSF has various and different clauses with regards to sublicensing of the software, distribution of the code to third parties, distribution of the derivative works, modification of the code by a licensee, etc. However, all these licenses have a common characteristic: all warranties disclaimed by these licenses³⁵⁹.

According to the FSF, the easiest way to make the software free is to waive the copyrights regarding economic rights and make it public property, however, it does not preclude third parties to take this version of the code and to make it propriety software. In Turkey, the copyright ownership takes place when the work is created, and these intellectual rights related it can be waived by the right holder or author the totally to make a software free except moral rights because of the No.5846 Law's express regulation that mentioned in before chapters.

FOSS may have a relation with patents although the software is the subject of copyright. Despite FOSS license agreements are primarily copyright licenses which grant license the rights to modify, copy, and distribute the codes and so on, there can be significant patent problems that can arise with these licenses. Because these problems may include express and implied patent license grants in FOSS license agreements. Due to there is a general misunderstanding that "open source software" cannot be the subject

³⁵⁸ **ST. LAURENT, Andrew M.**; Understanding Open Source and Free Software Licensing, August 2004, p. 15-16; **THIEL, Scott**; p. 41

³⁵⁹ **BOND, Robert T. J.**; p.96. Because if free and "open source software" authors were deprived the right to disclaim all warranties and find themselves getting sued over the performance of the software that they have written, they would stop contributing free and open software to the world. See **PERENS, Bruce**; Open Source Definition, Open Sources: Voices from the Open Source Revolution, <https://www.oreilly.com/openbook/opensources/book/perens.html> (accessed 28.11.2019)

of patents. However, FOSS licenses may comprise an express or implied patent license grant to the licensee. Because in some cases, software may be a subject of patent-implemented inventions and there can be patent grant in a FOSS license as well to be considered from the view point of the both parties of the agreement.³⁶⁰

3. Classification of FOSS Licenses and Copyleft

It has been created numerous open source licenses with different features because there are diverse ways to imply FOSS freedoms aforementioned in detail³⁶¹. There is no authoritative single FOSS license but there is collection of software license agreements with similar objectives and structures with varying provisions and conditions under which various software are distributed³⁶².

FSF has a list of FOSS licenses which are categorized according to whether it qualifies as a “free software license”, “copyleft license” or, if it is conform to the “GNU GPL” and, if it bring about any practical matters³⁶³. OSI also set forth the list of retired

³⁶⁰ “In this case patent grants extend the software license from the original developer of the FOSS to the licensees. However, in some cases, if you use OSS with your patented software, you may be granting a patent license to others as well. This is due to the fact that some OSS licenses specify that a combination of OSS with other software requires the combination to be licensed under the OSS license. If you redistribute the OSS, with modifications, you may also be granting a patent license. Many otherwise “benign” OSS licenses include patent license grants, most notably the Apache 2.0 license.” See for more information: **GATTO, James G. / KOO, Hean L.**; Patent Issues with Open Source Software (OSS), Thomson Reuters Westlaw, 05.06.2018, p. 1-3

³⁶¹ There are different 83 open source licenses which are accepted by the Open Source Initiative (OSI). See the full list of Open Source Initiative’s licenses <https://opensource.org/licenses/alphabetical> (accessed 28.11.2019)

³⁶² **WINN, Jane K. / WRIGHT, Benjamin**; p. 13-33

³⁶³ See <https://www.gnu.org/licenses/license-list.html> (accessed 28.11.2019)

or superseded licenses by their creator to not to be used to license any new software code currently³⁶⁴.

The “copyleft” mechanism has taken place to protect and maintain the freedom of the open source software and this is a noteworthy tool for the classification of open source software³⁶⁵. When we scrutinize the FOSS licenses types, if the license requires that the source code must be made generally available when the modified versions of the software are distributed, this provision is named as the "copyleft" provision of the agreement. Copyleft provision also called as “reciprocal licenses” and that requires licensee to use the same free license on redistributing the software and provide access to the “source code” of the both original and modified software³⁶⁶.

In order to provide freedom mechanism of the FOSS, the copyleft mechanism ensures the freedoms of the FOSS license for all users down the license chain³⁶⁷. That is, if one person has created a software under the FOSS license, downstream user must comply with the rules of the using the same free license on redistributing the software with regards to the both the original and unmodified version of software and any modification one can make of it and allow access to “source code” of original and modified software to provide redistribution and improvement of software for all persons³⁶⁸. Therefore, copyleft cannot be deemed as non-copyright provision on the

³⁶⁴See <https://opensource.org/licenses/do-not-use> (accessed 28.11.2019)

³⁶⁵ Comprehensive GPL Guide; p.7 <https://copyleft.org/guide/comprehensive-gpl-guide.pdf> (accessed 28.11.2019)

³⁶⁶ **HALL, Andrew J.**; p.431; **MEEKER, Heather J.**; p.23

³⁶⁷ **ST. LAURENT; Andrew**; p. 38; **VETTER, Greg R.**; Claiming Copyleft in Open Source Software: What if the Free Software Foundation's General Public License (GPL) Had Been Patented, Michigan State Law Review Vol: Spring 2008:279, p.281

³⁶⁸ **ST. LAURENT; Andrew**; p. 38; **MCGOWAN, David**; p. 289 and 297

contrary it sustains copyright provisions of software license and the software remains as open source and free.

The FOSS licenses are very different and the copyleft provision has different intensities on the agreements between the licensor and the licensee. Copyleft uses practical parts of the system of copyright to achieve an uncommon outcome that is in fact a legal protection so as to free sharing of the software. Copyleft can be accepted as it modifies copyright law in a sense, that is generally engaged in terms of reinforce the authors or publishers' rights, instead of strengthening users' rights. Therefore, it can be said that copyleft is a strategy in the realm of law to uphold and enhance the freely available software.³⁶⁹.

There is a vast number of various FOSS licenses and these all can be categorized in three categories: permissive (non-copyleft or unrestrictive), weak copyleft (restrictive or with-copyleft), and strong copyleft (highly restrictive)³⁷⁰. Strong and weak copyleft terms do not constitute a dichotomy, but a spectrum³⁷¹. Strong copyleft licenses implies the further provisions on how software shall be licensed. The copyleft license

³⁶⁹ The basic method of “copyleft” can be defined as follows: copyright the software, license it under terms that convey all the software freedoms, but use the copyright law controls to ensure that all who receive a copy of the software have equal rights and freedom. Briefly, copyleft grants freedom, but bans others to forbid that freedom to anyone else along the distribution and modification chains. Furthermore, “reciprocity” or “share and share alike” provisions of “copyleft license agreements” grants protection for both developers, who escape encountering a “prioritized” competitor of their project, and users, who can be sure that they will have all four software freedoms — not only in the present version of the software they use, but in all its future improved versions. See for more: **LERNER, Josh / TIROLE, Jean**; p.21; Copyleft and the GNU General Public License: A Comprehensive Tutorial and Guide; p.7, <https://copyleft.org/guide/monolithic/> (accessed 28.11.2019)

³⁷⁰ **LERNER, Josh / TIROLE, Jean**; p.21; **THIEL, Scott**; p. 42;

³⁷¹ Copyleft and the GNU General Public License: A Comprehensive Tutorial and Guide, p.7, <https://copyleft.org/guide/monolithic/> (accessed 28.11.2019)

characteristically makes tradeoffs that might hinder software freedom, however, it reaches other purposes for the “open source software” users and developers when a copyleft becomes weaker³⁷².

a. Non-Copyleft (Permissive or Unrestrictive License)

“Permissive license” term is refer to licenses like BSD, MIT and Apache because of the fact that these do not involve relicensing in specific terms³⁷³. These permissive licenses, as applied to the original licensed code, permit the code to be used in proprietary software and do not necessitate open source code versions be distributed. If the code produced under these permissive licenses, or arising from such code, may go “closed” and developments can be conducted under that proprietary license. For the same reason, these permissive licenses are accepted as very “flexible” and “compatible” with almost every form of open source license and therefore they are named permissive³⁷⁴.

One of the most used permissive license type of open source software is which are distributed with BSD license. It is referred to as “permissive” or “non-copyleft license”. Because, commercial software products can be developed using software licensed under a BSD license so long as credit is given to the person responsible for the underlying code of the corresponding software. They allow the persons to create a proprietary software from the original code. Thus, BSD license is accepted as unrestrictive rather than the GPL and such software may be considered for commercial purposes easily³⁷⁵. BSD license

³⁷² Copyleft and the GNU General Public License: A Comprehensive Tutorial and Guide, p.7-8, <https://copyleft.org/guide/monolithic/> (accessed 28.11.2019)

³⁷³ **MEEKER, Heather J.**; p. 23

³⁷⁴ **ST. LAURENT; Andrew M.**; p.14

³⁷⁵ **SOJER, Manuel**; Reusing Open Source Code: Value Creation and Value Appropriation Perspectives on Knowledge Reuse, 2010, p.40

makes available software to persons with respect to copying, usage, modification, and distribution of the software and besides they allow creator of derivative work to change license terms of the related derivative work³⁷⁶. Other examples for non-copyleft licenses are MIT license³⁷⁷, Apache license³⁷⁸ etc. BSD license agreement has been addressed under the title of the well-known and most used FOSS license agreements below.

b. Weak Copyleft (Restrictive License)

The licenses with the weak copyleft provision allow other software to be added or linked to the licensed software and be distributed under a different license type which can be either proprietary or FOSS license. But the original licensed software used with the new one must be redistributed under its own licensed and generally with the “source code”. These licenses just impose copyleft provision on the original work and they provide some exceptions under which the derivative work can be released under a different license type. The well-known examples for restrictive licenses are Lesser GPL (LGPL) and Mozilla Public License (MPL). LGPL allows persons to apply different legal provisions to software to link with others which are not available under the LGPL and they are not affected from the copyleft provision³⁷⁹. MPL is a copyleft license and can be identified as it is between the Apache license which does not necessitate modifications to be shared and the GNU type licenses which necessitates modifications to be shared under expansive set of conditions than the MPL. According to MPL original creator of

³⁷⁶ **NIKULAINEN, Kimmo**; Open Source Software: Why Is It Here and Will It Stick Around, Script-ed, Vol.1 Issue 1, March 2004, p. 141

³⁷⁷ See <https://opensource.org/licenses/MIT> (accessed 28.11.2019)

³⁷⁸ See <https://www.apache.org/licenses/LICENSE-2.0> (accessed 28.11.2019)

³⁷⁹ **SOJER, Manuel**; p.40; **ST. LAURENT; Andrew M.**; p. 49-50

the source code should be protected. That is, one can take some MPL's code and use it as part of other software which can be a proprietary one. But he or she must allow access to the source code to which parts covered by the MPL. Hence, MPL states the covered code and added code difference³⁸⁰. LGPL and MPL agreements has been addressed under the well-known and most used FOSS license agreements below.

c. Strong Copyleft (Highly Restrictive License)

Open source software is generally licensed under the “GNU General Public License (GPL)”. GPL assert copyright on the software while allowing persons with legal permission by GPL to modify, distribute, or copy the software and persons can be allowed to use source code of software. Any software which incorporates code from an “open source software” under a GPL or other license with copyleft clause must make available the “source code” of the software and distribute changings as “open source software” as well, also under the same license which can be GPL or other license with copyleft clause. This modified version of software is named as “derivative work” and it must be released to the market under the same terms as original “GPL-ed software”. Another words, in the case of software is licensed according to the GPL, then the derived software should be licensed under GPL. Therefore, GPL is included in the category of highly restrictive license due to the fact that it stipulates the derived software to be put on the market under the same license provisions³⁸¹.

³⁸⁰ See <https://www.mozilla.org/en-US/MPL/2.0/> (accessed 28.11.2019) ; ST. LAURENT; Andrew M.;

p. 63

³⁸¹ SOJER, Manuel; p.40

4. Well-Known and Most Used FOSS License Agreements

a. The GNU General Public License (GNU GPL)

The GNU General Public License is frequently abbreviated as “GNU GPL” or “GPL” and it is used by most open source software projects by developers in around more than fifty percent of all free software packages and it is the most well-known FOSS license³⁸².

GNU GPL terms and conditions are updated and issued on the GNU’s website just as the other FOSS licenses indicated and according to the current online information on this site. The latest GNU GPL version is 3rd version of it³⁸³.

The GNU GPL can be defined as the license that grants any person who enters into such agreement with the licensor the right to copy, distribute and modify software, providing that software can be redistributed under very conditions of the GPL, in particular by making reference to the GPL, by accompanying it with GPL license text, by rendering available the source code and by making reference to the “disclaimer of warranty”³⁸⁴. Another words, any person is permitted to copy and distribute verbatim copies of this document of software license, but when it comes to changing it is not allowed. Furthermore, GPL does not permit anyone to take modifications private. The modifications of the software must be distributed under the GPL. Hence, GPL-ed software’ author is probably receiving improvements from other developers, including

³⁸² MEEKER, Heather J.; p. 29; ST. LAURENT, Andrew M.; p. 35

³⁸³ See Licenses-GNU Project-Free Software Foundation. (2018, April 19). <https://www.gnu.org/licenses/licenses.html#GPL> (accessed 28.11.2019); See for GNU General Public License Version 3 <https://www.gnu.org/licenses/gpl.html> (accessed 28.11.2019)

³⁸⁴ District Court of Frankfurt Am Main Case Number 224/06, p.2, https://www.jbb.de/fileadmin/download/judgment_dc_frankfurt_gpl.pdf (accessed 28.11.2019)

commercial companies who modify the author's software for their own objects. But the GPL doesn't permit the incorporation of a GPL-ed software into a proprietary software.³⁸⁵

One of the most problematic issues under this license is determining when a new software is derived from an open source software subject to GPL, because it must also be distributed under the terms of GPL and when relation between original software and the new created software is sufficiently lessened that the new one need not be subject to GPL³⁸⁶. This issue is partly arising from the fact that in GPL it is not used standard software terminology or copyright license³⁸⁷.

It can be claimed that the main characteristic of the GNU GPL is its persistence and viral effect. The GNU GPL is considered persistent due to fact that all of the "derivative works" need to be licensed under the same "GNU GPL". Derivative works are named in the GPL as "work based on the program". That is, the author of the derivative work cannot get an advantage over the author of the original "GPL-ed" work in this sense. The "viral effect" can be considered as if a part of the "GPL-ed software code" is used in a work that comprises "proprietary code" then this causing software must be made open under the GPL in its entirety. The other characteristics of the GNU GPL is not having any provisions regarding the choice of law and indemnity. It can be argued that lack of any clause of indemnity in case of a probable infringement of an enforceable interest legally cause uncertainty in terms of the licensor³⁸⁸.

³⁸⁵ But there are some gaps in the GPL that allow it to be used in other software that are not entirely Open Source. See for more information: **PERENS, Bruce**;
<https://www.oreilly.com/openbook/opensources/book/perens.html> (accessed 28.11.2019)

³⁸⁶ **WINN, Jane K. / WRIGHT, Benjamin**; p. 13-37

³⁸⁷ **GOMULKIEWICZ, Robert W.**; De-Bugging Open Source Software Licensing, University of Pittsburgh Law Review, Vol. 64-75, 2002, p. 85

³⁸⁸ **NIKULAINEN, Kimmo**; p. 141

The GNU licenses have a preamble section that can be referred to as “not a contract”. But it can be considered that the drafters of this FOSS license agreement might have had the problem of dissimilar contract laws and they might have considered not to depend on any contract law so as to retain the software license agreement’s enforceability and validity. Instead of that, it can be considered that creators of the license agreement text have relied on the uniform law vested by treaties related to copyright, essentially the “Berne Convention” to make it coherent internationally. Because, this international treaty grants “*a minimum set of protection to copyright holders, among which are the rights to exclude others from use, copy, distribution, modification of software*”. That is to say, preamble part of the GPL sets out fundamental purposes of this license. According to this first aim of the GPL is to retain the software free in that it can be distributed, and modified regardless of licensor’s extra approval³⁸⁹. Second aim is to ensure the licensee to be aware that software under the GPL is distributed “*as is*” and there is “no warranty”. Thirdly, licensed work should be free of restrictive patents to the degree that a patent applies to the licensed work, it has to be licensed in parallel with the “source code” because of the fact that given piece of code with license can be subject to both copyright and patent in some cases. Hence, both patent and copyright licenses should depend on the provisions of GPL in order to GPL function properly³⁹⁰.

The purpose of this license can be addressed in the scope of creating a situation if the license is absent or invalid so that any right would not have been transferred by that license. If the beneficiaries of the software were to contest the validity of the license, they

³⁸⁹ Thus, under GPL licensee has free access to the licensed work and the licensee must distribute any derivative works subject to the same limitations as the original licensed work. See **ST. LAURENT, Andrew M.**; p.37

³⁹⁰ **ST. LAURENT, Andrew M.**; p.37

would automatically claim that they are copyright infringers of all owners of copyright³⁹¹. However, GPL would be more coherent if it simply granted the right to run the software or, at least, pointed users to the source of the user's right to run the software³⁹².

b. The GNU Library General Public License (GNU LGPL)

The GNU Project has two major licenses to use for software libraries³⁹³. One of them is the “GNU Lesser GPL”; the other one is the ordinary “GNU GPL” as it has been mentioned before. The “GNU LGPL” is a derivative of the “GPL” that has been designed for software libraries³⁹⁴.

The choice of the license type creates a significant divergence: using the “Lesser GPL (LGPL)” allows use of the library in proprietary software; using the ordinary GPL for a library renders it available merely for free software³⁹⁵. Therefore, on the contrary of

³⁹¹ Legal Aspects of Free and Open Source Software Workshop, 9 July 2013, European Union, Brussels, p.42

³⁹² **GOMULKIEWICZ, Robert W.**; De-Bugging, p. 86

³⁹³ The software library is a collection of software programs that are used to develop software. <https://www.collinsdictionary.com/dictionary/english/software-library> (accessed 28.11.2019)

Generally, a software developer might manually add a software library to a software program to achieve more functionality or to automate a process without writing code for it. A library is a compilation of frequently-used functions, created to avoid that the programmer would have to recode the same functions repeatedly. These libraries are not standalone programs, so to be executed, they must be used by an executable software. for more information regarding libraries **PEETERS, Joris**; General Public License in Court, p.652, <https://www.law.kuleuven.be/apps/jura/public/art/44n4/peeters.pdf> (accessed 28.11.2019)

³⁹⁴ Its latest version is 3. The all versions including version 3 can be accessible from OSI's website: <https://opensource.org/licenses/lgpl-license> (accessed 28.11.2019)

³⁹⁵ Why you shouldn't use the Lesser GPL for your next library- GNU Project - Free Software Foundation. (2016, November 13). <https://www.gnu.org/licenses/why-not-lgpl.html> (accessed 28.11.2019)

GNU GPL, a “GNU LGPL-ed” software can be integrated into a “proprietary software”. The right owner who is ordinarily the software’s author is the person who places the “GPL” on the software and naturally enjoys the right to infringe her own license. But, this right does not extend to any third parties who redistribute the software. Third persons should conform to all the stipulations of the license, even the ones that the right owner infringes, and in this sense, it can be sometimes problematic to redistribute a “GPL-ed software”. “LGPL-ed software” may be converted into a “GPL-ed software” always. Once that it converted to GNU GPL, it cannot be reconverted former license type, or anything derived from it, back into an LGPL-ed software. The other requirements and stipulations of the LGPL are similar to those in the GPL.³⁹⁶

c. Berkeley Software Distribution License

The “BSD license” is the simplest and most permissive FOSS licenses for software that had been originally developed at a university³⁹⁷.

According to BSD license, the only limitations employed on users of software released under a characteristic BSD license are that if the users redistribute such software in any form, with or without modification, users should include in the redistribution “(1) *the original copyright notice that the software was developed at the University of California*, (2) *a list of two simple restrictions* and (3) *a disclaimer of liability*”. These restrictions can be summed up as “(1) *one should not claim that they wrote the software*

³⁹⁶ PERENS, Bruce; <https://www.oreilly.com/openbook/opensources/book/perens.html> (accessed 28.11.2019)

³⁹⁷ University of California at Berkeley. It was first used in 1980 for the Berkeley Source Distribution, also known as BSD UNIX, an enhanced version of the original UNIX operating system that was first written in 1969 by Ken Thompson at Bell Labs. See for the BSD license <http://www.lininfo.org/bsdlicense.html> (accessed 28.11.2019)

if they did not write it” and “(2) *one should not sue the software developer if the software does not function as expected or as desired*”. Some of the BSD licenses also comprise a regulation that limits the use of the name of the project (or the names of its contributors) for endorsing or promoting derivative works. Because of extremely minimal restrictions of BSD licenses, software released under such licenses can be used and modified in proprietary software in which the source code is preserved as confidential. It is probable for a software product to be distributed under a BSD license and for some other license to apply as well. BSD licenses are widely applied on a different kinds of software licensing³⁹⁸. Moreover, while it is allowing usage, distribution, modification, copying and of the software, it renders it possible for the author of a derivative work to amend the articles of the license of a derivative work. Therefore, it can be considered that the BSD licenses are not persistent or viral in effect unlike the GNU GPL³⁹⁹.

The rationale behind this license is that the code is the result of research and work in public universities and it should be freely used and accessed, and the license allows unlimited use of the software and its redistribution in the form of source code and binary, and unrestricted modifications and integrations with other software. The mere obligation in terms of the licensees is to maintain copyright notices and the disclaimer in the source code and documentation together with the software⁴⁰⁰.

d. The Apache Software License

This license is commonly encountered and stewarded by the “Apache Software Foundation” (ASF), the entity behind the *Apache web server*. This license type has been

³⁹⁸ See <http://www.linfo.org/bsdlicense.html> (accessed 28.11.2019)

³⁹⁹ NIKULAINEN, Kimmo; p.142

⁴⁰⁰ ST. LAURENT; Andrew M.; p. 30

considered as “non-copyleft” or “permissive license”⁴⁰¹. In all cases regarding this license type, contributors to the software maintain full rights to use their original contributions for any other aim outside of Apache while providing the ASF and its projects the “right to distribute” and build upon their work within Apache⁴⁰². The Apache License is composed of a series of articles covering the license terms followed by a brief appendix presents a standard format of a copyright and notice of license⁴⁰³. Apache License has an extensive and quite permissive copyright license grant. The grant consists of “*the rights to reproduce, prepare derivative works of, publicly display, publicly perform, sublicense, and distribute the work and such derivative works in source or object form*”.⁴⁰⁴ The copyright license grants rights from each contributor to the software. Contributor means here that one with a copyright ownership interest in the software or part of related software. As part of making contribution, a contributor is deemed as she has given permission making a grant of rights as to the contribution on the same terms as the original work⁴⁰⁵. This structure, by means of the rights under the license are granted by each copyright owner to each downstream licensee, is common in open source software licensing⁴⁰⁶.

⁴⁰¹ Legal Aspects of Free and Open Source Software Workshop, 9 July 2013, European Union, Brussels, p.37

⁴⁰² Currently the Apache 2.0 version is the latest version of this license. Apache License Version 2.0, January 2004 <https://www.apache.org/licenses/LICENSE-2.0> (accessed 28.11.2019)
Licenses, Retrieved from <https://www.apache.org/licenses/> (accessed 28.11.2019)

⁴⁰³ **SINCLAIR, Andrew**; License Profile: Apache License Version 2.0, International Free and Open Source Software Law Review, Vol.2, Issue 2, 2010, p.108

⁴⁰⁴ **SINCLAIR, Andrew**; p.109

⁴⁰⁵ **ST. LAURENT, Andrew**; p. 21

⁴⁰⁶ **SINCLAIR, Andrew**; p.108-109

One of the different characteristics of the Apache License grant is that it consists of a “right to sublicense”. This may be accepted as it has been intended to ensure that the Apache License is compatible with other licensing models of software. As an instance, in case of a licensee desires to combine code licensed under the Apache License with the code under a copyleft license, which stipulates that the resulting combination to be licensed under only that license, this licensee may not have any other option but to sublicense the Apache License code under the copyleft license. The “right to sublicense” could be useful in a proprietary license where a proprietary software owner wants to sublicense Apache License code rather than merely passing the Apache License through to the end user or re-distributor. However, in most of the cases, there would not be a need to sublicense because the license is granted directly from each contributor to each licensee⁴⁰⁷. Another interesting feature of the Apache License is it expressly grants both a copyright license and a patent license to licensees. This is accepted uncommon among “permissive open source software licenses”, which do not generally address to patents. The characterization of the copyright and patent grants indicate clarity to the scope of license which is absent in more simple examples such as BSD License and MIT License⁴⁰⁸.

FSF considers the Apache License, Version 2.0 to be a “free software license”, compatible with version 3 of the GPL⁴⁰⁹. According to Apache License provisions, Apache 2 licensed software can therefore be included in GPL’s version 3 projects, because the GPL’s version 3 license accepts Apache 2 licensed software into GPL’s version 3 works. Nevertheless, GPL’s version 3 software cannot be included in Apache project’s software. The licenses stated as “incompatible in one direction only”, and it is a

⁴⁰⁷ SINCLAIR, Andrew; p.109

⁴⁰⁸ SINCLAIR, Andrew; p.109

⁴⁰⁹ <https://www.gnu.org/licenses/license-list.html#GPLCompatibleLicenses> (accessed 28.11.2019)

result of ASF's licensing idea and the GPL's version 3 authors' interpretation of copyright law according to the ASF. The ASF also states that this licensing incompatibility applies just when some Apache project's software becomes a "derivative work" of some GPL's version 3 software, because then the Apache software would have to be distributed under GPL's version 3. This would be incompatible with ASF's prerequisite that all Apache software must be distributed under the Apache License 2.0. The ASF states that they do not allow their projects to distribute software under licenses more restrictive than the Apache License, and the FSF does not distribute software under the Apache License⁴¹⁰.

e. The Mozilla Public License (MPL)

This license is used and stewarded by the "Mozilla Foundation", the entity behind prominent *Firefox* example. This license type has been considered as "weak copyleft license"⁴¹¹. Under MPL it is possible to charge fee to take on liability for the software and to support it. Such provisions in MPL can be considered as they make it possible for a person to create value-added services such as consultancy, installation, debugging and so on. This license consents additions to the software to be licensed on different terms from the MPL which means that the MPL does not have the "viral effect" of the GNU GPL. Main feature of the MPL is the fact that the original creator of software code has the more rights toward the work than the developer society has. This license can be considered as persistent to the degree that the source code is concerned but the original

⁴¹⁰ Apache License v2.0 and GPL Compatibility. <https://www.apache.org/licenses/GPL-compatibility.html> (accessed 28.11.2019)

⁴¹¹ Legal Aspects of Free and Open Source Software Workshop, 9 July 2013, European Union, Brussels, p.37; See for MPL 2.0 <https://www.mozilla.org/en-US/MPL/2.0/FAQ/> (accessed 28.11.2019)

software code's creator retains right to use a different license type for object code at a future date⁴¹². MPL draws the line between the covered code which is the code that contributed to the software and covered by the MPL in all conditions and the added code that is added into the application but separate at a file level and which may be licensed under another license. This restricts the scope of the license and copyleft effect to the original files of the software and the combination of the original MPL software with the additional files which can be considered as larger work⁴¹³ can be distributed under any license type. The MPL version 2 has a feature that enables the code to be combined with GPL code and this feature can be opted-out⁴¹⁴.

One of the significant characteristics of the MPL is the requirement that modifications of the original or modified Mozilla "source code" have to be released as modifications under the MPL. MPL's type is also different from other FOSS licenses because it addresses the issue of potential liability for infringements related to patent. The MPL requires licensees distributing software under this license to grant a license in any of the distributors own patents which are covered by the software as distributed, however, the patent license does not have to extend to any subsequent modifications of the code.

On the other hand, any contributor of a software licensed under MPL who learns of a possible claim of copyright or patent infringement is stipulated to notify subsequent licensees of this risk⁴¹⁵.

⁴¹² **NIKULAINEN, Kimmo;** p.141-142

⁴¹³ Various Licenses and Comments about Them- GNU Project - Free Software Foundation, <https://www.gnu.org/licenses/license-list.html#GPLCompatibleLicenses> (accessed 28.11.2019)

⁴¹⁴ See <https://www.mozilla.org/en-US/MPL/2.0/combining-mpl-and-gpl/> (accessed 28.11.2019)

⁴¹⁵ **WINN, Jane K. / WRIGHT, Benjamin;** p. 13-39

5. Validity and Enforceability of Free and Open Source Software Licenses

Software license is accepted as an agreement between the parties who are licensee and the licensor, and the software licenses are *sui generis* agreements according to Turkish law as it is mentioned before. As regards to FOSS licenses, to assess whether they can properly be considered as contracts, the first thing which must be discussed is the preconditions for “formation” of a valid contract under the general provisions of TLO, which typically occur via offer and acceptance⁴¹⁶. It is sufficient that the mutual consent of the parties of the FOSS license agreement in order to conclude a contract. Furthermore, according to No. 5845 Law license agreements shall be in written form because they are concerning author’s economic rights (Article 52).

Hence, FOSS licenses should be considered as valid and enforceable in Turkey according to the license provisions of the No.5846 Law as long as they meet the requirements of Article 52. Nevertheless, there has not been any court decisions that has scrutinized validity and enforceability of the FOSS Agreements yet as far as we know⁴¹⁷.

However, there are some significant judgments in foreign law. The first-ever related court decision belongs to Germany’s “District Court of Munich” on validity and effectivity of a FOSS license agreement is dealing with GNU GPL model which has become the most common open source license since its release in 1989⁴¹⁸. This first

⁴¹⁶ See for the formation of the valid contract via offer and acceptance: **EREN, Fikret**; Genel, p. 200-202 and 258; **ANTALYA, Gökhan O.**; p. 155 and p. 168 and p. 190; **OĞUZMAN, Kemal / ÖZ, Turgut**; p. 49-50 and p.64

⁴¹⁷ **METZGER, A. (ed.)**; Free and Open Source Software (FOSS) and other Alternative License Models, Ius Comparatum – Global Studies in Comparative Law, **BAYAMLIOĞLU, Emre**; Chapter 23, Turkish Copyright Law on Free and Open Source Software (FOSS) License, Springer, Switzerland, 2016, p.445

⁴¹⁸ **GATTO G., James**; Doubts Wane Over GPL Enforceability, p.1 <https://www.pillsburylaw.com/images/content/1/6/v2/1655/A9A22185D029BBE6EAA4332F1A7249E2.pdf> (accessed 28.11.2019)

lawsuit related to “validity” and “enforceability” of the GPL in Europe was filed in 2004. The court ruled that the GPL was a binding and enforceable copyright license⁴¹⁹. One of the last disputes arising from the software license agreement related to GPL in United States which the plaintiff has brought breach of contract and copyright infringement claims against defendant⁴²⁰. Consequently, it can be said that the disputes regarding FOSS licenses are prevalently used over the world and their enforceability, validity, and application is still vague even in international level.

⁴¹⁹ Harald Welte v. Sitecom, District Court of Munich, (2004) 21 O 6123/04; **CARVER, Brian W.**; Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses, 20 Berkeley Technology Law Journal, Vol. 20 , Issue 1, Art. 46, January 2005, p.468 <https://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1535&context=btlj> (accessed 28.11.2019); **HÖPPNER, Julian P.**; The GPL Prevails: An analysis of the First-Ever Court Decision on the Validity and Effectivity of the GPL, SCRIPT-ed, Volume 1, Issue 4, December 2004, p. 635

⁴²⁰Artifex Software, Inc. v. Hancom, Inc., Case No.16-cv-06982-JSC (N.D. Cal. Sep. 12, 2017), United States District Court Northern District Of California <https://cases.justia.com/federal/district-courts/california/candce/3:2016cv06982/305835/54/0.pdf?ts=1505292066> (accessed 28.11.2019) The case Artifex Software, Inc. v. Hancom, Inc. involves a piece of software licensed under the GPL version 3 called Ghostscript. Plaintiff Artifex Inc. is the exclusive licensor of Ghostscript and uses a dual licensing model. Artifex claimed two counts based on Hancom's inclusion of Ghostscript: first, a violation of copyright; and second, a breach of contract based on the GPL. The final decision has not been made yet. Also See about the case <https://www.fsf.org/blogs/licensing/update-on-artifex-v-hancom-gnu-gpl-compliance-case-1> (accessed 28.11.2019)

6. The Liability Regime of FOSS

Characteristically, FOSS licenses contain very strong disclaimer clauses, which discharge the author from all liability⁴²¹. It is because of the fact that the FOSS is generally made available regardless of any compensation of any sort, as a result of which the author does not have adequate revenue stream⁴²².

7. Why Do Open Source Software License Exist

The use of open source software has been discussed in the software area if it brings numerous advantages in comparison to “proprietary software” developing models. These advantages may be economic, such as the reduction in research and development costs, and resulting in better quality code. The traditional argument is that the “open source software” model offers the developer of the software improved reliability which refers to that given a large enough base of beta-testers and co-developers, basically every issue in the software code can be figured out by the time of its release⁴²³. Therefore, it can be said that the FOSS has developed on a heightened level of involvement and the openness⁴²⁴

⁴²¹ European Union, Legal Aspects Of Free And Open Source Software Workshop, 9 July 2013, Brussels , p.43

⁴²² **PERENS, Bruce;** p.66

⁴²³ **NIKULAINEN, Kimmo;** p.142; **MEEKER, Heather J.;** 25-26

⁴²⁴ In terms of open source software, “the openness” primarily refers to a guaranteed access to the application's “source code” as well as an arrangement that makes sure that the code can be forked, modified, and redistributed See: **LINDMAN, Juho / NYMAN, Linus;** The Businesses of Open Data and Open Source: Some Key Similarities and Differences, Technology Innovation Management Review, January 2014, p. 13; **MAXWELL, Elliot;** Open Standards, Open Source, and Open Innovation Harnessing the Benefits of Openness, Innovations: Technology, Governance, Globalization, Volume 1 Issue 3, Summer 2006 (p.119-176), p. 122-123

for many developers in the supply or development process while removing many barriers regarding code reuse and modification and also encourages the development of new skills of a technical and organizational nature, both locally and globally⁴²⁵. Besides, it is accepted that it has also technical benefits with regards to quality and reliability due to FOSS is produced in a peer community that often highly values clean design, reliability and maintainability. Having the source code and right to modify and distribute any adaptations means that FOSS is easier to adapt to person's specific technological, legal and organizational needs. On the other hand, FOSS users are free from *vendor lock-in*⁴²⁶ where proprietary vendors determine product evolution, priorities, time table, and prices, on top of standard licensing limitations of use⁴²⁷.

In addition to the direct legal benefits of FOSS licensing model such as right to copy, modify and distribute, a primary legal benefit of this model is that it generates a set of standard and simplified licensing terms and conditions which are transparent, accessible and easy to use and adapt. This model enables reuse of the component technologies, for creating more complex products⁴²⁸. Due to the fact that the licensing provisions are highly standardized, especially under the permissive FOSS licenses,

⁴²⁵ **MÄENPÄÄ, Hanna / MÄKINEN, Simo et al.** ; Organizing For Openness: Six Models For Developer Involvement In Hybrid OSS Projects, Journal of Internet Services and Applications, 9:17, 2018, p.1; **MAXWELL, Elliot**; p. 138-139

⁴²⁶ It refers to if the data is stored in closed format using proprietary software the information is going to only be available and retrievable with difficulty. See **ST. AMANT, Kirk**; Handbook of Research on Open Source Software: Technological, Economic, and Social Perspectives: Technological, Economic, and Social Perspectives, 2007, p. 459

⁴²⁷ See for the “vendor lock-in” term in detail: **ZHU, Kevin Xiaoguo / ZHOU, Zach Zhizhong**; Lock-In Strategy in Software Competition: Open-Source Software vs. Proprietary Software, Information Systems Research, Vol. 23, No. 2, June 2012, p. 536–545

⁴²⁸ Legal Aspects of Free and Open Source Software Workshop; p.61-63

contributes to simplify the legal framework required to integrate the components technologically and develop a new product. According to us, another legal benefit is the reducing the risk of infringement of intellectual property rights due to copying or using the software in a way because of the fact that there is no need to copy and use the software illegally as the “open source software” is available for anyone who desires to use it and generally free of charge or at very low cost.

Applicable law in Turkey does not offer special rules related to FOSS or similar alternative software license agreements⁴²⁹. However, legal development and new rules are essential to understand the legal meaning of novel and latest legal transactions and to protect the legal rights of the parties properly. Therefore, new software licensing projects regarding free and open software licenses which comply with Turkish legislation and globally used FOSS licenses can be designed to comply with global legal relations related to software technology.

Furthermore, there are existing potential problems due to the fact that most used free and open source licenses are generated according to US laws and terminology. For instance, the rights conferred by these licenses does not fit appropriately within European and Turkish legal categories of rights either. Thus, open source software licenses provisions can be construed by the courts in order to give sense to the articles of the related license by referring to usage or common practices in the related open source software field with in the frame of licensed rights, but that could be counter to the principle of strict interpretation of copyright provisions in law⁴³⁰.

⁴²⁹ **METZGER, A. (ed.); BAYAMLIOĞLU, Emre;** Chapter 23, p.447

⁴³⁰ See for the detailed information: **DUSOLLIER, Séverine / LAURENT, Philippe / SCHMITZ, Patrice-Emmanuel;** Report on Open Source Licensing of Software Developed by the European Commission (applied to the CIRCA solution), 16th December 2004, p.17. For instance, the American

C. PROPRIETARY RELICENSING

1. Dual Licensing

The copyright owner can sometimes provide the software under a proprietary license even if the terms of the GNU GPL stipulate that the code must be available under less restrictive terms. This is because of GPL's terms are something the copyright owner enforces on everyone else; the owner is therefore free to decide not to apply those terms to itself. Namely, one always has the right to not sue one's self for infringement related to copyright. This right is not bound to the GPL or any other free and open source licenses; this situation is stemming from of the nature of copyright law⁴³¹.

The open source code can be offered by a “proprietary relicensing” scheme, in which an open source version of the software is available under the classic open source terms, while a proprietary version is available for a fee. That is, software might be distributed under more than one software license at a time. This licensing model is called as “dual licensing” or sometimes referred as “multi-licensing” or “proprietary relicensing”⁴³². The justification beneath “dual licensing” is that if software is licensed under a strong “copyleft license” agreement in which a license that does not allow proprietary exploitation of the derivatives of the work – despite being free, its use would bear conditions that could be inadmissible to certain potential downstream developers of software. These developers of software, for example, may desire to take advantage of the

notion of “distribution” encompasses the diffusion of copies throughout the web, whereas the European distribution right concerns only the distribution of tangible copies of the software, such as CD, disks.

⁴³¹ **FOGEL, Karl**; Producing Open Source Software: How to Run a Successful Free Software Project, p.203-204 <https://producingoss.com/en/producingoss.pdf> (accessed 28.11.2019)

⁴³² **FOGEL, Karl**; p.203

“copylefted software” in their “derivative software” in a proprietary way. To be permitted to make that, the software developers need to be released from the “copyleft conditions”. Developers can be in a position to pay a monetary price for this benefit. This can be identified as “buying an exception to copyleft” because the licensor have to control the entire copyright of software in order to grant an exception⁴³³.

2. Open Core Model

The second variation of “proprietary relicensing” is titled as the “freemium” or “open core” model, uses an “open source” format to propel sales of a proprietary formats and it combines both FOSS and proprietary software⁴³⁴. “Open core” is a model where a developer creates a software that is typically available as “open source”, but then there are some closed source components around the “open source core”. “The core” means shared infrastructure with differentiation. The point of this model is can be explained as it is allegedly easier to trade closed source software than open source software⁴³⁵. But actually this model can be deemed as one of the “proprietary license” type rather than

⁴³³ Legal Aspects Of Free And Open Source Software Workshop; p.40 ; In terms of some open source projects they declared that they will not dual-license their software. For instance, the ASF declared that they will not dual-license their software because they claim that such licenses make it impossible to determine the conditions under which they have agreed to collaborate on a collective product, and are thus contrary to their idea of open, collaborative development among individuals, industry, and nonprofit organizations. See for more information of Apache License v2.0 and GPL Compatibility, <https://www.apache.org/licenses/GPL-compatibility.html> (accessed 28.11.2019)

⁴³⁴ **FOGEL, Karl**; p.203

⁴³⁵ See <https://openlife.cc/blogs/2010/june/open-core-not-open-source> (accessed 28.11.2019); According to OSI open core models are not accepted as related with open source software. <https://opensource.org/blog/OpenCore> (accessed 28.11.2019). See for more information: Legal Aspects Of Free And Open Source Software Workshop; p.41

“open source” according to our opinion. Because of the fact that developers create an infrastructure with open source software and then by means of add-ons on the core they license the part of proprietary software commercially and the underlying approach is actually not open source software licensing but closed source software.

CHAPTER 4
CONDITION OF THE PARTIES, EXPIRY OF THE SOFTWARE LICENSE
AGREEMENT

I. OBLIGATIONS ARISING FROM THE SOFTWARE LICENSE AGREEMENT

In order to be provided adequate and precise copyright law protection in the software, it is crucial that the obligations and liabilities between the licensor and licensee should have been properly defined. It has been stated that the software license agreements are *sui generis* and untitled agreements according to the Turkish legislation. Therefore, with respect to the needs of the parties, it is possible to form a software agreement within the legal boundaries. So that, the provisions of the software agreement vary, however, there are still some general obligations of the parties so as to enter into a software license contract based on its specific characteristics. There are practically used and accepted provisions of the licensing agreements to allow contracting parties to predict the protection of software by copyright.

Reducing the legal liability risk is the main purpose of the licensor in software license agreements. Contrarily, a licensee aims to widely enjoy the licensed software free of any apprehension about liability arising from its operation and generally wants to be ensured that their license agreement makes the licensor accountable for the most likely risks of legal responsibility stemming from the exercise of licensed rights of user⁴³⁶.

⁴³⁶ BOND, Robert T. J.; p.65

A. OBLIGATIONS OF THE LICENSOR

Answers to what will the licensor provide, when, how, and for how long are key terms that should always be found in a software license agreement. The lack of clarity of full information on this topic simply sets the stage of the legal transactions for confusion, disputes, and possibly litigation. All goods, services and, rights provided by the software license agreement should be identified in detail, and specified in the quantity or, for the duration and characteristics of the software agreed upon should be considered while determining the provisions of the license agreement of software⁴³⁷.

1. Allowing Licensee to Take Advantage from the Software License

Licensor should allow the licensee to take advantage from the software according to the agreement properly and should not breach the aim of the software license agreement⁴³⁸. The core obligation of software licensor is to provide digital materials in usable form to the licensee. This can be possible in terms of software by a physical medium or making available the software on the internet as well. The licensor should ensure the licensee that the copy of the software works properly. Besides, there can be terms to provide documentation, training, and technical support for using the software according to this obligation. According to the Article 38 of the No.5846 law regarding benefiting from software in terms of license, it is expressly stated that if there is no provision on the license agreement, the “reproduction” and “adaptation” of a software by licensee is allowed where compulsory for the use of the software convenient with its

⁴³⁷ BOND, Robert T. J.; p.236

⁴³⁸ AYDINCIK, Şirin; p.147-156

planned objective including for the “error correction” and the “loading, running” of a software by the licensee cannot be prevented by the license agreement.

2. Ensuring Licensee with regards to the Software’s Quality and Functionality and Enhancements

The other obligation of the licensor is to ensure the licensee with regards to the quality, performance and quantity of licensed software. The software should perform and be used within the specifications indicated by the agreement.

Most of the software problems -so called bugs- are permanently fixed with some form of replacement code of software⁴³⁹. Therefore, the another obligation of the licensor is to provide maintenance and support help for software, and it is crucial in terms of software license agreements due to complexity and digital characteristic of the software. Maintenance refers to fixing software to correct bugs and errors and support means that providing advice on using the functions and features of the software. Support and maintenance help insure that the licensee to benefit from the software properly⁴⁴⁰.

It is prevalent that the licensor sometimes releases the improved versions of software, for example; versions with greater ease of use, faster operation, more functionality, applicability to new hardware or operating systems etc. Releasing improved versions of licensed software can be in two distinct forms: “updates” and “upgrades”. In software license agreements often these two forms are separately indicated. “Update” refers to any versions or release of a software which remedies or corrects an error in a software or provides small optimizations to it. “Upgrade” refers to any versions or release

⁴³⁹ GORDON, Jeffrey I.; p. 121

⁴⁴⁰ LANDY, Gene K.; p.198-199

of a software which adds functionality other than small optimizations or capabilities or otherwise enhances prominently the software. Support and maintenance help always comprise updates. However, upgrade is a matter of licensor's choice or negotiation between the parties of the software license agreement⁴⁴¹.

Consequently, with respect to software license agreement one of the important obligations is providing maintenance and support help due to the fact that the licensor should provide the licensee to benefit from the software properly according to law. However, these performances should be considered within the meaning of the freedom of the contract and it is not mandatory in terms of licensor to provide licensee with regards to the enhancements if otherwise has not been decided in the contract.

3. Pursuing Infringements of Intellectual Rights

In the event of breach of economic rights granted to licensee by third parties, some of the scholars who accepted the license agreement as a dispositive transaction as in the case of assignment of claim, it is accepted that the licensee can propel the license rights which deemed as an absolute right against third parties⁴⁴². According to the dispositive transaction approach, the owner of the work or licensor can sue the infringers subject to the infringed interest of him or her. However, some scholars state that this approach cannot be applied to the non-exclusive licenses and licensee of the non-exclusive license agreement cannot bring an action against the rights related to license⁴⁴³. Licensor's

⁴⁴¹ LANDY, Gene K.; p.334

⁴⁴² TEKİNALP, Ünal; p.217; EREL, Şafak N.; p.306-307; ARSLANLI, Halil; p.175; GÖKYAYLA, Emre; p.51; AYDINCIK, Şirin; p.84; YAVUZ, Levent / ALICA, Türkay / MERDİVAN, Fethi; p. 1503-1504

⁴⁴³ AYDINCIK, Şirin; p. 158

obligation is to initiate the legal proceedings against the infringer third party for the infringement of licensed economic rights. In order to clarify the obligations in case of possible infringement situations, there must be a specific provision in the agreement for the licensee to right to sue the infringer or to enter into an agreement which regulates the licensee's authorization regarding to take action against these kinds of situations. According to the obligatory transaction approach which has been accepted according to our study, due to there is no conveyance of the economic right of the licensor, the licensee cannot claim the rights against every person. Therefore, the licensor must prevent the license from infringements of the third parties. Licensee cannot claim this right before the court and cannot litigate because he or she does not have the *locus standi*. In terms of obligatory transaction approach, there is no difference between the "exclusive" or "non-exclusive" license agreements and both license types are restricted with regards to the right to sue of the licensee unless otherwise agreed by the agreement⁴⁴⁴. Consequently according to view that we agreed, licensee's right to sue is restricted by default and in this case, licensee may request the licensor to take action to stop any third parties due to infringement of economic right granted by the agreement⁴⁴⁵.

4. Warranting the Existence of the Software and Authority to License

Warranties such as including that the software does not infringe third parties' intellectual property rights and economic rights given by the license is legally valid may be included in a software license agreement⁴⁴⁶. So that, one of the other obligations of the licensor is to warrant that the existence of the right of contract's subject and authority to

⁴⁴⁴ ARBEK, Ömer; p.181-182; AYİTER, Nuşin; p. 213; TÜYSÜZ, Mustafa; p.117

⁴⁴⁵ WINN, Jane K. / WRIGHT, Benjamin; p. 13-16

⁴⁴⁶ WINN, Jane K. / WRIGHT, Benjamin; p. 13-16

license is belongs to himself or herself according to No.5846 Law (Art. 53 and 54). Otherwise, if a person who lack of authority to license grants an economic right by means of software license agreement, *“this person shall be liable to pay compensation for the damages arising from the invalidity of the disposal if he or she cannot prove that the licensee was aware or should have been aware that the person had no authority”* (Art. 54/2)⁴⁴⁷. Especially in terms of proprietary software license agreement, the licensor warrants the existence and validity of the licensed software legally. The licensor should indemnify the licensee’s loss due to the warranty obligation, if the right of subject of license has not occurred within the property of the licensor or, has occurred but the copyright protection term has expired or, terminated due to waiver of this right or, the right has been transferred to a third party in advance of this license or, an “exclusive software license” has been made within the same scope by a third party⁴⁴⁸. However, this process is only possible if the software license has been granted via onerous contract. In case of existence of gratuitous contract, it should be accept that the licensor does not guarantee the existence of the licensed right and validity against the licensee according to the reference of Article 53/1 of the No.5846 Law to Article 191/2 of the TLO⁴⁴⁹. Besides the parties can eliminate this warranty obligation of the licensor by means of adding a provision to the software license agreement⁴⁵⁰.

⁴⁴⁷ **AYDINCIK, Şirin;** p. 160

⁴⁴⁸ **EREL, Şafak N.;** p.272; **ARSLANLI, Halil;** p.182; **BEŞİROĞLU, Akın;** Düşünce Üzerindeki Haklar, İstanbul, 2006, p.548

⁴⁴⁹ See for the views regarding in case of the assignment of rights by means of a gratuitous agreement it has not been accepted the to provide guarantee of validity of the related right: **TEKİNALP, Ünal;** p. 218; **AYDINCIK, Şirin;** p. 162. Therefore, this can be applied in the case of gratuitous license agreements as well within the scope of Article 191/2 of the TLO with reference of Article 53/1 of the No.5846 Law by analogy.

⁴⁵⁰ **EREL, Şafak N.;** p.272; **ARSLANLI, Halil;** p.182

Furthermore, FOSS agreements have joint disclaimer provision which excludes all warranties as it is stated before. Therefore, if a free and open source agreement is a gratuitous contract this disclaimer provision can be accepted as valid in Turkish law. However, if a proprietary software license agreement is in question, the licensor have to undertake warranty obligation because of the fact that this license agreement is an onerous contract on the contrary of a gratuitous license agreement.

The warranty obligation of the licensor is only for the existence of the right arising from the license. Obligation of warranty does not have to be scrutinized if the software license agreement is invalid due to another reason. For instance, even if the agreement is an onerous contract, if it is contrary to the law or morality or personal rights (TLO Art. 27), or it is invalid due to the lack of transaction competence, or it is nullified due to the defective will (TLO Art. 39), the Article 53 of the No.5846 Law shall not be applied. Hence, in such a case the warranty obligation is out of question⁴⁵¹.

Whether the license right is included in the licensor's property shall be determined according to the date of the software license agreement⁴⁵². So as to determine the licensor as responsible, the licensee should prove non-existence of the right granted by virtue of license agreement, or the right is not within the agreed scope of the agreement⁴⁵³. However, in order to regard the licensor as responsible, it is not subject to being in the condition of faultiness⁴⁵⁴.

Another side of the warranty obligation of the licensor is to guaranty of having the authority to grant the license in terms of the related work. To acquire the license properly,

⁴⁵¹ **AYDINCIK, Şirin;** p. 162

⁴⁵² **ARSLANLI, Halil;** p.182

⁴⁵³ **EREL, Şafak N.;** p.273; **ARSLANLI, Halil;** p.183

⁴⁵⁴ **ARSLANLI, Halil;** p.183

the licensor must be the owner of the work or the heir of the owner of the work or, to be authorized representative of these persons. If there is an exclusive license and the legal acquirer wants to grant his or her right, legal acquirer needs to obtain the consent of the owner of the work or, the heirs of the owner of the work accordingly Article 49 of the No.5846 law⁴⁵⁵. If the person who has granted the license has not had the authority for the act of disposal or the necessary consents this acquisition shall not be valid, and the license right will not be gained even though the grantee has acted in *bona fides* (Art. 54 /1)⁴⁵⁶. Lack of authority situation can be come into existence when the right pertaining to the license has been partly or completely transferred to another person before. In this case, the latest granted non-exclusive or exclusive license can be either completely invalid or can be the subject to the license to the extent permitted according to the licensor's property. Accordingly, the licensor should be considered liable in terms of the Article 53 of No.5846 law, not the Article 54. In the case of there is established an exclusive license on the economic right before, the subsequent license agreement that is made on the same right this second license agreement shall only be valid if it is not contradict with the first license agreement's scope. That is, the second license agreement shall be invalid provided that the both contents of the license agreements are identical⁴⁵⁷.

The scope of the warranty obligation of the licensor is regulated in the No.5846 Law in line with the Article 47 of the Turkish Law of Obligation which regards to agency

⁴⁵⁵ AYDINCIK, Şirin; p. 163

⁴⁵⁶ See AYDINCIK, Şirin; p. 163. This stated term of good faith is within the scope of the Article 3rd of the Turkish Civil Law and accordingly this is a subjective good faith and it has the meaning of that the licensee should not know the licensor has not had the authority for the disposal and even if the licensee should have been attentive properly, he/she could not have known the lack of authority. The No.5846 Law does not protect the licensee's good faith in such case.

⁴⁵⁷ AYDINCIK, Şirin; p. 164

without authority. The person who grants a software license shall be liable to compensate the loss which has taken place due to the invalidity of the legal transaction. However, the compensation liability does not take place if it could be proven that the person who had acquired the rights has acted in bad faith that is, he or she has known or should have known that the licensor who made the act of disposal has no authority to make this transaction. The damage that should be indemnified is the reliance damage incurred due to the invalidity⁴⁵⁸. However, if the person who has granted the related economic rights has acted faulty and the equity principle requires the judge can adjudicate broader compensation⁴⁵⁹. Besides, the No.5846 law has reserved the right to demand which takes place due to tort or unjust enrichment in case of the disposal transaction without a right or authority (Art. 53/2 and 54/3). Liability for tort can be possible if there is a misconduct of the licensor and the person who has acquired the economic right via license, or the owner of the software or his or her heirs must suffer a loss (Article 49 and related subsequent articles of TLO). Moreover, if the acquirer has enjoyed the right or license despite the acquirer has known the transaction is invalid and if there are other necessary elements of tort this shall be a tort as well⁴⁶⁰. If the disposal transaction should be regarded as invalid in a case the parties should be return the performed acts within the frame of the unjust enrichment provisions of the Article 77 and related subsequent articles of TLO⁴⁶¹.

⁴⁵⁸ AYDINCIK, Şirin; p. 165, ARSLANLI, Halil; p.181; GÖKYAYLA, Emre; p.49

⁴⁵⁹EREL, Şafak N.; p.274; GÖKYAYLA, Emre; p.49. EREL and GÖKYAYLA has addressed the broader compensation as compensation of positive damage.

⁴⁶⁰ EREL, Şafak N.; p.274; AYİTER, Kudret; Medeni Hukukta Tasarruf Muameleleri, Ankara, 1953, p.210

⁴⁶¹ ARSLANLI, Halil; p.183; EREL, Şafak N.; p.274

B. OBLIGATIONS OF THE LICENSEE

1. Using Software in accordance with the Agreement

The main obligation of the licensee under a software license agreement is to use the software subject to the terms contained in the agreement. Because the licensor may limit the type or quantity of computers on which the licensee can run the licensed software or the data that the licensee may exploit the software to process⁴⁶². The licensee should conform to the rules of the agreement which usually includes place, duration and content limitations. If the licensee breaches these rules, he or she infringes the economic rights of the owner of the software, and in the case of other infringements except duration, place and content, the licensee only causes breach of the contract. The No. 5846 law refers to the exceeding the license agreement's provisions as infringement of economic rights (Art.68/1)⁴⁶³. However, other infringements of provisions with regards to type of enjoyment of the economic rights, and procedure such as infringement of the liability regarding the payment of the license fee can be considered as breach of the contract⁴⁶⁴. Hence, it should be determined according to the case by case whether there has been an infringement of a right arising from the software agreement or at the same time whether there has been an infringement on the intellectual right pertaining to the work of software separately. Owner of the work of the software who grants the license can claim his or her intellectual rights in the event that the licensee infringes both contract and the absolute right of the owner of the work with the same act. In such a case, the licensor has the right

⁴⁶² WINN, Jane K. / WRIGHT, Benjamin; p. 13-13

⁴⁶³ AYDINCIK, Şirin; p. 182-183.

⁴⁶⁴ For instance, in the case of not paying the license fee the TLO's provisions regarding defaulted receivables shall be applied. See AYDINCIK, Şirin; p. 183 and footnote 811.

of competing requests so that licensor can rely on his or her right on the work or, the contract or, can rely on both of them at his or her will ⁴⁶⁵. Besides, if the liabilities pertaining to the enjoyment of the software license has been only infringed on the contractual basis the sanctions with regards to non-performance of the contract or generally the positive infringement of the contract shall be applied (Article 80 and subsequent related articles of the TLO)⁴⁶⁶.

2. Paying License Fee

The licensee is generally under the obligation of the paying consideration for the software license. This consideration can be also named as *royalty* in copyright law or *license fee*⁴⁶⁷. However, consideration provisions cannot be deemed as a mandatory for all software license agreements due to the fact that it has been mentioned before there are FOSS license agreements which grant the economic rights generally without any payment or with very small amount of consideration. Because it has been expressly stated in the Article 48 that the economic rights can be granted without consideration via license as well.

There is not any consideration provision related to the “software license agreements” specifically according to Turkish legislation and parties of the software agreement can decide the consideration according to their will without prejudice to the undue influence rule of Turkish Law of Obligations⁴⁶⁸. Therefore, a software license

⁴⁶⁵ AYDINCIK, Şirin; p. 183 and footnote 812.

⁴⁶⁶ AYDINCIK, Şirin; p. 183

⁴⁶⁷ WIPO, Licensing of Intellectual Property Rights; a Vital Component of the Business Strategy of Your SME, http://www.wipo.int/sme/en/ip_business/licensing/licensing.htm (accessed 28.11.2019)

⁴⁶⁸ AYDINCIK, Şirin; p. 168

agreement can be concluded as onerous contract or gratuitous contract according to the parties' needs and purposes. Moreover, the royalty of the software license agreement can be decided according to the granted rights, amount of the licensed software, scope of the license and the duration of the contract and the rule of freedom of contract shall prevail⁴⁶⁹.

Unless the license payment is decided to be paid in a specific time in the software license agreement, it will be paid according to the Article 90 of TLO which states that in this case the payment shall be made at the time of the conclusion of the contract. The conclusion of software license agreement is not subject to the condition of delivery and delivery is not compulsory for the payment of the licensee fee as well⁴⁷⁰.

3. Complying with the Provisions of the License and Usage Restrictions

Another obligation of the licensee is the licensee should not damage the owner of the software license while taking advantage of the software. This obligation is arising from the license right's characteristic and moral rights of owner of the work which cannot be waived by the owner. Accordingly, licensee should conform to the both economic and moral rights of the owner of the work⁴⁷¹.

With respect to moral rights, licensee should state the name or nickname generally used in the technology field or other indications conveyed to licensee by the owner of the work, and licensee cannot change these names or indications⁴⁷². It is called as prohibition of modification and the licensee cannot modify the software or the name of its author

⁴⁶⁹ AYDINCIK, Şirin; p. 166

⁴⁷⁰ GÖKYAYLA, Emre; p. 223-224

⁴⁷¹ AYDINCIK, Şirin; p. 183; ARBEK, Ömer; p.186-187

⁴⁷² BEŞİROĞLU, Akın; p.549-550

without the owner's consent (Art. 16/1)⁴⁷³. It is also stated in the law that *"the licensee who can adapt, disclose to the public, reproduces, publishes, performs or distributes the software in any manner under the permission of the law or the author accordingly to the software license agreement can make modifications upon the software which are deemed indispensable due to the technique of adaptation, reproduction, performance or publication, without special permission of the owner of the work"* (Art. 16/2). However, the author of the software may prohibit modifications which prejudice her honor and reputation or damage the nature and characteristic of the work even if she has given written and unconditional permission. In this case, if the power of prohibition of the licensor has been waived in the software license agreement, this waiver clause will be "null and void". (Art. 16/3)⁴⁷⁴.

4. Confidentiality

Most of the software license agreements include confidentiality clauses typically to keep the licensor's trade secrets which are not protected by intellectual law. So that, this can be significant to protect and keep secret the functionality of the software which is especially specialized software for niche markets and not in broad circulation⁴⁷⁵. In the digitalized world access of the data pertaining to use and functionality of a software has a great importance and licensee generally⁴⁷⁶ agrees upon not to reveal any of the content

⁴⁷³ GÖKYAYLA, Emre; p. 267; DALYAN, Şener, p.257

⁴⁷⁴ DALYAN, Şener, p.258

⁴⁷⁵ LANDY, Gene K.; p. 335

⁴⁷⁶ It is generally because according to the FOSS license agreements the main object is to be permitted to access the "source code" of the software and therefore confidentiality clause cannot be used in FOSS license agreements in this way as it was mentioned before.

of the proprietary software. The purpose of such provision is to make difficult for the competitors to gain access to licensor's software and learn how it functions in detail⁴⁷⁷.

II. TERMINATION OF THE SOFTWARE LICENSE AGREEMENT

A. GROUNDS FOR THE TERMINATION OF SOFTWARE LICENSE AGREEMENT

1. Expiration

Software license agreements are generally concluded for a specific period of time or to bring about specific purpose because the licensor typically desire to control over how the intellectual rights given by software license can be exploited by licensee. In this case, with respect to the No.5846 law "*the license that is granted for the specific purpose or for a certain period of time shall terminate when the purpose ceases to exist, or the period expires.*" (Art. 59/2). According to the doctrine, in order to apply this rule, it is not sought and not mandatory that a specific purpose or period which are not included in the software license agreement explicitly⁴⁷⁸. In such a case, the software license agreement shall expire when the purpose is achieved or, the period of time ends provided that it can be deduced from the contract that the parties of the agreement has decided certain period of time or purpose implicitly⁴⁷⁹.

⁴⁷⁷ LANDY, Gene K.; p. 336

⁴⁷⁸ ARSLANLI, Halil; p. 189; AYDINCIK, Şirin; p.185; EREL, Şafak N.; p. 275

⁴⁷⁹ AYDINCIK, Şirin; p.185; ÖZEL, Çağlar; p.194

The standard and intended way of termination of the software agreement takes place by virtue of duly performance and fulfilment of its purposes precisely just as the same as the other contractual obligations⁴⁸⁰.

The parties of the software license agreement may decide according to their mutual decision within the boundaries of the protection time attained by the No. 5846 law⁴⁸¹. Software license contracted for a certain aim or a certain period of time will terminate after the period expires or related aim is fulfilled, and the economic rights granted by means of license shall revert to its author (Art. 59). Furthermore, if the license period is granted for an indefinite time the software license right shall enure after the protection period of which the law set forth⁴⁸².

2. Death or Bankruptcy of Licensee

It has been mentioned before that if the licensee has transferred the economic rights for a specific aim or for a certain time, these rights will revert to licensee after the related aim ceases to exist or the time expires according to law. However, this provision of law will not be carried on in the case of bankruptcy or death of the of an economic right's owner according to the same provision of the law. Therefore, as a rule, the death of the licensee or bankruptcy will not end the software license agreement automatically⁴⁸³. But, in some situations which the use of the license right directly subjects to licensee's own personality the agreement shall terminate if the licensee dies⁴⁸⁴. This case especially take

⁴⁸⁰ **AYDINCIK, Şirin;** p.186

⁴⁸¹ See **GÖKYAYLA, Emre;** p.300

⁴⁸² **EREL, Şafak N.;** p. 260; **GÖKYAYLA, Emre;** p.307

⁴⁸³ **AYDINCIK, Şirin;** p.190

⁴⁸⁴ **EREN, Fikret;** Özel, p. 1007

place when the license of the right of adaptation in question. However, “right of reproduction” and “right of distribution” may not require individual ability and skill in some cases. Hence, the death or bankruptcy of licensee may not terminate the contract if the reproduction or distribution rights in question⁴⁸⁵. Another issue is, heirs of the author of the software shall be bound by the software license agreement if the author dies before transfer of the software⁴⁸⁶. Because, in case of death of the author of the software, all copyrights shall be included in estate legally and heirs shall be under the obligation to deliver the work to the licensee⁴⁸⁷.

3. Impossibility of Performance

Impossibility of performance which terminate the obligation is that the after the occurrence of the obligation the performance becomes impossible to achieve. This impossibility can take place due to natural event or act of a person. Besides, impossibility also can take place due to an economic or a legal reason. So that, another reason that terminate the software license agreement is impossibility of performance⁴⁸⁸. The software license agreement shall expire, if the performances of one of parties become impossible due to faultless performance impossibility according to the TLO Article 136. Performance impossibility may occur due to various reasons. This issue generally take place if a work of art vanishes because, these are generally created as unique⁴⁸⁹. But generally, software can be stored in various devices and can be multiplied easily so that, vanishing of it does

⁴⁸⁵ AYİTER, Nuşin; p.222; EREL, Şafak N.; p.276

⁴⁸⁶ GÖKYAYLA, Emre; p.255

⁴⁸⁷ AYDINCIK, Şirin; p.191 and footnote 848.

⁴⁸⁸ OĞUZMAN, Kemal / ÖZ, Turgut; p.555; EREN, Fikret; Genel, p.1328-1329

⁴⁸⁹ GÖKYAYLA, Emre; p.301

not affect to termination of the contract due to impossibility of performance according to our opinion.

4. Exercise of the Right of Rescission

In terms of software, the main reason for the granting an economic right or licensing it to third parties is that the author of the work has no opportunity to utilize from the work economically with his or her own potential most of the time. For example, software developer may not have to opportunity for the mass distribution of software globally. The owner of the software who grants license may desire to be put into practice the agreement of software license with in the decided period of time or, in a reasonable time. Especially, if the royalty is determined depending on the sale rate, the non-production, non-distribution of the work may damage the author's interests. In order to avoid this kind of situations and to protect the author, Article 58 of the No. 5846 law set forth a specific rule. According to this rule, *"if the acquirer of an economic right or a licensee exercises his or her rights and authorities insufficiently within the agreed period of time or, where no period has been determined, within a reasonable period of time and if thereby the author's interests are significantly violated, the author of the work may rescind the agreement"*. This provision implies a specific infringement type with regards to rescission. This specific infringement type is that an economic rights' owner or a licensee does not utilize from this acquired right, or license appropriately, and therefore this is accepted as an infringement of the interests of the author⁴⁹⁰. The recession provision shall only be applied if there is an infringement within the scope of the Article 58. In case of the other infringements and default of the debtor the general provisions of TLO shall be

⁴⁹⁰ AYDINCIK, Şirin; p.193; TEKİNALP, Ünal; p.221

applied. That is, the recession provision of the No. 5846 Law does not bypass the TLO's provisions regarding termination and withdrawal of the agreement⁴⁹¹.

There are three conditions stipulated in order to apply the Article 58 according to its provisions. First of all, the acquirer of the right or license should not have used this right or license that is, he or she should not have copied and distribute the work. Secondly, the period which the parties of the agreement have decided, or the reasonable time should have been passed. Lastly, because of these facts the interest of the author should have been infringed substantially. This interest has not been identified in detail in the law. According to the doctrine, it is accepted that this interest comprises both economic and moral interests⁴⁹². In order to take advantage of the rescission provision of law fault of the party is not required. If there is fault, the author may rely on the TLO's Article 49 and following provisions so as to claim compensation as well. On the other hand, if the author is faulty, he or she cannot claim the rescission right against licensee⁴⁹³.

Besides, the author who desires to exercise the rescission right must grant the other party by means of notifying him or her via notary "*reasonable period of time adequate to sufficiently exercise the rights in the agreement*" according to the Article 53/2 of law. However, there are three exceptions which does not require the obligation of granting this period of time to other party. However, the grant of such a period shall not be compulsory, if there is no possibility for the other party to exercise such right or if she rejects to exercise it or if the grant of such period of time would meaningfully endanger the interests

⁴⁹¹ TEKİNALP, Ünal; p.221

⁴⁹² ARSLANLI, Halil; p.194; TÜYSÜZ, Mustafa; p.128; EREL, Şafak N.; p. 256; GÖKYAYLA, Emre; p.304; ÖZTAN, Fırat; p.585; BAK, Başak; Fikri Haklarda Sözleşmeden Cayma, Ankara 2016, p.156

⁴⁹³ TEKİNALP, Ünal; p.221-222; EREL, Şafak N.; p.256; GÖKYAYLA, Emre; p.306; SEROZAN, Rona; p.148

of the author. Additionally, “*If the expiration date for the granted period exceeds inconclusively or, if it is not necessary to grand such a period, the notice issued by the notary shall give effect to the rescission of the agreement*” (Art. 58/3). Moreover, in order to use the right of rescission of the agreement, the notification of rescission must be sent.

Lastly, it is regulated that the parties cannot waive from the right of rescission “*in advance and limitations precluding its exercise for more than two years shall be deemed null and void*” (Art. 58/5)⁴⁹⁴. After the enjoyment of the right of the rescission the rights depending on the work returns to the author⁴⁹⁵.

5. Termination of the License Agreement Unilaterally

In terms of software license agreements there are no provision regarding the unilateral termination of it except the right of rescission provision with regards to the license agreements. According to the doctrine, this situation has been addressed in two different perspective as withdrawal of the contract and termination of the contract and it has been mentioned before, it is accepted that the rescission rule does not bypass the rules of TLO with regards to the termination or withdrawal of contract⁴⁹⁶.

In order to cease a contract by one of the parties, there should be a reason which may rely on a law or an agreement. First of all, the parties of a software license agreement might have accepted by their mutual consent with regards to the reasons for *ordinary* or *extraordinary termination* or *withdrawal* of the agreement. The licensee and the licensor

⁴⁹⁴ TEKİNALP, Ünal; p.222; AYDINCIK, Şirin; 194-195

⁴⁹⁵ ARSLANLI, Halil; p.194

⁴⁹⁶ AYDINCIK, Şirin; p. 196; TEKİNALP, Ünal; p.222; See for the detailed information with regards to the difference between the withdrawal and termination concepts OĞUZMAN, Kemal / ÖZ, Turgut; p. 439-440; EREN, Fikret; Genel; p.1289-1290; SEROZAN, Rona; p.121-122

are free to add, regulate, alter or eliminate the unilateral termination or withdrawal clauses of their agreement which are included in the law⁴⁹⁷.

Termination of the contract refers to cease of the continuous obligation relation by one of the parties of the agreement prospectively by means of a unilateral declaration of intention which must be directed to the other party⁴⁹⁸. As it is stated in previous subjects, the software license agreements generate continuous obligation relation. Hence, the rules regarding termination of the contract of TLO shall be applied in this case as well.

The TLO provides the opportunity to each party to come out of the agreement if the parties have not been decided the due date of the period of the performances within the scope of rules regarding the continuous obligation relations. This right which is granted to each of the parties is named as *ordinary termination* according to the doctrine. So that, the ordinary termination right prevents legal relations to last forever if there are no decided due time in the agreements.⁴⁹⁹ In case of the claiming the right of ordinary termination the agreement shall be abrogated after a period of time exceeds⁵⁰⁰. If such a case occurs in software license agreement, it can be claimed that the usufructuary lease

⁴⁹⁷ **AYDINCIK, Şirin;** p.197

⁴⁹⁸ **OĞUZMAN, Kemal / ÖZ, Turgut;** p. 439-440; **EREN, Fikret;** Genel; p.1289; **SELİÇİ, Özer;** Borçlar Kanununa Göre Sözleşmeden Doğan Sürekli Borç İlişkilerinin Sona Ermesi, İstanbul, 1977, p. 132; **SEROZAN, Rona;** p. 121

⁴⁹⁹ **SELİÇİ, Özer;** p. 111-112. See for the approach with regards to the application of usufructuary lease rules of the TLO by analogy to the license agreement if there is no clause about a certain time period with regards to the license and additionally it cannot be deduced from the granting purpose: **HIRSH, Ernst.;** Fikri Say, p.222 and **AYDINCIK, Şirin;** p.198. On the contrary of this approach, there is another approach that the rules of usufructuary lease of TLO (Article 368) are not appropriate to apply by analogy upon the license agreement due to the fact that the license agreement is only can be concluded as subject to a certain period of time no matter it is exclusive or non-exclusive license. See **BEŞİROĞLU, Akın;** p.478

⁵⁰⁰ **SEROZAN, Rona;** p. 121

rules shall be applied and in this case the software license agreement can be terminated after the minimum notification term of six months (Art. 368/1 of TLO)⁵⁰¹.

On the other hand, there is *extraordinary termination* way besides ordinary termination. In some cases, after entering into an agreement, certain difficulties can arise which hamper the ordinary performance progress of the software license agreement. Therefore, in such a case the parties may want to terminate the agreement unilaterally regardless of they have decided a definite or indefinite period for the contract⁵⁰². The software license agreement shall be terminated at the time of delivery of the declaration of termination and the agreement is terminated because of the rightful (significant) reasons⁵⁰³. If a party cannot continue to the software license agreement due to significant reasons which become unbearable for that party, he or she can terminate the license agreement before the agreement term expires even if it includes a certain period within the scope of rule of extraordinary termination of usufructuary lease (Art. 369)⁵⁰⁴.

The termination shall be prospectively effective no matter it is ordinary or extraordinary⁵⁰⁵.

Besides, it is technologically feasible for a software to create mechanism that can permit a licensor to remotely disable software. This opportunity is called as “self-help”. In terms of termination ways, it can be considered to deactivate or disable the software

⁵⁰¹ See for the No.5846 Law provision of right of rescission (Art. 58) shall not be applied for the indefinite license agreements AYDINCIK, Şirin; p.198 footnote 883.

⁵⁰² SELİÇİ, Özer; p. 112

⁵⁰³ SEROZAN, Rona; p. 122; EREN, Fikret; Genel, p.1290. To restrict the parties to terminate the agreement by relying on the extraordinary termination within the scope of Article 2 of the TLO which regulates the prohibition of abuse of rights See SELİÇİ, Özer; p.148.

⁵⁰⁴ HIRSH, Ernst; p.223

⁵⁰⁵ EREN, Fikret; Genel, p.1290; OĞUZMAN, Kemal / ÖZ, Turgut; p.439

usage remotely to reserve the copyright by the licensor if the licensee breaches or do not perform his or her obligations according to the software license agreement. Because the licensor has the right to possession of all copies of licensed information or to preclude the ongoing use of the software by licensee⁵⁰⁶. However, this opportunity arising from the software's technological structure should comply with the Article 2 of the TCL which regulates the prohibition of abuse of rights.

Withdrawal has not been regulated specifically for the license agreements but according to the doctrine it is abrogation of the contractual relation retroactively⁵⁰⁷ by means of a unilateral intention of declaration which must be delivered to the other party⁵⁰⁸. By virtue of the withdrawal, the relation of obligation shall be abolished from the beginning and this relation is deemed as it has not been entered into⁵⁰⁹. However, according to the doctrine it is stated that if there is a continuous obligation relation the performance of the obligation of restitution is quite difficult. Therefore, it is accepted in terms of the contract which include continuous obligation relation it shall terminate prospectively⁵¹⁰.

In terms of FOSS agreements, the widespread one that the “GPLv3” deals with the termination-procedure more extensively. Section 8 of the GPL version 3 states that *“any propagation (defined in section 0 GPLv3) or modification in violation of the*

⁵⁰⁶ WINN, Jane K. / WRIGHT, Benjamin; p. 13-29 and 13-30

⁵⁰⁷ There are other contrary views about the retroactively effect according to the doctrine that it is stated in some cases the effect may be prospectively. See: EREN, Fikret; Genel, p.1291 and OĞUZMAN, Kemal / ÖZ, Turgut; p.443

⁵⁰⁸ SELİÇİ, Özer; p.208; EREN, Fikret; Genel, p.1290; SEROZAN, Rona; p. 62; OĞUZMAN, Kemal / ÖZ, Turgut; p.436

⁵⁰⁹ SELİÇİ, Özer; p.208

⁵¹⁰ SELİÇİ, Özer; p.225; OĞUZMAN, Kemal / ÖZ, Turgut; p.441

conditions will lead to an automatic loss of license". Additionally, Section 8 of the GPL version 3 permits the copyright owner to end the license even after the infringement has been ceased⁵¹¹. This is the termination arising from the rightful and significant reason in terms of the licensor and the extraordinary termination rules shall be applied according to us.

⁵¹¹ **PEETERS, Joris**; General Public License in Court,

<https://www.law.kuleuven.be/apps/jura/public/art/44n4/peeters.pdf> p.645 (accessed 28.11.2019)

CONCLUSION

Due to complex interactions of software licensing and intellectual property, legal tools related to this matter have been split in four different sections, which are copyright, patent, unfair competition, and trade secret. These legal tools can be assessed to provide protection of rights arising from software. Despite the fact that it is clearly indicated that software shall be protected under the copyright terms as literary work in law, ideas and principles of which any element of a software is based, including those of which its interfaces are based, are not deemed works and shall not be protected by copyright. Hence, in terms of non-protected elements of software, other legal protection tools such as trade secret and unfair competition rules can be evaluated as well. Besides, patent protection regarding software takes place in some situations due to software's technical characteristics provided that it can be assessed as in a software-implemented invention. But patent protection is not possible when the protection is just sought for the software itself according to law. Because software itself alone cannot meet the patentability requirement as an invention according to express regulation in law.

As another subject, the principle of exhaustion regarding software license agreements has been studied. When the copyright law applies to tangible copies of literary works, the purchaser of that copy takes advantage of particular rights under principle of exhaustion. These rights comprise the authority to use and resell the tangible copy without any restriction the copyright owner might desire to place on it. The principle of exhaustion does not properly fit for software though. Software's digital structure and as a subject of software licenses the doctrine has different view in terms of application of this rule if a software is put into commercial use by means of internet. According to majority opinion, the right to transmit the work to public by electronic means should be applied rather than distribution right of doctrine, if a software is obtained by virtue of downloading from

internet. Besides in practice in terms of software license it is mentioned that with regards to application of this principle, it is not important whether it is licensed or sold, and the minority opinion claims that, for a software downloaded over the internet, the first sale rule should be applied directly or by analogy under certain conditions. This application of rule is significant because it legalizes the trading of second hand software licenses with respect to exhaustion of distribution right without infringing the copyright owner's rights.

Owing to the fact that software is accepted as an intellectual asset, software can be a subject of legal transactions. One of the most prevalent and significant transactions related to software is license agreements. Software license agreement is a contract that includes the assignment of the exercise of the economic rights in the scope of copyright law with regards to software, the conditions herein, the scope and limits of the right, the rights and obligations of the parties and the duration. Identifier performance in software license agreements is granting enjoyment permission to the subject of the agreement which is software. Software license agreements has different characteristics other than standard intellectual property licensing despite they have similar characteristics with them. But there are no separate provisions set forth in law with regards to software licensing, however, there are provisions regarding license agreements and even thought the fact that software license agreements have different features, the general rules regarding license agreements stated in law shall be applied to them so long as it is appropriate.

In terms of characteristic of the software license agreement, this agreement has been considered as an obligatory transaction in this study. Because of the fact that this agreement governs and results in between the parties of the agreement, the rights arising from this agreement constitute relative rights which can only be claimed between the contracting parties. Granting a software license, namely transferring the disposition pertaining to an absolute right, has no effect to the assets of the right owner and this

transferring does not terminate the ownership of the economic rights of licensor. In case of which the licensor grants his or her right that has been transferred even with an exclusive license agreement before to another third party again, this transfer is valid even he or she is liable because of the agreement.

Software license agreement can be identified as unnamed and *sui generis* agreement. It is an agreement which is concluded within the scope of freedom of the contract and it is not including any of the elements of the agreements which are regulated by the law partially or completely. Even though there are attributions regarding license in law, it does not make it to named contracts.

There are also different types of which software license agreement can be concluded. These can be concluded as non-exclusive or exclusive license agreement in terms of the rights granted to the licensee according to the law. On the other hand, one of the distinctive features of the software is that it may be distributed in various means. This situation has conducted license agreement parties to find easy and quick way to conclude their contract. So that, non-negotiated software license agreements, such as shrink-wrap, click-wrap and browse-wrap agreements, have taken place. Non-negotiated forms of software license agreements generally deemed as invalid due to written form regulation of law. According to law, these license agreements must be in written form, which means that the agreement should include both licensee's and licensor's signatures, and it is the condition for validity in terms of such contracts. However, these strict rules related to form can be softened and regulated as less strict in terms of copyright and licensing to hold the transaction valid and legislation can be designed to make software license agreements more certain to be enforced, because there are international examples which does not stipulate provision for written form in terms of software license agreements.

In terms of software license types, software industry is typically characterized by two distinct development methodologies: proprietary software which is typically provides

cash and carry functionality for the end user and its “source code” is always kept secret due to both technical and legal matter and, open source software which provides software’s “source code” open to public view and use. Releasing the “object code” without the “source code” has been a distinctive feature of a proprietary software licensing, complementing the creator's exercise of a legal right to prohibit the use of “source code” in new other works with a technical barrier to unauthorized use of software. Therefore, to pass that barrier legally FOSS licensing type has been developed which means that the “source code” of software is made publicly available according to the provisions of its accompanying license, where the right owner permits the “source code” of the software to be used, modified, and shared freely subject to certain terms and conditions. Numerous open source licenses are created with different features because there are diverse ways to imply free and open source freedoms such as GNU GPL, GNU LGPL, BSD, MPL and Apache. These FOSS license agreements can be valid if they meet requirements of law related to form, and because these concepts are relatively new in Turkey, there is no known disputes regarding their validity and enforceability.

In terms of obligations of the software license agreements there is no specific provisions in law. Thus, these can be considered in the light of software license agreement practices and views of doctrine. Licensor should allow the licensee to take advantage from the software according to the agreement properly by providing digital materials in usable form of the software and documentation, training, and technical support for using the software to the licensee according to this obligation. The other obligation of the licensor is to ensure the licensee with the quality, performance and quantity of the licensed software. Another one is that in case of breach of the economic rights granted to licensee by third parties the licensee can propel license right, however, this is contradictory according to doctrine in terms of non-exclusive licenses.

According to the view that we have agreed software license agreements are obligatory transactions due to there is no conveyance of the economic right of the licensor, the licensee cannot claim the rights against every person. Therefore, the licensor must prevent the license from infringements of the third parties. The other obligation of the licensor is to ensure the licensee with the quality, performance and quantity of the licensed software because software should perform and be used within the specifications indicated by the license agreement. One of the other obligations of the licensor is to warrant that the existence of the right of contract's subject and authority to license is belongs to himself or herself according to law.

With regards to the licensee, the main obligation under a software license agreement is to use the software subject to the terms contained in the agreement and paying royalty to licensor even though it is not the main objective of the agreement in some types of it like FOSS licenses. Furthermore, licensee should comply with usage restrictions and licensee should not damage the owner of the software license while taking advantage of the software and also should comply with the confidentiality clause.

Lastly, there are certain grounds for the termination of software license agreement. Software license agreements are generally concluded for a certain period of time or to bring about a specific purpose and it expires after that specified time and purpose. But in case of death or bankruptcy of licensee as a rule, it shall not terminate the software license agreement automatically, unless the use of the license right directly subjects to the licensee's own personality with the agreement. As another termination ground for software license agreement, if the acquirer of an economic right or a licensee exercises his or her rights and authorities insufficiently within the agreed period of time or, where no period has been determined, within a reasonable period of time, and if thereby the author's interests are significantly violated, the author of the work may rescind the license agreement. Moreover, Turkish Law of Obligation provides the opportunity to each party

to come out of the agreement according to rules of ordinary termination, extraordinary termination and withdrawal. There is also option for a software which is technologically feasible to create mechanism that can permit a licensor to remotely disable software when it is considered to terminate a license contract unilaterally.

ABSTRACT

This thesis is related to the software license agreements and its types. Our study consists of introduction, separate four chapters, and conclusion.

In the introduction part, significance of software and licensing it by means of license agreements has been addressed with respect to intellectual property law and why this subject has been addressed.

In first chapter, software and its legal protection ways has been discussed. Furthermore, as the main subject of the software license agreements, technical characteristics of the software and its elements have been examined where it is thought necessary to clarify.

In second chapter, software license agreements, their legal characteristics and comparison with other similar agreements has been examined.

In third chapter, different types of software license agreements and their main characteristics have been scrutinized under the diverse classifications, and free and open source software license agreements has been explained.

In fourth chapter, obligations of parties of the software license agreements and the issue of termination of the software license agreement has been addressed.

ÖZET

Bu tez, yazılım lisans sözleşmeleri ve türleri ile ilgilidir. Çalışmamız giriş, ayrı dört bölüm ve sonuçtan oluşmaktadır.

Giriş bölümünde, fikri mülkiyet hukuku açısından, yazılımın önemi ve lisans sözleşmeleri yoluyla lisanslanması ve bu konunun neden ele alındığı belirtilmiştir.

Birinci bölümde, yazılım ve yasal koruma yolları ele alınmıştır. Ayrıca lisans sözleşmesinin ana konusu olan yazılımın teknik özellikleri ve unsurları netleştirilmesi gerektiği düşünülen yerlerde incelenmiştir.

İkinci bölümde, yazılım lisans sözleşmeleri, yasal nitelikleri ve diğer benzer sözleşmelerle karşılaştırılması incelenmiştir.

Üçüncü bölümde, farklı yazılım lisans anlaşmalarının çeşitleri ve temel özellikleri çeşitli sınıflandırmalar altında incelenmiştir ve de özgür ve açık kaynak yazılım sözleşmeleri açıklanmıştır.

Dördüncü bölümde, yazılım lisans sözleşmelerinde taraflarının yükümlülükleri ve yazılım lisans sözleşmesinin sona ermesi konusu ele alınmıştır.

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