

COPYRIGHT IN OPEN SOURCE SOFTWARES

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INTRODUCTION

The term 'Open Source Software' (OSS) refers to a computer program developed in an "open" manner in which the source code¹ is widely available for review and alteration by any developer as they desire, that is distributed along with the license and users of the program are required to comply with the provisions of license. In contrast, the source code of "closed source" software is not publicly distributed and subject to alteration only by the software manufacturer. OSS (also known, with somewhat different connotations, as free software or open code) differs in two key respects from most proprietary software. First, the holder of the source code of OSS is free to create, modify, and distribute the code to anyone. Second, to enable the foregoing, OSS is distributed with access to the source code, not just the executable code version. One of the best known examples of OSS is Linux, which runs many Internet servers and is the supreme competitor of Windows, which is proprietary software. Few more OSS is Netscape Navigator, Apache, Sendmail. A fundamental tenet of OSS is that the licensee must get both the access to source code and, more important, the right to make changes to the source code to correct defects and bugs customise programs or add features as the licensee deems appropriate.

Due to some reasons a layman might believe that Open Source is an anti-intellectual property right. Even economists considered OSS as a form of a public good as it is distributed for free. This is due to confusing terminology. OSS was initially baptised 'free software', a name that suggests to a common person that the software is for gratis. Another word 'copyleft' (a word play on the concept of being the opposite of copyright) resembles that the Open Source is anti intellectual property rights whereas it actually rejects and opposes the usual use of copyright for an exclusion purpose.

EVOLUTION OF OPEN SOURCE LICENSES

The Open Source movement has got its lead primarily through three threads in the history of Open Source movement which revolves around, GNU General Public License (GPL), BSD family of licenses and Mozilla Public License.

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¹ "Source code" is a set of programming instructions that is typically written in a "high-level" language, such as C or Pascal that resembles the English language.

A. GNU General Public Licenses

In 1984, Richard Stallman, a researcher at MIT, became disenchanted with his role in developing software code for companies that locked up that code for commercial gain. He perceived the proprietary software as antithetical to the hacker culture. Accordingly, Mr. Stallman created the Free Software Foundation (FSF) in 1985, with the goal of developing a “free” version of the UNIX operating system and promoting “free” software. As FSF puts it, “‘Free software’ is a matter of liberty, not price. To understand this concept, you should think of ‘free’ as in ‘free speech,’ not as in ‘free beer.’”²

The GPL has been referred to as part manifesto and part license, because in it Stallman spells out the underlying philosophy of “free software” and, to an extent, codifies his views about software.³ The preamble of GPL yields three crucial components of free software: the right to distribute, the right to get source code, and the right to modify.

B. BSD Family of Licenses

The programmers at the University of California at Berkeley were developing and improving a version of the operating system known as UNIX, originally developed and licensed by AT&T, in the time period of late 1970s and early 1980s.⁴ Among those programmers was Bill Joy, a highly venerated programmer who later was a co-founder of Sun Microsystems, bestow enormous contribution in improving UNIX. These efforts led to software that later became known as the Berkeley Software Distribution (“BSD”) of UNIX which was based on AT&T UNIX code. In the early 1990s, AT&T reevaluates the value of its intellectual property associated with UNIX and began to require UNIX licenses at much higher fees than it charged earlier.⁵ Simultaneously issue arose that

² Robert W. Gomulkiewicz, ‘How Copyleft Uses License Rights to Succeed in the Open Source Software Revolution and the Implications for Article 2B’, (1999) 36 HOUS. L. REV. 179

³ The GNU Manifesto, (Stallman’s philosophical underpinnings for free software), <<http://www.gnu.org/gnu/manifesto.html>> accessed 29 January 2009.

⁴ There are a number of detailed histories of the events at Berkeley involving UNIX. See Andrew Leonard, ‘BSDUNIX: Power to the People, From the Code’ <http://www.salon.com/tech/fsp/2000/05/16/chapter_2_part_one/print.html> accessed 29 January 2009; Kirk McKusick, ‘Twenty Years of Berkeley UNIX’ in Chris DiBona et al., *OPEN SOURCES: VOICES FROM THE OPEN SOURCE REVOLUTION*, 31 (1999). Interestingly, Donald Rosenberg simply refers to this period as the “computer world’s equivalent of the Thirty Years War.” Rosenberg, ‘Copyleft and the Religious Wars of the 21st Century’ <<http://www.stromian.com/copyleft.html>> accessed 29 January 2009).

⁵ The licensing fee for AT&T’s UNIX increased from \$99 to, in some cases, over \$250,000 over the course of several years. Andrew Leonard (n 4); Young, Bob Young, Giving It Away, in Chris DiBona *Open Sources: Voices from the Open Source Revolution*, 121 (1999).

although BSD UNIX had changed from the original UNIX license, it still contained certain features of the AT&T UNIX code.⁶ The suit was settled confidentially⁷ and later BSD modified the remaining features of AT&T UNIX code with new one and eliminated the issue⁸. The BSD UNIX was similar in their approach to those of the FSF. With the easy availability of source code programmers were able to improve the software and fix bugs. As like Stallman, Berkeley charged very small amount for copying the program in source code on to a medium usable by licensee. The fee was designed to cover costs.⁹ However, the BSD license did not require that the derivative work should also be subject to the same terms as the initial BSD license.

C. Mozilla Public License

In 1998, Netscape Corporation decided to launch Netscape Navigator, a web browser, as an OSS, after facing stiff competition from Windows.¹⁰ Netscape developers were influenced by Raymonds "bazaar"¹¹ approach to software development. The "bazaar" notion suggests a marketplace of ideas and exchange of information. Netscape's intention to release its browser as an OSS resulted in two key development in the history of Open Source. First, it leads to the publication of Open Source Definition and secondly, as a commercial developer, Netscape was very aware of the significant issues raised under the existing Open Source licenses (OSL) in the case of a conversion of a commercial product to Open Source, especially for commercial projects where the underlying code incorporated software licensed from a large number of developers. After investigating the idea of releasing their incorporated codes under the OSL, ultimately chosen by Netscape, decided that the best way would be to write its own OSL. The new license would contain Netscape's specific conditions and general regulations of the OSL with some improvement in the language.¹² Netscape developed Mozilla Public License after reaching a compromise which was acceptable to Open Source Community.¹³

⁶ Kirk McKusick, (n 4) 44-45.

⁷ *Ibid*; Andrew Leonard (n 4).

⁸ Kirk McKusick (n 4) 44-45; Andrew Leonard (n 4).

⁹ Andrew Leonard (n 4).

¹⁰ Jim Hamerly et al., *Freeing the Source: The Story of Mozilla*, in Chris DiBona, 'Open Sources: Voices from the Open Source Revolution' 197 (1999), for a good discussion of the Mozilla project.

¹¹ Eric S. Raymond, *The Cathedral and the Bazaar* (O'Reilly & Associates 1999)

¹² Jim Hamerly (n 10) 200. Linus Torvalds and Eric Raymond were among the Open Source "heavyweights" consulted.

¹³ Mozilla Organization, 'Netscape Public License: Version 1.0', <<http://www.mozilla.org/MPL/NPL-1.0.html>> accessed 29 January 2009; Rosenberg, 'OPEN SOURCE: The Unauthorized White Papers', (2000) 298.

Open Source Definition and Its Validity

The Open Source Initiative (OSI) propounded an Open Source definition, which is used to describe licenses which qualify as “OSLs” and OSI also certifies licenses to specify that they fall within the Open Source definition. OSLs set the relationship between the copyright holder and everyone who wants to take the advantage of the software. The OSI provides ten criteria¹⁴ and mandate that every OSL must provide three freedoms to the licensee, as follows.

- (1) *Freedom to access and use OSS and its code for any purpose whatsoever:* The licensor of the OSS is under an obligation to provide the code to the licensee who can use it for any purpose without any discrimination such as ‘for research or non non-commercial purposes only’ or ‘excluding genetic research’.
- (2) *Freedom to make copies of OSS and to distribute them without any royalty:* This states that for additional copies created by the licensees, he does not need to pay anything to the licensor even though those copies are distributed to others.
- (3) *Freedom to create derivative works of OSS and to distribute them without any royalty:* This allows the licensees to create derivative work and the licensor cannot charge any royalty for the creation and distribution of the derivative work.

It is worthwhile noting certain facts about the above mentioned criteria about the flexibility that OSS licenses offers. Firstly, making the source code available is an obligation for the licensor, not for the licensee, that is, a licensee is not bound to provide the source code of the derived work. Secondly, whatsoever be the freedom granted to OSS users the exception to this freedom is that the users are restricted to complain about the software failures.¹⁵ Thirdly, zero royalty is the key feature of the OSS license; one must not conclude that OSS licensor and licensee cannot make money in selling code. Licensees can also license their derivative work under non OSS license and therefore, can ask royalties to their licensees.

An OSS license is a copyright license not a contract¹⁶; the licensor owns the copyright of the software and he grants a generous license but this must not be viewed as surrendering of his copyright. It is a bare copyright license and relies entirely upon

¹⁴ ‘Open Source Definition’ (to get the list of, and explanations on the 10 criteria) <<http://www.opensource.org/docs/definition.php>> accessed 29 January 2009.

¹⁵ Most OSI licenses disclaim liability for damages. No warranties are offered to users about the performance of the licensed program.

¹⁶ Andrew M. St. Laurent, ‘Understanding Open Source and Free Software Licensing’, (2004) 160.

copyright law for its enforcement.¹⁷

With the meteoric rise of the OSS some observers has commented that the OSLs especially GPL is not valid. Even SCO group has also once raised this issue but later on they dropped their claim. SCO alleged that GPL violates the section 8 of Article 1 of US Constitution.¹⁸ SCO cited *Eldred v. Ashcroft* with view that “the economic philosophy behind the copyright clause... is the conviction that enforcement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors.”¹⁹ Court taking the opposite viewpoint of what asserted by SCO in *Eldred* stated that “the exploitation of copyright will redound to the public benefit by resulting in the proliferation of knowledge.”²⁰

Interpretation of Derivative Works

In 1980s the U.S. courts interpreted section 101²¹ of the Federal Copyright Law broadly. The Seventh Circuit in *Midway* case held that the defendant’s video acceleration boards created a derivative audiovisual work by speeding up game play in the plaintiff’s games.²² In both the *Worlds of Wonder* cases^{23,24} the court, despite the fact that the new tapes contained no *Worlds of Wonder* content, found them to constitute infringing derivative works. The criticism of this broad interpretation is unsurprising. Even the decisive court found difficulty and admitted that “it is not obvious from this language

¹⁷ Rosen, Lawrence, ‘Open Source Licensing — Software Freedom and Intellectual Property, Prentice Hall’, (2004) 102.

¹⁸ Section 8 of Article 1 of U.S. Constitution states that “Congress shall have power to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries”

¹⁹ 537 U.S. 186, 212 (2003), Darl McBride, ‘Open Letter on Copyrights’, <<http://www.sco.com/copyright>> accessed 29 January 2009

²⁰ 537 U.S. 186 at 212 (2003)

²¹ A “derivative work” is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a “derivative work”.

²² *Midway Mfg. Co. v. Artic International Inc.*, 704 F.2d 1009, 1013-1014 (7th Cir. 1983).

²³ *Worlds of Wonder, Inc. v. Veritel Learning Systems, Inc.*, 658 F. Supp. 351 (N.D. Tex. 1986). The court cited *Midway* and its standard with approval at 354-356.

²⁴ *Worlds of Wonder, Inc. v. Vector Intercontinental, Inc.*, 653 F. Supp. 135 (N.D. Ohio 1986). The court cited *Midway* and its standard with approval at 139-140

[of the Act at Section 101] that a speeded-up video game is a derivative work."²⁵ Neither *Midway* nor *Whelan*²⁶ dealt with software copyrights efficaciously. Judge Hand in *Whelan* found difficulty in separating idea from expression with a general rule, since "no principle can be stated as to when an imitator has gone beyond copying the 'idea', and has borrowed its 'expression'. Decisions must therefore inevitably be *ad hoc*."²⁷

By the early 1990s, courts have abandoned the more general analysis taken in *Whelan* case since software; a literary work²⁸ also contains some elements of a machine. Rather, the courts had started giving narrow scope of protection in favour of greater copyright exclusion.

The Second Circuit court narrowed *Whelan* in *Altai*²⁹. The court adopted a three-stage "abstraction, filtration, comparison" test.³⁰ The first step, abstraction, involves dividing the program into its component parts to determine what, if any, protected expression existed at that level.

The second step is filtering the unprotectable elements out of the program. Since the Act does not provide any protection to an underlying idea or any elements necessary to implement the idea.³¹ Moreover, *Altai* supplied additional considerations for this second stage. First, the court excluded any code structure dictated by 'efficiency'³² and secondly, it adopted a form of "scenes a faire" for software.³³

The third step compared only the "core of protectable expression". Applying a standard infringement test, the courts determined whether the works were substantially similar, and, if so, whether any copying was substantial enough to constitute infringement.

The *Altai* court rejected the "sweat of the brow" defense stating that "the interest of the copyright law is not in simply conferring a monopoly on industrious persons, but in advancing the public welfare through rewarding artistic creativity, in a manner that

²⁵ *Worlds of Wonder, Inc.* (n 23).

²⁶ *Whelan Assoc., Inc. v. Jaslow Dental Lab., Inc.* 797 F.2d 1222 (3d Cir. 1986).

²⁷ *Ibid*; *Peter Pan Fabrics, Inc. v. Martin Weiner Corp.*, 274 F.2d 487, 489 (2d Cir. 1960).

²⁸ *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 712 (2d Cir. 1992) ("Congress has made clear that computer programs are literary works entitled to copyright protection.")

²⁹ *Ibid*

³⁰ *Ibid* 706-711

³¹ *Ibid* 707-710

³² *Ibid* 707-708

³³ *Ibid* 709-710.

permits the free use and development of non-protectable ideas and processes."³⁴ Hence, *Altai* provides both, the narrow and the broad, protection to the derivative works.

Alleged as 'Viral'

If a programmer wishes to include some OSS code into a larger software package and desires to issue it as proprietary software, he cannot do so because some OSL, such as GPL, require that the terms of OSL would automatically apply to each copy of the software as well as to any modified versions even if he incorporates a single line in the larger software.³⁵ This implies that in a situation where the programmer unknowingly incorporates some Open Source code in his software package, he would be liable for the infringement of license.³⁶ This feature of the OSL has been alleged as 'viral' in character by some observers.³⁷

Remarkably, under certain situations GPL allows the users to incorporate Open Source derived computer program into proprietary software package without subjecting the entire package to the GPL.³⁸ The "Frequently Asked Question" document provided by FSF comments on this situation that a company can distribute the OSS along with its own product by ensuring that the open software and company's product "communicate at arms length" and that they "are not combined in any way that would make them effectively a single program".³⁹ The FAQ also provides an example of an editor or a shell or a compiler or a kernel that can be treated as separate programs. However, the FAQ is a separate document, thus it may have limited value, if any, in explaining the GPL from a contract perspective.⁴⁰ The abovementioned condition is only of GPL whereas various other licenses, such as BSD, allow a user to incorporate his derived work under any license.

Hence GPL only prevents appropriation of one's work by other people that is; GPL does not allow a user to take an Open Source code, modify it and then publish the

³⁴ *Ibid* 711

³⁵ 'The Free Software Foundation', (The Free Software Definition) <<http://www.gnu.org/philosophy/free-sw.html>> accessed 29 January 2009.

³⁶ Christian H. Nandan, 'Open Source Licensing: Virus or Virtue?', (2002) 10 Texas Intellectual Property Law Journal 349.

³⁷ Thomas M. Pitegoff, 'Open Source, Open World: New Possibilities for Software in Business', <<http://www.pitlaw.com/pdf/Open%20Source%20Open%20World.pdf>> accessed 29 January 2009

³⁸ Free Software Foundation (n 35)

³⁹ *Ibid*

⁴⁰ *Ibid*

whole software under his name whereas GPL do allow a user to register the modified part of the software under his name. Thus GPL prohibits one to climb giant's shoulder and claim the whole view under his name.

Third Party Infringement

Some OSLs, such as GPL, effectively prevents individual from asserting copyrights in OSS.⁴¹ This restriction only applies to individuals who have consented to these licenses. However, parties not subject to that license are not necessarily prevented from enforcing their copyrights against individuals who uses the software. Assuming there is a copyrighted work and Developer₁ (acting bona-fide) adds it in his OSS, thereby infringing the rights of the copyright holder. Therefore, the copyright holder can assert claims against every subsequent developer from Developer to Developer to whom the software has been distributed, even if they did not know software infringes the third party right. Thus, there evolves a legal liability over the users even though they believe that the software is open to the public.⁴² This is because OSS community is more loosely organised and thus the software publishers cannot have audits or established software to avoid the use of other software in their own products.⁴³

A notable example of third party infringement can be taken from an ongoing litigation over the UNIX Code (SVR4) by SCO group. SCO has the copyright over the source code of UNIX but some versions of UNIX have also been published as OSS. The lawsuit filed against IBM by SCO, contends that IBM assessed proprietary information of UNIX source code which was licensed by SCO and its predecessors. It also alleged that IBM used UNIX code into its own operating system, AIX, and later into LINUX. IBM denied these charges and later some more parties, such as *Novell*, *Red Hat*, joined the suit.

The Open Source community argues that SCO did not even own the UNIX code and has no claim to SVR4 code.⁴⁴ This view has been upheld by the Judge Kimball of U.S. District Court of Utah in *SCO v. Novell*.⁴⁵ Moreover the Linux hardly contained SCO's UNIX code, as it had been written from scratch by hundreds of collaborators.

An Appeal was filed in U.S. Court of Appeal against the judgement given by U.S.

⁴¹ Ira V. Heffan, 'Copyleft: Licensing Collaborative Works in the Digital Age', (1997) 49 Stanford Law Review 1487.

⁴² James A. Harvey & Todd S. McClelland, 'SCO v. IBM: The Open Source Benefits and Risks Are Real', (2003) 20 Computer & Internet Lawyer 9.

⁴³ *Ibid*

⁴⁴ Andrés Guadamuz, 'Legal Challenges to Open Source Licenses', 2 Script-ed 163 (2005).

⁴⁵Case No 2:04cv00139, Judgement <<http://www.groklaw.net/pdf/Novell-565.pdf>> accessed 29 January 2009

District Court by *SCO* and appeal court overruled the judgement by contending that “We recognize that Novell has powerful arguments to support its version of the transaction, and that, as the district court suggested, there may be reasons to discount the credibility, relevance, or persuasiveness of the extrinsic evidence that *SCO* presents”.⁴⁶ Thus, the appeal court remanded for a complete trial on the *IBM*'s copyright infringement issue. This way *SCO* stills believe that its copyright have been infringed by *IBM*.

Insurance can be an effective risk management solution to third party infringement. If developers have insurance policies with maximum compensation agreed on with users they would carry only the risk of paying deductible in the event of proven infringement.

CONCLUSION

The period from 1998 to 2003 has gained a lot of attention towards OSS as many companies have shifted major software from commercial to an Open Source licensing model. Human by nature have always opposed the changes around him and the change in the developing and licensing of the software in an open manner is also opposed by some observers by putting forth some potential conflicts between OSS and copyright. Contrary to the common wisdom that OSS is opposed to intellectual property, we have shown that copyright law is at the heart of Open Source licensing models. The only thing is that the author of OSS grants a gratuitous license with regard to various rights given to him by copyright law.

Although the validity of OSLs has been challenged in courts but no decision has been given, yet some legal practitioners and Open Source community had a firm believe that they are enforceable. The conflict over the interpretation of derivative work has been solved by giving both the narrow and broad interpretation by the courts over the definition of derivative works. Through this, the courts have maintained the balance between the interest of commercial programmers and public. Moreover the three stage test provided by the courts is also helpful in identifying the conflict. Contrary to the common view of considering OSLs as ‘viral’ in nature, it has been proven that it is only due to misinterpretation of the license. An effective copyright liability insurance market needs to be developed in order to protect the developers from third party infringement.

The development of the Open Source movement, the OSLs, and software freedom will play a very important role in the development of the Internet and our approach to intellectual property law in the future.

⁴⁶ The *SCO Group, Inc. v. NOVELL, Inc.*, (Case No 08-4217) judgement <<http://www.groklaw.net/pdf/AppealRuling.pdf>> accessed 29 January 2009