CPR: HOW *JACOBSEN V. KATZER* RESUSCITATED THE OPEN SOURCE MOVEMENT

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Although the open source software movement is growing in popularity and acceptance, the fact remains that the legal rights of open source software developers remain largely unknown. The Federal Circuit's landmark opinion in Jacobsen v. Katzer, *however, which held that open source licenses are enforceable under both state contract law and federal copyright law, was a landmark victory for the open source movement. This Note analyzes* Jacobsen *and discusses how it infused new life into the open source movement. The author first defines "open source," explains the theory behind the open source movement, and presents the most commonly used open source licenses. Next, the author discusses the benefits and the drawbacks of enforcing open source licenses under state contract law and federal copyright law, analyzes the* Jacobsen *decision, and illustrates the impact* Jacobsen *may have on software licensing. Finally, the author recommends how courts, open source licensors, and open source licensees should act in light of the* Jacobsen *decision.*

I.   INTRODUCTION

To many, the word "software" elicits thoughts of Microsoft Office, Internet Explorer, and Windows.[1] Microsoft Corporation created each of these software packages and protects these programs through monopolistic property regimes—primarily, patent and copyright law.[2] Micro-

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1.   The purpose of this Note is not to vilify Microsoft or other companies that rely on strong intellectual property portfolios to protect market share. Rather, Microsoft is "the obvious antithesis to open source" because it takes full advantage of the current protections afforded by copyright and patent law, thereby putting it at philosophical odds with the copyleft and open source movements. Brad Frazer, *Open Source Is Not Public Domain: Evolving Licensing Philosophies*, 45 IDAHO L. REV. 349, 357 (2009).

2.   The rights afforded under copyright law continue to grow stronger, especially since the passage of the Copyright Term Extension Act of 1998, Pub. L. No. 105-298, 112 Stat. 2827. *See* Steven J. Horowitz, *A Free Speech Theory of Copyright*, 2009 STAN. TECH. L. REV. 2, ¶ 9 n.21, http://stlr.stanford.edu/pdf/horowitz-free-speech-theory.pdf. Hence, pursuing copyright protection for software remains an attractive form of intellectual property protection.

soft, like many other large companies where proprietary software bolsters the bottom line, believes that the best way to maintain market share and create a quality consumer product is to protect that product through intellectual property law.[3] In recent years, however, a new approach has continued to grow in popularity. This new approach—known as the open source software movement—is built on the idea that protecting software with numerous patents and countless copyrights does not result in a high-quality end product.[4] Rather, the philosophy is predicated on the belief that the best product is created when software developers collaborate in a programming environment that is free of the traditional restraints imposed by intellectual property law.[5] The philosophy continues to garner growing support both within and outside of the software industry.[6] Open source software revenue accounted for thirteen percent of the $92.7 billion software industry in 2006, with a projected increase to twenty-seven percent market share in 2011, when revenue for the industry is projected to be almost $170 billion.[7]

There are a number of software companies and software packages that succeed in the industry by relying on the open source philosophy to develop products. For instance, many people consider the Linux operating system to be the most reliable on the market.[8] Apache continues to be the most widely used web server software package available today, accounting for over one-half of web server use in the United States.[9] Numerous computer programmers use Perl, one of the most popular web programming languages available, to write software source code.[10] Although diverse in application, Linux, Apache, and Perl are all distributed under open source software licensing agreements that permit the public to access the software source code, so long as improvements made to the

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3. *See* Ina Fried, *Gates Wants Patent Power*, CNET News, July 29, 2004, http://news.cnet.com/Gates-wants-patent-power/2100-1014_3-5288722.html?tag=mncol;txt.

4. *See, e.g.*, Donald K. Rosenberg, Copyleft and the Religious Wars of the 21st Century, Address at the Research Triangle Computer Law Roundtable (May 1997), http://www.stromian.com/copyleft.htm (last visited May 24, 2010) (discussing the impact of proprietary software development on the Massachusetts Institute of Technology Artificial Intelligence Laboratory in the 1970s).

5. *See infra* Part II.B.

6. For a statistical analysis of the growth of open source code in the software industry, see generally Amit Deshpande & Dirk Riehle, *The Total Growth of Open Source*, *in* Open Source Development, Communities and Quality 197 (Barbara Russo et al. eds., 2008), *available at* http://www.riehle.org/wp-content/uploads/2008/03/oss-2008-total-growth-final-web.pdf (illustrating the exponential growth in the volume of open source code on SourceForge, a leading webhost for open source work on the Internet, over the past several years).

7. Peter Galli, *Open Source Is the Big Disruptor*, eWeek, Sept. 21, 2007, http://www.eweek.com/c/a/Linux-and-Open-Source/Open-Source-Is-the-Big-Disruptor/.

8. *See, e.g.*, Steven J. Vaughan-Nichols, *Linux Server Market Share Keeps Growing*, Linux-Watch, May 29, 2007, http://www.linux-watch.com/news/NS5369154346.html.

9. This constitutes a conservative estimate of Apache's market share. *See* Netcraft, March 2009 Web Server Survey, http://news.netcraft.com/archives/2009/03/15/march_2009_web_server_survey.html (last visited May 24, 2010) (placing the Apache market share estimate at 66.65%, which is a decline in market share from its heyday of over 70% in 2005).

10. *See* Perl.org, About Perl, http://www.perl.org/about.html (last visited May 24, 2010). The Perl programming language is licensed under a version of the Artistic License at issue in *Jacobsen v. Katzer*, 535 F.3d 1373 (Fed. Cir. 2008), discussed in Part III of this Note.

code by the public are made available in the public domain.[11] Bruce Perens, cofounder of the Open Source Initiative, believes these types of open source companies and programmers are essential to successful software development,[12] whereas Steve Ballmer, the Chief Executive Officer of Microsoft, believes open source is a "cancer" on the industry.[13] Regardless of a person's view, one thing remains clear—open source is here to stay.[14]

Despite the growing use and acceptance of open source programs in the computer software industry, the legal rights afforded to open source developers remain largely unknown. In particular, the rights retained by an open source licensor and enforceable against a user violating a licensing agreement remain a mystery. Case law and related legal doctrines are largely untested with regard to open source licensing due in large part to pre-litigation negotiation between open source licensors and licensees, the high transaction costs associated with open source licensing enforcement, and the public policy pressure to respect open source programming rights.[15] In *Jacobsen v. Katzer*, however, the United States District Court for the Northern District of California, in a case of first impression, addressed the enforceability of one such open source licensing agreement.[16] The court held that the license was only enforceable in contract law, *not* copyright law.[17]

The ruling was a crippling blow to open source licensors everywhere because traditional means of contract enforcement are inadequate in the context of open source licensing.[18] In August 2008, however, the Federal

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11. *See supra* notes 8–10 and accompanying text.

12. *See* Bruce Perens, *The Open Source Definition*, *in* OPEN SOURCES: VOICES FROM THE REVOLUTION 171, 171–72 (Chris DiBona et al. eds., 1999) [hereinafter Perens, *Open Source Definition*], *available at* http://oreilly.com/catalog/opensources/book/perens.html; Bruce Perens, The Emerging Economic Paradigm of Open Source, http://perens.com/Articles/Economic.html (last visited May 24, 2010) (highlighting the multitude of advantages, namely the economic upside, of open source programming).

13. Thomas C. Greene, *Ballmer: "Linux Is a Cancer,"* REGISTER, June 2, 2001, http://www. theregister.co.uk/2001/06/02/ballmer_linux_is_a_cancer/.

14. Dave Moyer, *IE Continues Losing Market Share to Open Source Browsers*, ARS TECHNICA, Jan. 12, 2009, http://arstechnica.com/open-source/news/2009/01/ie-loses-market-share-to-open-source-browsers.ars; Netmarketshare, Top Browser Share Trend, http://marketshare.hitslink.com/browser-market-share.aspx?qprid=1 (last visited May 24, 2010) (illustrating the continuing decline of Internet Explorer and the rise of several open source web browser alternatives such as Firefox, Chrome, and Opera).

15. Bruce Perens, *A Big Change for Open Source*, DATAMATION, Oct. 2, 2008, http://itmanagement.earthweb.com/osrc/article.php/3775446/Bruce+Perens:+A+Big+Change+for+Open+Source.htm (noting the various reasons case law on open source is so rare, as well as highlighting the high cost of patent suits against open source licensors, which often exceed $3 million dollars to properly defend).

16. No. C 06-01905 JSW, 2007 WL 2358628, at *6 (N.D. Cal. Aug. 17, 2007).

17. *Id.* at *7.

18. *See generally* Erich M. Fabricius, Note, Jacobsen v. Katzer*: Failure of the Artistic License and Repercussions for Open Source*, 9 N.C. J.L. & TECH. ONLINE EDITION 65, 72–75 (2008), http://jolt.unc.edu/sites/default/files/erich_fabricius.pdf (discussing the ramifications of the decision in *Jacobsen* by the district court). Note that the piece was published prior to the Federal Circuit opinion in the *Jacobsen* appeal.

Circuit reversed the district court, holding that open source licenses are enforceable under both contract *and* copyright law.[19] The opinion acknowledges the intellectual property interest retained by the licensor in licensing the code for general public use and modification.[20] The open source movement was granted new life.[21]

This Note discusses the impact of the Federal Circuit's decision in *Jacobsen v. Katzer*[22] on the software industry and addresses the future enforceability of open source licenses in the courts. Part II defines "open source," outlines the evolution of the movement, and highlights some of the different open source licenses in use today. Part III discusses the facts and analysis of the *Jacobsen* decision and explores the impact of the decision on software licensing going forward. Part IV provides recommendations for open source licensors and licensees in light of *Jacobsen* and points out areas that need to be clarified by the courts in the future.

II. BACKGROUND

To fully appreciate the impact of *Jacobsen* on software licensing, one must first understand the basics of software, the open source philosophy, and the defining characteristics of open source software. These fundamental concepts are discussed below.

A. *Fundamentals of Software—What Is Code?*

There are two basic forms of software code: source code and object code.[23] A computer programmer writes software in source code, which is a human readable programming language such as Java, Basic, Perl, or C.[24] This source code, though often unintelligible to the untrained novice, reads like a book for a trained computer programmer.[25] The programmer is able to discern the different steps and instructions the program provides to a computer that enable the computer to complete a given task.[26]

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19. Jacobsen v. Katzer, 535 F.3d 1373, 1376, 1382–83 (Fed. Cir. 2008).

20. *Id.* at 1379.

21. Though the *Jacobsen* case focuses primarily on the enforceability of open source licenses in copyright law, this is not the first time open source software has served as the basis for litigation. For instance, in 2006, the District Court of Frankfurt, Germany held that D-Link was liable for copyright infringement because a storage device sold by the company used software that was protected by the General Public License (GPL), a form of open source licensing discussed *infra*. Landgericht Frankfurt [LG Frankfurt] [District Court of Frankfurt] Sept. 22, 2006, No. 2-6 0 224/06 (F.R.G.), http://www.jbb. de/fileadmin/download/judgment_dc_frankfurt_gpl.pdf.

22. *Jacobsen*, 535 F.3d 1373.

23. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3d Cir. 1983); 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.04[C][3] (2009).

24. XUAN-THAO N. NGUYEN ET AL., INTELLECTUAL PROPERTY, SOFTWARE, AND INFORMATION LICENSING: LAW AND PRACTICE 504 (2006).

25. *Id.*

26. Dennis M. Kennedy, *A Primer on Open Source Licensing Legal Issues: Copyright, Copyleft and Copyfuture*, 20 ST. LOUIS U. PUB. L. REV. 345, 346 (2001).

For a computer to process the source code, however, the source code must first be converted to object code.[27] Also known as "executable" or "machine readable" code, object code is a series of ones and zeroes that a computer "understands."[28] A compiler completes the transformation by taking the source code and converting it into object code.[29] Computer programs sold to the public, such as Microsoft Word, typically only contain the object code.[30] This in effect prevents many programmers from modifying the code, as it is difficult, if not impossible, for even the most skilled programmer to ascertain the nuanced programming within a given piece of software without the original source code.[31]

When programming was in its infancy in the 1960s and 1970s, sharing source code was commonplace.[32] Programmers built on and debugged each other's works, which resulted in higher quality software.[33] The software was sold in conjunction with computer hardware marketed by corporations such as Bell Labs and Xerox, which owned research facilities that allowed and even encouraged collaboration with others in the software community.[34] These companies, interested in profiting from the computer hardware they sold, distributed software free of charge.[35]

But as the computer industry flourished, software became a commodity in and of itself.[36] Thereafter, companies became interested in protecting programming innovations, thereby supplanting the collaborative programming communities that helped sustain software development during the dawn of the personal computer revolution.[37] Today, software plays an integral role in a multitude of mainstream technologies, most notably the personal computer.[38] Hence, companies closely guard the software they develop, protecting code under contract, copyright, patent, and trade secret law.[39]

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27. *Id.*

28. NGUYEN ET AL., *supra* note 24, at 504.

29. *Id.*

30. *See id.*

31. *See id.*

32. Josh Lerner & Jean Tirole, *Some Simple Economics of Open Source*, 50 J. INDUS. ECON. 197, 200 (2002).

33. *See id.* at 200–01.

34. *Id.* at 200−02.

35. *Id.*

36. Greg R. Vetter, *The Collaborative Integrity of Open-Source Software*, 2004 UTAH L. REV. 563, 596–97 ("As computing assets grew in importance, so did company practices to restrict access to various aspects of the technology, including . . . the source code . . . .").

37. The best known example involved AT&T and the now mainstream UNIX operating system, which developed as an open source project in the 1970s and 1980s. Lerner & Tirole, *supra* note 32, at 201. However, AT&T sought to assert a proprietary right in the UNIX operating system as it became more popular (and profitable). *Id.* AT&T's efforts led to litigation throughout the 1980s and 1990s. *Id.*

38. *See* Brief for Creative Commons Corp. et al. as Amici Curiae in Support of Plaintiff-Appellant and Urging Reversal at 14–15, Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008) (No. 2008-1001).

39. Bradford L. Smith & Susan O. Mann, *Innovation and Intellectual Property Protection in the Software Industry: An Emerging Role for Patents?*, 71 U. CHI. L. REV. 241, 256−57 (2004) (discussing

In an effort to prevent users from obtaining copies of pirated software—such as through file sharing programs—most companies attach some form of End User Licensing Agreement (EULA) to all distributed software.[40] The EULA oftentimes prohibits a user from attempting to decompile and reverse engineer a program.[41] If a programmer is somehow able to decompile a program and modify the source code, he or she is usually prohibited from distributing those changes to the public or using them in any way.[42] A breach of the license typically subjects the breaching party to substantial compensatory and liquidated damages awards.[43] This practice prohibits reverse engineering and dissemination of improvements to the proprietary source code. It also enrages many who believe that source code should be freely available and modifiable.[44]

B. What Is Open Source?

As the term indicates, "open source" embodies the belief, held by many programmers and developers, that source code should always be openly shared.[45] Although the rationale motivating the belief varies, most within the open source community agree that there are three main requirements a program must fulfill in order to qualify as open source.[46] First, a user of the program must have the right to gain access to the source code of the program.[47] Second, the user must have permission to modify the program's code.[48] Third, the user must be allowed to distribute the modified code to other users.[49]

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the relative strengths and weaknesses of patents, trade secrets, and copyrights in the context of proprietary software protection).

40. NGUYEN ET AL., *supra* note 24, at 509.

41. Courts typically hold that such agreements are enforceable. *See, e.g.*, Davidson & Assocs. v. Jung, 422 F.3d 630, 639 (8th Cir. 2005); Bowers v. Baystate Techs., Inc., 320 F.3d 1317, 1325–26 (Fed. Cir. 2003).

42. *See, e.g.*, MDY Indus., LLC v. Blizzard Entm't, Inc., No. CV-06-2555-PHX-DGC, 2008 WL 4277860, at *1 (D. Ariz. Sept. 18, 2008) (denying motion for permanent injunction and alternative motion to amend the judgment without prejudice); MDY Indus., LLC v. Blizzard Entm't, Inc., No. CV-06-2555-PHX-DGC, 2008 WL 2757357, at *10 (D. Ariz. July 14, 2008) (holding that reverse engineering of a legally obtained copy of copyrighted software constitutes a violation of the EULA).

43. NGUYEN ET AL., *supra* note 24, at 481−83.

44. *See, e.g.*, Matt Lee, Free Software Foundation, What Is Free Software and Why Is It So Important for Society?, http://www.fsf.org/about/what-is-free-software (last visited May 24, 2010). The Free Software Foundation was founded by Richard Stallman, one of the biggest proponents of the open source and copyleft philosophy and one of the authors of the GPL.

45. *See* Kennedy, *supra* note 26, at 349−51; Lee, *supra* note 44.

46*. See* Robert W. Gomulkiewicz, *How Copyleft Uses License Rights to Succeed in the Open Source Software Revolution and the Implications for Article 2B*, 36 HOUS. L. REV. 179, 187–89 (1999) (discussing each section of the Open Source Definition in detail); Kennedy, *supra* note 26, at 350; Perens, *Open Source Definition*, *supra* note 12, at 172; Open Source Initiative, The Open Source Definition (Annotated), http://www.opensource.org/docs/definition.php (last visited May 24, 2010) [hereinafter Open Source Definition].

47. Kennedy, *supra* note 26, at 350; Open Source Definition, *supra* note 46.

48. Kennedy, *supra* note 26, at 350; Open Source Definition, *supra* note 46.

49. Kennedy, *supra* note 26, at 350; Open Source Definition, *supra* note 46.

At first glance, it appears that the three requirements are met when a person places source code (or a portion thereof) into the public domain. Once dedicated to the public, the code would be available to anyone who desires to use or modify it and, in theory, would sustain an open source community. While a good concept in theory, the realities of the marketplace prohibit such practice.

When a programmer authors source code, copyright protection attaches to the code.[50] The programmer owns this copyright and secures the protectable right to use the work as he or she deems fit.[51] If a copyright holder decides to dedicate a work to the public by expressly allowing an individual to modify, copy, or distribute his or her work, however, all rights of control are forfeited.[52] Therefore, a software development company could take a portion of source code that is dedicated to the public domain, incorporate it into its own work, and protect this "new" code under copyright.[53] The public would not receive the benefit of the programming improvement, and any benefit the original programmer hoped to derive from dedicating his or her work to the public would be lost. Additionally, when the open source programmer dedicates his or her code to the public domain, all rights in the copyright are forfeited, and the open source programmer therefore may not compel a user of the code to release any future improvements or modifications into the public domain.[54]

In response to this problem, programmers developed a new type of license—the open source license.[55] Generally speaking, an open source license allows a user "to copy, distribute, or modify the source code, and publicly distribute derived works based on the source code" without requiring the original creator of the code to forfeit all rights in the process.[56]

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50. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1249 (3d Cir. 1983); Williams Elecs., Inc. v. Artic Int'l, Inc., 685 F.2d 870, 877 (3d Cir. 1982).

51. *See* 17 U.S.C. § 201(a) (2006).

52. Kennedy, *supra* note 26, at 350; Sharon K. Sandeen, *Preserving the Public Trust in State-Owned Intellectual Property: A Recommendation for Legislative Action*, 32 MCGEORGE L. REV. 385, 393 (2001) (noting the forfeiture of copyright protection when the author expressly dedicates a work to the public domain).

53. This "new" work would be a derivative work that uses the publicly dedicated work, and although a verbatim copy of the dedicated work would not infringe a copyright of this new work, proprietary derivative works could effectively "build a fence" around the dedicated work. That is, the possible uses and improvements to the work could be copyrighted, rendering the underlying work essentially useless to an open source developer.

54. Fabrizio Marrella & Christopher S. Yoo, *Is Open Source Software the New Lex Mercatoria?*, 47 VA. J. INT'L L. 807, 825 (2007); Sandeen, *supra* note 52, at 350. This forfeiture is often referred to as a non-exclusive public license, which implicitly waives any claim in copyright law upon dedication to the public.

55. Marrella & Yoo, *supra* note 54, at 825.

56. BLACK'S LAW DICTIONARY 1004 (9th ed. 2009) (defining "open-source license").

In exchange for access to the source code, the author imposes certain "restrictions" on its use.[57] For example, the author may require that any modifications to the code be placed in the public domain, or that any derivative works provide attribution to the original author when distributed in the future.[58] Failure to adhere to the restrictions violates the license, and, in theory, similar to a breach of a traditional license agreement, a damages award or court-ordered injunction would be appropriate.[59] As Part III illustrates, enforcement is difficult in practice, but the open source license was intended to allow the code's creator to retain control of the code while gaining the benefits associated with public dedication.[60]

Although the open source philosophy embodies the notion that software should be freely available to the public, the "copyleft" movement, a subset of the open source movement, takes the concept a step further. Code must be freely available and modifiable to be considered open source.[61] For a code to qualify as copyleft, however, any person who incorporates, modifies, or derives a new program from the original code must freely provide the entire new version to the public.[62]

Copyleft aims to keep all open source software from being converted to proprietary software.[63] Hence, whereas all software considered copyleft compliant qualifies as open source, not all open source licenses are copyleft compliant.[64] The different types of open source licensing,

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57. Marrella & Yoo, *supra* note 54, at 825; *see also* John Tsai, Note, *For Better or Worse: Introducing the GNU General Public License Version 3*, 23 BERKELEY TECH. L.J. 547, 554 (2008).

58. Marrella & Yoo, *supra* note 54, at 825; Tsai, *supra* note 57, at 554. The nature of the restrictions are highly license dependent. The goal of each licensor dictates license selection; hence, different goals result in different limitations. The Open Source Initiative, discussed *infra*, details the requirements of each license that conforms to the Open Source Definition. *See* Open Source Initiative, Open Source Licenses, http://www.opensource.org/licenses (last visited May 24, 2010) (follow the hyperlinks to obtain a full list of licenses by name or category, and follow the subsequent hyperlinks to view the actual licensing language of each).

59. For a discussion of the difficulties in determining the damages resulting from a breach of an open source license, see Fabricius, *supra* note 18, at 75–76.

60. *See, e.g.*, Clark D. Asay, *The General Public License Version 3.0: Making or Breaking the Foss Movement?*, 14 MICH. TELECOMM. & TECH. L. REV. 265, 269–70 (2008), http://www.mttlr.org/volfourteen/asay.pdf (noting the purpose of free software is to allow unfettered access for users, including the right to modify and redistribute as they see fit, as opposed to open source software, over which the creator retains more control).

61. Free refers to free access to the source code, as opposed to freeware, which requires that the software be distributed to all users free of charge. *See* Kennedy, *supra* note 26, at 358; Open Source Definition, *supra* note 46.

62. GNU Operating System, What Is Copyleft?, http://www.gnu.org/copyleft/ (last visited May 24, 2010) [hereinafter GNU, What Is Copyleft?]. As the GNU General Public License states, "When we speak of free software, we are referring to freedom, not price." GNU Operating System, GNU General Public License, http://www.gnu.org/copyleft/gpl.html (last visited May 24, 2010) [hereinafter GNU General Public License]. A person is welcome to sell open source software for profit, so long as the source code is provided to the end user when the sale is completed. *Id.* Hence, a monetary profit is still permissible under a copyleft license. *Id.*

63. GNU, What is Copyleft?, *supra* note 62.

64. *See* GNU Operating System, Categories of Free and Non-Free Software, http://www.gnu.org/philosophy/categories.html (last visited May 24, 2010); Open Source Definition, *supra* note 46.

both those that are copyleft compliant and those that are not, are dis-
cussed below.

C.   The Open Source Definition: An Attempt at a Standard

As open source code became more prevalent within the program-
ming community, the number of different open source licenses skyrock-
eted, resulting in much uncertainty regarding the actual rights granted by
different licenses to both the licensor and the licensee.[65]   The Open
Source Initiative (OSI), founded in the late 1990s, sought to combat this
uncertainty by authoring an industry-standard Open Source Definition
(OSD). The OSI evaluates purported open source licenses against the
OSD to determine whether such licenses are OSD compliant.[66]

Currently, the OSI compares software licensing agreements with the
OSD, certifying as OSD compliant any license that meets the definition.[67]
This certification alerts potential programmers that the code is indeed
open source, and while there may be nuances to the license not dealt
with in the OSD, the software is generally safe to modify and distribute.[68]
There are currently seventy-seven licenses that qualify as open source
under the OSD, and the list continues to grow as additional licenses are
written by developers and evaluated by the OSI.[69]

While opinions differ as to what should constitute open source, the
general requirements imposed by the OSD remain relatively clear. First,
to be OSD compliant, the license cannot restrict anyone from selling or
giving away the software either by itself or as part of a software pack-
age.[70] Second, any distribution of the software must be accompanied by
the source code, or the source code must be freely available via the In-
ternet.[71] Third, the license must allow a user to modify, distribute, or de-
rive new works from the licensed work and allow distribution of these

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65.   The open source movement began in the early 1980s as a small, grassroots rebellion against
copyright protection of computer software. GNU Operating System, Overview of the GNU System,
http://www.gnu.org/gnu/gnu-history.html (last visited May 24 2010). It is now estimated that as many
as 100 million works are covered under some version of open source license. *See* Jacobsen v. Katzer,
535 F.3d 1373, 1378 (Fed. Cir. 2008) (citing statistics provided by Creative Commons); ROD DIXON,
OPEN SOURCE SOFTWARE LAW 19–20 (2004).

66.   Open Source Initiative, History of the OSI, http://www.opensource.org/history (last visited
May 24, 2010) [hereinafter OSI: History].

67.   Open Source Initiative, Open Standards Requirements for Software-Rationale, http://www.
opensource.org/osr-rationale (last visited May 24, 2010).

68.   Open Source Initiative, The License Review Process, http://www.opensource.org/approval
(last visited May 24, 2010) (detailing the purpose of the review process, in addition to providing infor-
mation on how to submit a license to be reviewed by the OSI board).

69.   The number of approved licenses includes eleven licenses that "have been superceded [sic]
or retired" by the creator of the license but are still considered OSD compliant, as well as the sixty-six
licenses approved for current use by the OSI.   Open Source Initiative, Licenses by Name,
http://www.opensource.org/licenses/alphabetical (last visited May 24, 2010); Open Source Initiative,
Superceded and Retired Licenses, http://www.opensource.org/licenses/do-not-use.html (last visited
May 24, 2010).

70.   Open Source Definition, *supra* note 46.

71.   *Id.*

"new" works under an open source license.[72] Nevertheless, different licenses incorporate a myriad of additional limitations that further effectuate the will and desire of the programmer.[73]

D. The General Public, Artistic, and Other Open Source Licenses

The most common open source license is the General Public License (GPL).[74] Developed by Richard Stallman, founder of the Free Software Foundation (FSF), the GPL is "part manifesto and part license," outlining the free software philosophy and detailing the requirements for a software program to be released under the GPL.[75] As stated in the GPL preamble:

> [F]ree software . . . refer[s] to freedom, not price. . . . General Public Licenses are designed to make sure that you[, the users of the software,] have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.[76]

Stallman, an MIT professor and software developer since the 1970s, created the first version of the GPL in an effort to combat the proprietary software development that took programming out of the open source community and into the private, business-focused sector.[77] The license continues to evolve, with the newest version being released in 2007.[78] Arguably, this is the most complete open source licensing agreement, with lawyers and programmers attempting to draft a license that would allow the licensor to retain broad rights enforceable against the licensee and other users.[79]

To ensure that GPL-licensed software remains "free," the license requires that any GPL software mixed with non-GPL software be subject to the terms of the GPL.[80] Furthermore, any modifications made to GPL software must remain available in the public domain; in other words, the

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72. *Id.*

73. For a brief overview of the different features of the most popular open source licenses available today, see Alan Stern & Robin J. Lee, *Open Source Licensing*, *in* UNDERSTANDING THE INTELLECTUAL PROPERTY LICENSE 2008, at 259, 288–96 (2008).

74. Tsai, *supra* note 57, at 552.

75. Kennedy, *supra* note 26, at 350; *see also* GNU Operating System, The GNU Manifesto, http://www.gnu.org/gnu/manifesto.html (last visited May 24, 2010) [hereinafter GNU Manifesto].

76. GNU General Public License, *supra* note 62.

77. Richard Stallman, *The GNU Operating System and the Free Software Movement*, *in* OPEN SOURCES: VOICES FROM THE OPEN SOURCE REVOLUTION, *supra* note 12, at 53, 53–55, *available at* http://www.gnu.org/gnu/thegnuproject.html.

78. See generally Asay, *supra* note 60, for an in depth analysis and discussion of the terms in the newest version of the GPL license, commonly referred to as GPLv3.

79. For an explanation of the GPLv3 drafting process, including the lawyers and interests involved, see Bruce Byfield, *The GPLv3 Process: Public Consultation and Private Drafting*, LINUX.COM, Aug. 25, 2006, http://www.linux.com/archive/articles/56554.

80. GNU General Public License, *supra* note 62.

software may never be privatized.[81] In addition, all works derived from GPL software must be released under the GPL license, and works sold for profit must include full, unfettered access to the source code of the program.[82] Therefore, the GPL license is both an open source license and a copyleft-compliant agreement.[83]

Another example of an open source license is the Artistic License, which was the agreement at issue in *Jacobsen v. Katzer*.[84] The license permits the user to copy and modify the original source.[85] But any such modification or incorporation of the original source code into another work must contain attribution to the original source code and must document what portions of the new, modified work are products of the original source.[86] If the attribution is appropriate, distribution of the modified work as proprietary software is permissible under the licensing terms.[87] Hence, the Artistic License is OSD compliant but fails to meet the definition of copyleft.

Other licenses considered OSD compliant embody some tenets of Stallman's copyleft philosophy but do not place as many restrictions on downstream control. One example is the Berkley Software Distribution (BSD) license, which was used in the development of the Unix operating system for AT&T.[88] BSD-licensed source code is freely available to the public in order to encourage the creation of derivative works.[89] Similar to the GPL, the BSD license promotes a community-based programming approach.[90]

In an effort to make BSD-licensed code more appealing to commercial developers, derivative works are not automatically subjected to the BSD license's terms.[91] Therefore, although commercial developers are encouraged to return derivative works to the public domain, they are not required to do so under the license.[92] Hence, the BSD license does not conform to the definition of copyleft embodied by the GPL, but still qualifies as open source under the OSD.[93]

With the sheer volume of open source licenses available, a person must be careful when speaking in generalities with respect to open

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81. *Id.*

82. *Id.*

83. All GPL licenses have at least one exception to their copyleft compliance, however, known as the "system library exception." *See* GNU Operating System, Frequently Asked Questions About the GNU Licenses, http://www.gnu.org/licenses/gpl-faq.html (last visited May 24, 2010).

84. 535 F.3d 1373, 1375–76 (Fed. Cir. 2008).

85. Open Source Initiative, Artistic License 2.0, http://www.opensource.org/licenses/artistic-license-2.0.php (last visited May 24, 2010) [hereinafter Artistic License 2.0].

86. *Id.*

87. *Id.*

88. *See* Andrew LaFontaine, Note, *Adventures in Software Licensing:* SCO v. IBM *and the Future of the Open Source Model*, 4 J. ON TELECOMM. & HIGH TECH. L. 449, 464–65 (2006).

89. *See* Kennedy, *supra* note 26, at 363; Open Source Definition, *supra* note 46.

90. *See* Kennedy, *supra* note 26, at 363–64; Open Source Definition, *supra* note 46.

91. Kennedy, *supra* note 26, at 364; Open Source Definition, *supra* note 46.

92. Kennedy, *supra* note 26, at 364; Open Source Definition, *supra* note 46.

93. Kennedy, *supra* note 26, at 364; Open Source Definition, *supra* note 46.

source. Licensing agreements are nuanced documents, with differences in both language and philosophy arguably leading to different interpretations of open source agreements. Therefore, Part III of this Note, after first addressing the general enforcement issues facing these open source licenses, analyzes two licenses in particular: the Artistic License at issue in *Jacobsen v. Katzer* and the GPL, which is the most widely used open source license and best embodies the copyleft philosophy.[94]

III. ANALYSIS

While open source licensing continues to grow and permeate the software development landscape, the enforceability of these licensing agreements remains relatively unclear.[95] Under traditional software licensing agreements, the developer grants some type of license to the licensee for either monetary compensation or access to the software's source code.[96] Because the license protects the proprietary work, the value of the work is more amenable to protection under copyright, patent, or even state trade secret law.[97] Relief is available to the developer under all three protection regimes when the relevant laws are broken.[98]

When traditional licensing agreements are not enforceable under copyright, patent, or trade secret law, they are still typically enforceable under contract law because the licensing agreement involves at least two parties that agreed to be contractually bound to the licensing terms.[99] Additionally, in cases where monetary damages are difficult to prove with certainty, liquidated damages provisions may be included in the license.[100] In open source licensing agreements, however, contractual re-

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94. Though use of licensing agreements in open source is difficult to precisely track given the nebulous nature of most projects, certain open source forums evidence GPL, GPLv2, and GPLv3's prevalence. *See, e.g.*, freshmeat.net, Statistics and Top 20, http://freshmeat.net/stats (last visited Mar. 18, 2009) (showing that GPL licenses protect almost two-thirds of the current projects on this particular open source forum).

95. Fabricius, *supra* note 18, at 68 ("Discussing open source licenses as a single monolithic license must be avoided . . . .").

96. One frequently seen example is the shrink-wrap license agreement. These agreements come with many types of software bought by a consumer, and "seek to (1) prohibit users from making unauthorized copies of the software, (2) prohibit modifications to the software, (3) limit use of the software to one computer, (4) limit the manufacturer's liability, and (5) disclaim warranties." BLACK'S LAW DICTIONARY, *supra* note 56, at 1004.

97. All of these areas include damages provisions for infringement or misappropriation of the proprietary work. *See* 17 U.S.C. §§ 502−505 (2006) (enumerating available remedies under the copyright laws); 35 U.S.C. §§ 281−297 (enumerating available remedies under the patent laws); UNIF. TRADE SECRETS ACT §§ 2–4 (1985) (enumerating available remedies for trade secret misappropriation under the Uniform Trade Secret Act, which has been adopted in whole or in part in almost every state).

98. *See* 17 U.S.C. §§ 502−505; 35 U.S.C. §§ 281−297; UNIF. TRADE SECRETS ACT §§ 2–4.

99. In other words, offer, acceptance, and consideration are readily ascertainable from the context of the licensing agreement.

100. For a definition of liquidated damages, see BLACK'S LAW DICTIONARY, *supra* note 56, at 447 ("An amount contractually stipulated as a reasonable estimation of actual damages to be recovered by one party if the other party breaches. If the parties to a contract have properly agreed on liquidated

quirements—namely, offer, acceptance, and consideration, as well as liquidated damages provisions—are oftentimes lacking.[101]

A.   Enforcing Open Source Licenses: The Condition Versus Covenant Distinction

At the heart of the *Jacobsen* decision is the distinction between covenants and conditions in licensing agreements.[102] The difference, though somewhat nuanced, is nonetheless critical to understanding both the Federal Circuit's decision and open source licensing in general.[103] A condition may be defined as a restriction that "govern[s] the scope of the permission to perform acts that would otherwise constitute copyright infringement," while a covenant "govern[s] [the] acts that are additional to or beyond the scope of acts that constitute copyright infringement."[104] In other words, covenants include actions the licensee agrees not to do in accepting the licensing agreement, whereas a condition is a restriction that must be satisfied for the user to be licensed in the first place.[105] If a court determines that a licensing term is a covenant, state contract law governs.[106] Alternatively, if the court determines a term to be a condition, federal copyright law governs.[107]

Although this distinction may appear inanely subtle and therefore not important, the difference is actually quite significant in the context of open source licensing. As discussed below, remedies available to the injured party differ depending on whether the claim is based on copyright or contract law.[108] Most notably, copyright law entitles the licensor to statutory damages, as well as attorney fees in some cases, whereas contract law does not.[109]

1.   Enforcing Open Source Licenses Under State Contract Law

There is a wide variety of software licensing agreements, but the same fundamental principles of contract law govern all of them. For a

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damages, the sum fixed is the measure of damages for a breach, whether it exceeds or falls short of the actual damages.").

101.   *See* Fabricius, *supra* note 18, at 72–76.

102.   *See* Jacobsen v. Katzer, 535 F.3d 1373, 1380 (Fed. Cir. 2008); Jacobsen v. Katzer, No. C 06-01905 JSW, 2007 WL 2358628, at *6 (N.D. Cal. Aug. 17, 2007).

103.   Richard Wilder & Noah Clements, GPLv3 Is a Contract and Why It Matters 2 (n.d) (White Paper, Ass'n for Competitive Tech.) (on file with author).

104.   *Id.*

105.   Posting of Michael Kwun to Electronic Frontier Foundation Deeplinks Blog, http://www.eff.org/deeplinks/2008/08/condition-or-covenant-and-why-should-you-care (Aug. 13, 2008).

106.   *Jacobsen*, 535 F.3d at 1380.

107.   17 U.S.C. § 301 (2006) ("[A]ll legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed exclusively by [the Federal Copyright Act]."); *see also* Sun Microsystems, Inc. v. Microsoft Corp., 188 F.3d 1115, 1121 (9th Cir. 1999); Graham v. James, 144 F.3d 229, 236 (2d Cir. 1998).

108.   *See infra* Part III.A.1–2.

109.   *See infra* Part III.A.2.

license to be enforced under principles of contract law, an offer, acceptance, and consideration must be present.[110] In the context of open source licensing, the offer usually takes the form of a programmer providing a piece of source code on a website for public use, with the licensing agreement in plain view on the webpage.[111] Acceptance and consideration, however, are often more difficult to prove.[112] Even if a user of the code derives a benefit from using it, proving that the user accepted the license's terms remains difficult.[113]

The *Restatement (Second) of Contracts* defines acceptance as "a manifestation of assent to the terms thereof made by the offeree in a manner invited or required by the offer."[114] This manifestation of assent can be through promise or conduct.[115] As noted by the Seventh Circuit in *ProCD, Inc. v. Zeidenberg*, "A buyer may accept [a contract] by performing the acts the vendor proposes to treat as acceptance."[116] Professor Sapna Kumar notes that a potential open source licensee may accept the license "by distributing her software with a copy of the license. If the recipient modifies the program and then distributes it, she triggers the terms and conditions of the license. If the recipient adheres to these restrictions, she will likely be found to have 'accepted' the [license]."[117]

In *ProCD* and its progeny, licensors secured acceptance by using a "click-wrap" or "shrink-wrap" provision.[118] These provisions ensure that the licensee has actual notice of the license and effectively manifests his or her assent, thereby perfecting acceptance of the licensing terms.[119] In

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110. RESTATEMENT (SECOND) OF CONTRACTS § 17(1) (1981) ("[T]he formation of a contract requires a bargain in which there is a manifestation of mutual assent to the exchange and a consideration."); *id.* §§ 24−34 (detailing the various nuances of what constitutes an offer); *id.* §§ 48−69 (defining what constitutes an acceptance); *id.* § 71 (outlining the requirements of exchange); *id.* § 79 (detailing what constitutes adequacy of consideration).

111. *See* Fabricius, *supra* note 18, at 72−76 (noting the various problems presented by enforcing the Artistic License under contract law, and hypothesizing that based on current case law, the offer (and acceptance) would be made clearer if shrink-wrap or click-wrap agreements were used).

112. *Id.*

113. *See* Specht v. Netscape Commc'ns Corp., 306 F.3d 17, 35 (2d Cir. 2002) (holding no implicit consent by the offeree to contract terms posted on a website). *But see* Register.com, Inc. v. Verio, Inc., 356 F.3d 393, 402 (2d Cir. 2004) (holding that the offeree encountering terms of a contract through a posted link was assent under contract law).

114. RESTATEMENT (SECOND) OF CONTRACTS § 50.

115. *Id.*

116. 86 F.3d 1447, 1452 (7th Cir. 1996).

117. Sapna Kumar, *Enforcing the GNU GPL*, 2006 U. ILL. J.L. TECH. & POL'Y 1, 18 (footnote omitted).

118. Davidson & Assocs. v. Jung, 422 F.3d 630, 639 (8th Cir. 2005) (holding shrink-wrap agreement clause prohibiting reverse engineering enforceable); Forrest v. Verizon Commc'ns, Inc., 805 A.2d 1007, 1010 (D.C. 2002) (holding a forum selection clause enforceable when a click-wrap Internet agreement was the only notice of such a clause); i.LAN Sys., Inc. v. Netscout Serv. Level Corp., 183 F. Supp. 2d 328, 330, 338–39 (D. Mass. 2002) (holding a click-wrap license enforceable against the software purchaser).

119. *But see* Richard A. Epstein, *Why Open Source Is Unsustainable*, FIN. TIMES, Oct. 21, 2004, http://www.ft.com/cms/s/2/78d9812a-2386-11d9-aee5-00000e2511c8.html ("In principle, the entire Microsoft operating system could count as 'the work' that becomes open source because a few lines of open source code have been incorporated into it by inadvertence."). While incorporation by true inadvertence will likely not result in such dire consequences as predicted by Epstein, the possibility of a

the context of open source, many programmers do not utilize such provisions and instead post a link or folder containing the relevant licensing agreement on the website where the source code is available.[120] Arguably, a user would be able to download the open source code without notice of the licensing terms, making acceptance of the terms difficult to prove.[121] The user could reasonably assert that he or she believed the code was dedicated to the public and that use of the code did not constitute any acceptance of the agreement.[122]

In addition to acceptance, the licensor must also prove consideration. Typically, consideration takes the form of monetary payment or a promise, such as when a user of a good or service provides some type of monetary compensation in exchange for the promise of service or delivery of a good.[123] In the context of open source, however, such traditional notions are difficult to apply. By definition, an open source programmer distributes source code with no (or nominal) limits on how the end user modifies the code.[124] Identifying what tangible benefit the programmer receives in return for the access to the code is difficult.[125]

Given that the consideration threshold in contract is low, the benefit the licensor receives could be the public's contribution to the licensed source code, and the benefit received by the licensee is the code, which would not be available but for the open source license.[126] As exemplified by the Artistic License, there is no requirement for the licensee to make any modifications to the original code available under an open source license; the licensor does not receive improvements to the code in ex-

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slightly modified scenario playing out is still cause for concern. For instance, if a programmer at Microsoft were to click the "I accept" box on an open source agreement and then incorporate even a relatively small portion of the licensed code in the Microsoft operating system, theoretically speaking, a court would be within its power to compel licensing of the "infected" portion of the code under the open source agreement as the license requires. While unlikely in practice, it is still a concern worth noting.

120. *See, e.g.*, Jacobsen v. Katzer, 535 F.3d 1373, 1376 (Fed. Cir. 2008) (referencing the "'COPYING' file" with licensing terms labeled on the plaintiff's website and viewable by user).

121. *See* Fabricius, *supra* note 18, at 73.

122. *See* Register.com, Inc. v. Verio, Inc., 356 F.3d 393, 401–02 (2d Cir. 2004) (noting offeree had notice of contract terms posted on a website prior to holding the agreement enforceable).

123. *See* RESTATEMENT (SECOND) OF CONTRACTS § 71 (1981) (noting the requirements for consideration to exist). This is certainly the most straightforward type of consideration in contract law, but forbearance, promise, and the like are also common. Given the structure of the license, each type of consideration runs into the same fundamental difficulties.

124. Certainly, limits such as attribution to the original author may apply, but with respect to how the actual code is modified or distributed, by its very nature open source embodies the notion that the code should be used with little to no restriction. To do otherwise would implicitly adopt a more traditional notion of copyright law and the licensing practices that go with it.

125. *But see* Robert A. Hillman & Maureen A. O'Rourke, *Rethinking Consideration in the Electronic Age*, 61 HASTINGS L.J. 311, 314–15 (2009) (arguing that copyleft and other open source licensing restrictions do not lack consideration and that courts should reconceptualize the consideration doctrine more generally as society moves from a paper to digital age); Ming-Wei Wu & Ying-Dar Lin, *Open Source Software Development: An Overview*, COMPUTER, June 2001, at 33, 33–34, http://speed. cis.nctu.edu.tw/~ydlin/insideopen.pdf (noting that the large scale collaboration and feedback that is at the core of open source allows development and refinement of a multitude of programming projects).

126. *See* Hillman & O'Rourke, *supra* note 125, at 328–29.

change for the public dissemination.[127] In such cases, identifying the requisite consideration proves problematic.[128]

Even if a valid contract exists, additional obstacles may prevent effective enforcement of the license in court.[129] When the source code is free, proving damages flowing from the breach of the license is difficult because the licensor is not entitled to any monetary compensation under the terms of the agreement.[130] State contract law governs contract formulation and interpretation, and most states require the injured parties to prove a damages award with reasonable certainty for an award to be proper.[131] For open source license agreements, such damages are not easy to ascertain.[132] Additionally, the plaintiff's burden of proof to receive injunctive relief is high.[133] Therefore, a licensee will be able to continue using the code without further problems.

Suppose that despite all of the aforementioned problems, a licensor is able to establish a valid contract but is unable to prove damages with reasonable certainty. Under contract law, a licensor could theoretically pursue specific performance of the licensing term.[134] In the case of open source licensing agreements, this may require the licensor to make the entire derivative work available under the open source licensing agreement at issue.[135] This "viral licensing" aspect would further incentivize judges to find the license unenforceable because harm done to the unwitting licensee could be disproportionately severe when compared to the harm endured by the licensor.[136] As the above analysis illustrates, in the context of open source licensing, enforcement of the license under contract law leaves much to be desired.

Finally, the plaintiff's burden of proof for a preliminary injunction may be difficult to meet. To prevail on a petition for a preliminary injunction, the licensor needs to show (1) a likelihood of success on the merits of the contract claim and (2) that irreparable harm would occur

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127. *See* Fabricius, *supra* note 18, at 74–75.
128. Fabricius discusses the related problem presented by the concept of the bare licensing agreement, which is essentially a permissive grant to use property without any sort of return promise. *See id.* at 81–82.
129. *See* RESTATEMENT (SECOND) OF CONTRACTS §§ 346–347 (1981) (defining when damages are appropriate, how to measure damages, and what to do if damages are nominal or uncertain).
130. *See id.*; Fabricius, *supra* note 18, at 75.
131. RESTATEMENT (SECOND) OF CONTRACTS § 352 ("Damages are not recoverable for loss beyond an amount that the evidence permits to be established with reasonable certainty.").
132. *See, e.g.*, Artistic License 2.0, *supra* note 85 (failing to provide any liquidated damages provision or enunciate a benefit that can be monetarily quantified to a reasonable degree of certainty).
133. *See* RESTATEMENT (SECOND) OF CONTRACTS § 359(1). Plaintiff would be forced to prove that the expectation interest that he or she has necessitates an injunction. As the source code is usually provided free of charge with no limitations on the modifications that may be done, this hurdle will be difficult to overcome.
134. *Id.* § 345(b).
135. *See* Kumar, *supra* note 117, at 15.
136. *See* Epstein, *supra* note 119.

absent the injunction.[137] Assuming, arguendo, that the licensor is able to establish a likelihood of success on the contract claim, he or she must also show that irreparable harm would likely occur absent an injunction.[138] Under the typical open source license, licensors distribute code free of charge or with the sale of an open source software package, and a user is permitted to use and modify the code as he or she sees fit.[139] Given this wide latitude of use granted by the license,[140] showing irreparable damage to the original licensor is difficult.

As illustrated above, a licensor must clear many difficult hurdles to enforce an open source license under contract law. Offer, acceptance, consideration, and proof of damages all present challenges. Additionally, the cost of litigation is often prohibitively high for a licensor that provides the source code free of charge.[141] Hence, even if an enforceable contract exists, incentive to bring a breach of contract claim remains sorely lacking.

2. *Enforcing Open Source Licenses Under Copyright Law*

Given the issues surrounding open source licensing enforcement under contract law, copyright law is the most attractive legal basis for enforcement.[142] In order for a theory of copyright enforcement to be properly applied, however, the license must contain terms that the court deems "conditions."[143] The relevant advantages of a copyright infringement claim, in comparison to a state contract claim, are discussed below.

To prove copyright infringement, the licensor must meet two main requirements. First, the work in question (in this case, the source code) must be a copyrightable work.[144] Second, the individual seeking to enforce the copyright must prove authorship of the work in question.[145]

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137. *See, e.g.*, Perfect 10, Inc. v. Amazon.com, Inc., 487 F.3d 701, 713−14 (9th Cir. 2007); Dep't of Parks & Recreation v. Bazaar Del Mundo Inc., 448 F.3d 1118, 1123 (9th Cir. 2006).

138. Jacobsen v. Katzer, 609 F. Supp. 2d 925, 937–38 (N.D. Cal. 2009) (holding that the licensor failed to meet the heightened burden of showing likelihood of irreparable harm as required in *Winter v. Natural Resources Defense Council, Inc.*, 129 S. Ct. 365, 374 (2008)).

139. *See supra* notes 70–72 and accompanying text.

140. *See supra* notes 70–72 and accompanying text.

141. *See, e.g.*, Brian W. Carver, Note, *Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses*, 20 BERKELEY TECH. L.J. 443, 464−68 (2005) (noting that enforcement responsibility rests with the author of the code, many of whom will likely not have the money to pursue an aggressive enforcement strategy due to litigation cost concerns).

142. Scholars tend to generally agree with this assertion. *See, e.g.*, Kumar, *supra* note 117, at 35–36.

143. *See supra* notes 102−107 and accompanying text.

144. *See* 17 U.S.C. § 102 (2006) (requiring that a copyright subsist in a "tangible medium of expression," and forbidding copyright protection to extend to protect any "idea, procedure, process, system, method of operation, concept, principle, or discovery").

145. U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their . . . Writings . . . ."); 17 U.S.C. § 102(a) ("Copyright protection subsists . . . in original works of authorship . . . .").

In the context of open source licensing, where works are often modified and distributed under the same license, establishing the code's author and what portion of the code was modified by a third-party user is important. Organizations such as the Free Software Foundation (FSF) are helpful in establishing authorship because they serve as monitors and conduits of information pertaining to licensing and authorship within the open source community.[146]

Once an author shows a work is protectable under copyright law, the copyright holder must show that the work is the subject of copying.[147] This copying may either be verbatim, "slavish" copying, which is easy to prove, or the copyright holder may show that the infringer had both access to the work and that the alleged infringer's product is substantially similar to the copyrighted work.[148] Though this inquiry is usually quite fact intensive, it is nonetheless necessary when establishing any copyright infringement claim.[149]

Once a plaintiff establishes infringement, two primary remedies may be available. First, the plaintiff may seek injunctive relief, which prohibits the infringer from continuing to improperly use the protected work.[150] Second, the plaintiff may be entitled to monetary damages, either in the form of actual damages (which will often be difficult to prove in open source licensing agreements) or statutorily defined remedies.[151] This latter group of remedies can range anywhere from $750 to $150,000, depending in large part on the defendant's culpability.[152] In some cases, an attorney fee award for the prevailing party may also be appropriate.[153]

Again, the appropriate amount of damages will depend on the particular facts of a given case.[154] Most open source programmers, however, prefer enforcement of licensing terms over a monetary damage award.[155] Therefore, the possibility of such damages will likely be leveraged against the defendant to ensure future compliance, thereby effectuating the goals embodied by the open source philosophy.[156]

There are several advantages to copyright protection when compared to contract. First, copyright law is federal law and, therefore, the

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146. Carver, *supra* note 141, at 465 (noting that although the FSF often may not directly enforce the rights, many copyright holders report violations to them, and that they do own some of the more popular open source software available, which they therefore may sue to enforce).

147. *See, e.g.*, MAI Sys. Corp. v. Peak Computer, Inc., 991 F.2d 511, 517 (9th Cir. 1993), *cert. denied*, 510 U.S. 1033 (1994).

148. For an example of the "slavish" copying standard, see *Bridgeman Art Library, Ltd. v. Corel Corp.*, 36 F. Supp. 2d 191, 196 (S.D.N.Y. 1999), and for an example of the substantial similarity standard, see *Steinberg v. Columbia Pictures Industries, Inc.*, 663 F. Supp. 706, 711–12 (S.D.N.Y. 1987).

149. *See, e.g.*, MGM Studios Inc. v. Grokster, Ltd., 545 U.S. 913, 931 (2005) (analyzing what copyright infringement liability doctrines applied to a case based on the facts).

150. *See* Winter v. Natural Res. Def. Council, Inc. 129 S. Ct. 365, 374 (2008).

151. 17 U.S.C. §§ 502−505 (2006).

152. *Id.* § 504(c).

153. *Id.* § 505.

154. *Id.* §§ 502–505.

155. *See* Carver, *supra* note 141, at 471–72.

156. *See supra* Part II.B.

state-by-state variation of contract law does not present a problem.[157]
Second, as noted above, copyright law provides statutory damage provisions if actual damages are nominal or difficult to prove.[158] Additionally, copyright law may allow for a plaintiff to recover attorney fees and costs in a successful infringement action.[159] Such provisions will encourage copyright holders, such as open source licensors, to enforce their rights against users because the potentially steep enforcement costs are offset by potential awards of statutory damages and recovery of attorney fees.[160]

In summary, there are several differences between contract and copyright enforcement, with the latter a more attractive enforcement alternative than the former. With the aforementioned copyright and contract law in mind, we now proceed to the landmark *Jacobsen* decision.[161]

B.   The Jacobsen v. Katzer *Decision*

In a case of first impression at the appellate court level, the Federal Circuit held that the Artistic License was enforceable under both copyright and contract law.[162] The decision gave the open source movement new life by overturning the district court's holding that open source licensing agreements were only enforceable under contract law.[163] In light of the Federal Circuit's decision, open source licensors have cause to celebrate.

1.   The Facts

Jacobsen, the manager of the Java Model Railroad Interface (JMRI), an open source software group, held a copyright for source code used in a software program called DecoderPro, which model hobbyists used to run trains.[164] The code was available to the public for no cost on the JMRI website, but was subject to the terms of the Artistic License set forth on the website under a "COPYING" file heading.[165] Katzer offered a competing application, Decoder Commander.[166]

Jacobsen filed a lawsuit in the Northern District of California, alleging that Katzer downloaded the DecoderPro source code from the JMRI website and incorporated portions of the code into Decoder Command-

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157. *See* 17 U.S.C. § 301 ("[A]ll legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed exclusively by this title.").

158. *Id.* § 504(c).

159. *Id.* § 505 ("[T]he court may . . . award a reasonable attorney's fee to the prevailing party as part of the costs.").

160. *See id.* §§ 504(c), 505.

161. Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008).

162. *Id.* at 1382−83.

163. *Id.* at 1377, 1383.

164. *Id.* at 1376.

165. *Id.* at 1375−76.

166. *Id.* at 1376.

er.[167] Jacobsen alleged that Katzer's use of the DecoderPro software violated the Artistic License because it "did not include (1) the authors' names, (2) JMRI copyright notices, (3) references to the COPYING file, (4) an identification of . . . the original source of the definition files, and (5) a description of how . . . the original source code [was altered]."[168]

Jacobsen sought a preliminary injunction on the grounds "that the violation of the terms of the Artistic License constituted copyright infringement and that . . . irreparable harm could be presumed" from the infringement.[169] The district court determined that although Katzer's conduct may have constituted a breach of contract, there were no grounds for a copyright infringement claim.[170] It reasoned that the Artistic License, which grants the public the right to copy, distribute, and modify Jacobsen's code so long as the code is properly attributed to JMRI, was a nonexclusive public license.[171]

A nonexclusive public license implicitly promises the licensee that there will be no copyright infringement suit.[172] The court noted that if Katzer exceeded the license's scope, a copyright infringement suit might be possible,[173] but given that the license permitted the user to copy, distribute, and modify the code as he or she deemed fit, the scope was not violated.[174] Rather, Katzer's failure to properly attribute the modified work to Jacobsen violated a license term but not the license's scope, rendering a copyright infringement claim improper.[175] According to the district court, remedy in contract was the only relief available to Jacobsen.[176] Jacobsen appealed.[177]

In a somewhat rare decision pertaining to copyright law,[178] the Federal Circuit vacated the district court decision and held that a violation of

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167. *Id.*

168. *Id.*

169. *Id.* at 1377.

170. Jacobsen v. Katzer, No. C 06-01905 JSW, 2007 WL 2358628, at *6 (N.D. Cal. Aug. 17, 2007).

171. *Id.*

172. *Id.*; *see also* Everex Sys. v. Cadtrak Corp. (*In re* CFLC, Inc.), 89 F.3d 673, 677 (9th Cir. 1996) (citing De Forest Radio Tel. Co. v. United States, 273 U.S. 236, 242 (1927)); Effects Assocs., Inc. v. Cohen, 908 F.2d 555, 559 (9th Cir. 1990).

173. *Jacobsen*, 2007 WL 2358628, at *7 (citing S.O.S., Inc. v. Payday, Inc., 886 F.2d 1081, 1088 (9th Cir. 1989)) (noting the software license permitted the licensee to use the software, but reserved all other rights to the licensor; hence, the modification of the software both exceeded the scope of the license and infringed the copyright of the licensor).

174. *Id.* at *6–7.

175. *Id.* at *7.

176. *Id.* Due to the problems associated with copyright infringement claims, the district court held that Jacobsen failed to meet the "burden of demonstrating . . . a combination of probable success on the merits," and was therefore not entitled to the presumption of harm that would permit a preliminary injunction to be granted. *Id.*

177. Jacobsen v. Katzer, 535 F.3d 1373, 1375 (Fed. Cir. 2008).

178. The Federal Circuit noted that in addition to appealing the denial of a preliminary injunction, Jacobsen also sought a declaratory judgment that one of Katzer's patents was invalid. *Id.* at 1377. Therefore, district court jurisdiction related in part to patent law, and the Federal Circuit was granted appellate jurisdiction. *Id.*; *see* 28 U.S.C. § 1292(c)(1) (2006) (indicating that appeals from interlocutory orders relating to a district court's denial of preliminary injunction, where the district court's jurisdiction was based in part on § 1295, are properly taken by the Federal Circuit); *id.* § 1295(a)(1) ("[T]he

the Artistic License was grounds for a copyright infringement claim as a matter of law.[179] Interpreting Ninth Circuit case law, the court noted that a preliminary injunction would be proper if Jacobsen showed a probability of success on the merits of the claim.[180] The court's analysis turned on the condition-covenant distinction alluded to by the district court.[181] If the limitations imposed by the Artistic License were conditions that defined the license scope, any violation of the conditions would be proper grounds for a copyright infringement claim.[182] If, however, the terms of the Artistic License were interpreted as covenants, any violation of the covenants would be governed only by contract law.[183]

In light of this distinction, Jacobsen argued that the licensing terms were conditions, and that failure to abide by the conditions was copyright infringement.[184] Katzer argued that the licensing terms were covenants that provided contractual terms for the use of the materials.[185] Katzer went on to argue that a violation of the license was not monetarily compensable nor subject to injunctive relief.[186] Katzer's argument was predicated on the assumption that by making the copyrighted material available to the public, Jacobsen had no monetary right in the computer code because "copyright law does not recognize a cause of action for non-economic rights."[187]

In determining whether a finding of copyright infringement was appropriate for a violation of the Artistic License, the court first concluded that the language used in the Artistic License created conditions, not covenants.[188] Second, the court emphasized the importance of the conditions in the license agreement.[189] Jacobsen, by requiring attribution to his original code on all future distributed or modified works, ensured that downstream users knew that the code was a product of open source programming and served as a way for Jacobsen to expand the number of

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Federal Circuit shall have exclusive jurisdiction of an appeal from a final district court of the United States . . . if the jurisdiction of that court was based, in whole or in part, on section 1338 of this title . . . ."); *id.* § 1338(a) ("The district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents . . . ."). The fact that Katzer obtained a patent and attempted to enforce it against Jacobsen, who authored code incorporated in the patented work, presents a novel case.

179. *Jacobsen*, 535 F.3d at 1382−83.

180. *Id.* at 1378. The second element in preliminary injunction determinations—the possibility of irreparable harm if the injunction is not granted—is presumed met for copyright infringement claims. *Id.*

181. *Id.* at 1380.

182. *Id.*

183. *Id.*

184. *Id.*; Brief of Plaintiff-Appellant Robert Jacobsen at 18−20, Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008) (No. 2008-1001).

185. *Jacobsen*, 535 F.3d at 1380−81; Brief of Appellees at 18–21, Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008) (No. 2008-1001).

186. *Jacobsen*, 535 F.3d at 1380−81.

187. *Id.* at 1381.

188. *Id*.

189. *Id.*

programmers involved in the JMRI project.[190] As such, the restrictions imposed by the license were critical to accomplishing the objectives of the JMRI open source project, which the court determined had economic benefit.[191] As the court noted, "Copyright licenses are designed to support the right to exclude [and] money damages alone do not support or enforce that right."[192] By dedicating his program to the public under the Artistic License, Jacobsen chose to require compliance, not compensation, for the use of his work.[193] The court concluded that because compliance should not be afforded less protection than compensation, injunctive relief under copyright law could be appropriate, and the court therefore remanded the case to the district court on the issue of injunctive relief.[194]

2.   The Impact of Jacobsen: Deference to the Federal Circuit Decision

The Federal Circuit has exclusive appellate jurisdiction for all appeals regarding patents.[195] In *Jacobsen*, the Katzer patent provided the requisite jurisdictional grounds to rule on issues pertaining to the copyright infringement claim.[196] This was unusual because most appealed copyright infringement decisions are decided within the jurisdiction in which the infringement claims are brought.[197] Therefore, the Federal Circuit's decision will not bind other circuits in future open source licensing disputes under the doctrine of stare decisis.

Nevertheless, the decision is likely to be quite persuasive in future court decisions in other circuits for two main reasons. First, as of March 2010, the Federal Circuit decision is the only appellate decision currently available to lower courts on the topic of open source license enforceability in contract and copyright law. Second, the Federal Circuit will arguably be accorded at least some deference in copyright law because it is an area of intellectual property often tangentially related to or intertwined with the patent system, over which the Federal Circuit has exclusive appellate jurisdiction.[198]

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190. *Id.*
191. *Id.*
192. *Id.* at 1381−82.
193. *Id.*
194. *Id.* at 1382–83.
195. *See* 28 U.S.C. § 1295(a)(1) (2006) (granting the Federal Circuit exclusive appellate jurisdiction over cases that are based at least in part on a patent).
196. *Jacobsen*, 535 F.3d at 1377.
197. 28 U.S.C. § 1295(a)(1) (stating that Federal Circuit jurisdiction is inappropriate in cases where issues and claims in the case arise exclusively under the Copyright Act); *see* Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 837 (2002) (Stevens, J., concurring in part and concurring in the judgment) (noting that allowing copyright to serve as a jurisdictional grounds for the Federal Circuit would contradict congressional intent).
198. *Jacobsen*, 535 F.3d at 1377 (noting that copyright and patent law issues may arise in a single action between two parties). For a good analysis of the Federal Circuit's influence in the area of licensing law more generally, see Robert W. Gomulkiewicz, *The Federal Circuit's Licensing Law Juri-*

3.   Practical Implications of Jacobsen on Licensors and Licensees Using the Artistic License or GPL

The Federal Circuit clearly indicated in *Jacobsen* that there are significant economic benefits outside of traditional notions of reasonable royalty obtained through open source licensing, and as such, enforcement under the Copyright Act is appropriate.[199] But the practical implications for open source licensors remain far from certain.

First, the *Jacobsen* decision hinged in large part on the language of the actual license, most notably, the "provided that" language of the Artistic License that was construed as a condition as opposed to a contractual covenant.[200] Second, the complaint in *Jacobsen* alleged infringement based on Katzer's failure to properly attribute the open source work to the original authors and failure to describe how the original source code was modified or incorporated into Katzer's program.[201] Though the Federal Circuit considers both requirements to be conditions enforceable under copyright law, it remains unclear which licensing terms will constitute conditions and which will constitute covenants in future suits.[202] For instance, under the newest version of the GPL (GPLv3), all works that incorporate the licensed work must also be distributed under GPLv3.[203] This downstream control is more severe than the conditions at issue in *Jacobsen*, wherein only proper attribution and description were required.[204] Whether these more severe downstream limitations will prove enforceable remains untested.[205]

Third, a practical problem that is likely to arise in open source licensing cases is one of actual notice with respect to downstream third parties who unknowingly incorporate open source code into programs. For example, suppose Programmer A creates a portion of source code and makes it available under the GPLv3. Programmer B incorporates this code into his or her own software and provides it for free on the Internet; however, Programmer B fails to properly provide notice of the licensing agreement covering the "new work." Programmer C takes Programmer B's code and, not seeing any licensing agreement or

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sprudence: Its Nature and Influence, 84 WASH. L. REV. 199, 219 (2009) (concluding that the Federal Circuit's influence in the area of licensing law generally "is more than trivial but less than dominant").

199.   *Jacobsen*, 535 F.3d at 1379.

200.   *Id.* at 1381–82.

201.   *Id.* at 1376.

202.   The Federal Circuit determined the Artistic License, on its face, was intended to be a list of conditions. *Id.* at 1382. Whether intent alone is enough to establish the enforcement of an open source license under the Copyright Act remains to be tested.

203.   *See* GNU Operating System, GNU Affero General Public License, http://www.fsf.org/licensing/licenses/agpl-3.0.html (last visited May 24, 2010) [hereinafter GPLv3] (requiring that the license apply to any and all downstream works that incorporate the code). The license does not, however, apply to the aggregate as a whole, but rather, the portion of the code that adopts, in original form or otherwise, the licensed open source code. *Id*.

204.   *Jacobsen*, 535 F.3d at 1378–79.

205.   As of March 2010, it does not appear that any other open source licensing case of a similar nature was before a district court.

notification on the webpage, incorporates Programmer B's code into a proprietary software package that sells for a profit and only provides the purchaser with the object code. Programmer A, noticing Programmer C's incorporation of his code, sues for copyright infringement for breach of the GPLv3, a license that Programmer C did not know about when adopting the work. The question—who will be liable to whom?

The court in *Jacobsen* seemed to implicitly answer this question in its opinion.[206] In discussing the condition-covenant distinction, the court was careful to point out that Jacobsen, by requiring that any downstream modification and distribution "retain the reference to the original source files," ensured that the user of the open source code had actual notice of the licensing terms.[207] Hence, in order for licensors to hold a downstream user liable, they will likely need to prove actual knowledge of the license's existence and terms.[208] This will ensure that third-party users of code, absent proper attribution on the open source code they unwittingly incorporated into proprietary software, will not be liable to the original software developer.

The more interesting question left open in the opinion is the potential liability of the "middleman" (Programmer B in the above example). If Programmer C lacked notice of the licensing agreement, Programmer B did not abide by the terms of the license used by Programmer A. Hence, Programmer B may be liable for the lack of attribution on his or her own distribution as well as any potential market share or other economic benefit that Programmer A lost due to Programmer C's actions. In other words, but for Programmer B's breach of the licensing conditions, Programmer C would not gain economic benefit that was rightfully Programmer A's. Programmer B is the proximate cause of the economic loss and may be liable for the downstream activity of Programmers C, D, E, and so on.[209]

Considering the number of available open source licenses, the large volume of works placed in the public domain under the licenses, and the complexity of source code, which can often run millions of lines long for more advanced applications, enforcement of open source licenses, even under copyright law post-*Jacobsen*, remains difficult.[210] Groups such as the FSF continue to centralize open source-licensed software with the hope that such practice will make enforcement easier, but whether these

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206. *Jacobsen*, 535 F.3d at 1381–83.

207. *Id.* at 1381.

208. *See, e.g.*, Register.com, Inc. v. Verio, Inc., 356 F.3d 393, 401 (2d Cir. 2004) (holding that the license was enforceable in part because the licensee "knew perfectly well what terms [the licensor] demanded," despite the fact that no formal assent to the license's terms occurred).

209. The liability will likely be limited by the foreseeability of the harm.

210. *See* Stephen Shankland, *Open-Source Overseer Proposes Paring License List*, CNET NEWS, Mar. 2, 2005, http://news.cnet.com/Open-source-overseer-proposes-paring-license-list/2100-7344_3-5596344.html?tag=mncol.

efforts will yield results remains unknown.[211] The facts in *Jacobsen* are relatively simple, as Katzer incorporated Jacobsen's source code directly from the JMRI project.[212] In cases when intermediaries are introduced, the lack of end-user notice of the licensing terms oftentimes prevents enforcement of more traditional licensing agreements, and by analogy, similar problems will likely plague open source licensing agreements.[213]

Fourth, as acknowledged by the OSI mission statement and the preamble of the GPL, the main goal of open source licensing is to promote a collaborative programming environment free of cumbersome copyright restrictions.[214] Most licensors will likely seek injunctions prohibiting a user's improper behavior or seek specific performance of the licensing terms, as opposed to pursuing monetary relief.[215] Certainly, under the Copyright Act, statutory damage awards that range up to $150,000 per infringing work (plus attorney fee awards) are available and will be sought by some injured parties, but preventing the prohibited use will remain the primary goal.[216]

Furthermore, at the time of the Federal Circuit decision, Ninth Circuit law for preliminary injunctions required a plaintiff to demonstrate that a claim was likely to succeed on the merits, with a presumption of irreparable injury if success was likely.[217] Since the Federal Circuit decision, the Supreme Court has modified the standard, requiring a plaintiff to show a likelihood of irreparable injury for an injunction to be granted.[218] Prior to the Court's decision in *Winter v. Natural Resources*

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211.   Free Software Foundation, Free Software Directory, http://directory.fsf.org/ (last visited May 24, 2010) (providing a centralized database of thousands of recognized, useful open source applications).

212.   *Jacobsen*, 535 F.3d at 1376; Jacobsen v. Katzer, No. C 06-01905 JSW, 2007 WL 2358628, at *6 (N.D. Cal. Aug. 17, 2007).

213.   *See, e.g.*, Step-Saver Data Sys., Inc. v. Wyse Tech., 939 F.2d 91, 94 n.6 (3d Cir. 1991) (applying Georgia and Pennsylvania law); Klocek v. Gateway, Inc., 104 F. Supp. 2d 1332, 1337 (D. Kan. 2000) (applying Kansas and Missouri law); Ariz. Retail Sys., Inc. v. Software Link, Inc., 831 F. Supp. 759, 762 (D. Ariz. 1993) (applying Georgia law). *But see* ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1449 (7th Cir. 1996) (noting that shrink-wrap and click-wrap licensing agreements generally provide adequate notice to the user, and when a user has notice of such agreements, the agreements are enforceable so long as the terms do not contravene rules of law or are unconscionable to the court).

214.   *See* GPLv3, *supra* note 203, OSI: History, *supra* note 66.

215.   For example, in 2007, the Software Freedom Law Center filed a lawsuit on behalf of individual GPL licensors against a company that allegedly incorporated aspects of the licensed code without the proper conditions being met. *See* Complaint, Andersen v. Monsoon Multimedia, Inc., No. 07-CV-8205 (S.D.N.Y. Sept. 19, 2007), http://www.softwarefreedom.org/news/2007/sep/20/busybox/complaint.pdf. The lawsuit was quickly settled because, as the Software Freedom Law Center stated, the main goal of the suit was to inspire compliance with the license, not obtain any type of financial compensation. News Release, Software Freedom Law Center, BusyBox Developers and Monsoon Multimedia Agree to Dismiss GPL Lawsuit (Oct. 30, 2007), http://www.softwarefreedom.org/news/2007/oct/30/busybox-monsoon-settlement/.

216.   17 U.S.C. §§ 504(c), 505 (2006).

217.   *See, e.g.*, LGS Architects, Inc. v. Concordia Homes of Nev., 434 F.3d 1150, 1155−56 (9th Cir. 2006).

218.   Winter v. Natural Res. Def. Council, Inc. 129 S. Ct. 365, 374–76 (2008) (reasoning that the Ninth Circuit standard was too lenient, as preliminary injunctions should be treated as an extraordinary remedy for extraordinary circumstances). This ruling comports well with other Supreme Court

Defense Council, Inc., this was another distinction between enforcement under contract and copyright that made the latter more favorable; now, both means of enforcement require a plaintiff to carry the same burden.[219]

Applying this rule, the ability of open source licensors to obtain either a preliminary or permanent injunction becomes a much more difficult endeavor when compared to the old standard.[220] Licensors will be hard pressed to prove irreparable harm because they are not deprived of any monetary benefit when a licensee breaches the license.[221] The benefits of open source licensing cited by the Federal Circuit, such as improvement of reputation, increase of market share, and value derived from an open source model, will likely fail to rise to the level of "irreparable injury" required by the Supreme Court.[222] Even if a licensor proves infringement, receives a statutory damage award, and receives attorney fees (in the best case scenario), the likelihood of an injunction being granted is slim in light of current precedent, as illustrated by the ruling of the Northern District of California on remand in *Jacobsen*.[223]

IV. RECOMMENDATIONS

The Federal Circuit's decision to recognize a remedy in copyright law for enforcing open source licenses is a victory for the open source movement. The ruling provides open source licensors additional leverage in pursuing compliance with licensing agreements.[224] Additionally, the availability of statutory damages and attorney fee awards under the Copyright Act serve to promote licensee compliance with open source licensing provisions, as well as incentivize licensor suits to enforce these rights.[225] The Federal Circuit opinion, however, although a solid starting point for developing a doctrine pertaining to open source license enforcement, raises more questions than it answers. Below are a series of

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precedent in recent years, which has effectively heightened the plaintiff's burden of proof for a court to award injunctive relief. *See, e.g.*, eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 390–91 (2006).

219. For a preliminary injunction to be proper under both contract and copyright law, a plaintiff must now show that "he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." Jacobsen v. Katzer, 609 F. Supp. 2d 925, 936 (N.D. Cal. 2009) (citing *Winter*, 129 S. Ct. at 374).

220. *Compare Winter*, 129 S. Ct. at 374, *with* Sun Microsystems, Inc. v. Microsoft Corp., 188 F.3d 1115, 1119 (9th Cir. 1999) (holding that plaintiff is entitled to a presumption of irreparable harm).

221. Although proof of monetary benefit is not necessary for a preliminary injunction, absent such deprivation, plaintiff will be required to rely on an overriding policy argument that favors an injunction or, alternatively, argue about the tangible economic benefits lost in the abstract. In each case, though plausible arguments exist, it is doubtful either will be able to carry the day; hence, the monetary relief is the more appealing alternative when available.

222. *Winter*, 129 S. Ct. at 374; Jacobsen v. Katzer, 535 F.3d 1373, 1379 (Fed. Cir. 2008).

223. 609 F. Supp. 2d. at 936–37.

224. *See supra* Part III.A.2.

225. *See supra* Part III.A.2.

recommendations for courts, licensors, and licensees to consider moving forward in this relatively new area of law.

A.   Advice for the Courts

Moving forward, there are several aspects of the Federal Circuit opinion that need clarification and development pertaining to various aspects of open source licensing enforcement under copyright law. First, the courts need to continue emphasizing the requirement that licensees have notice of the licensing agreement prior to the licensor bringing an enforcement action. Second, when the licensee has notice and violates the licensing terms, a court should be amenable to granting injunctive relief. Third, the distinction between licensing conditions and contractual covenants needs to be more clearly defined.

1.   Courts Must Expressly Require that Licensors Know or Should Have Known of a Licensing Agreement Prior to Enforcement

Similar to more traditional licensing agreements, notice of an agreement should be present in order for the terms of an open source license to be enforceable.[226] Whether the terms are covenants or conditions, absent notice there are no grounds to assume acceptance of the terms. Hence, courts should adopt the rationale used in conjunction with shrink-wrap or click-wrap agreements and require notice in order for the licensing agreement to be enforceable.

The court in *Jacobsen* seemed to acknowledge a notice requirement. The court was careful to point out that a provision of the Artistic License agreement required clear attribution to the author of the open source code, thereby putting downstream users on notice of the presence of open source code within the software package.[227] Going forward, the courts should continue to emphasize the need for notice. Courts should not hesitate to refuse enforcement of a license when the user does not have notice. Attribution provides the clearest means of noting what portions of a software package belong to a particular author, enabling a software user to establish which portions of the code are protected by an open source license, which are proprietary, and which are dedicated to the public domain.

For example, building off of the hypothetical scenario presented in Part III, the notice requirement prevents Programmer A from suing Programmer C for infringement when Programmer B incorporates Programmer A's code into Programmer B's code and distributes the resulting compilation to Programmer C.[228] Simply stated, absent downstream

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226.   *See supra* note 213 and accompanying text.
227.   *See Jacobsen*, 535 F.3d at 1379−82.
228.   *See supra* Part III.B.3.

notice, open source agreements need to be unenforceable, as the costs of enforcement far outweigh the benefits.

2. Injunctions Should Be Readily Available to Licensors to Enforce Open Source Licensing Agreements

When notice is present and the licensing agreement clearly indicates conditions incorporated into the licensing terms, injunctions need to be readily available as a remedy. As discussed in Part III, under the new Supreme Court standard, injunctions are difficult to procure because a licensor must prove likelihood of success on the merits, irreparable harm, and that a balance of the equities, including public interest concerns, support issuing an injunction.[229] While this injunction standard is fundamentally sound, courts must be willing to recognize irreparable harm stemming from open source license violations, as well as a strong public policy promoting injunction enforcement.

a. Irreparable Harm

The Federal Circuit enumerated several injuries a licensor is likely to sustain when a licensee breaches an open source license.[230] Courts should use these injuries to find irreparable harm.[231] Programmers receive a benefit from the feedback and derivative works developed from the licensed open source software.[232] Both encourage further development and refinement of the software, resulting in a quality end product in the public market. Although tangible monetary compensation may not be exchanged in an open source licensing distribution arrangement, the professional recognition a programmer is likely to receive may be substantial.[233] Coupled with tangential economic benefits, such as service and maintenance fees a programmer may receive for work involving an open source software package, irreparable harm is likely, as these aforementioned benefits are not amenable to retrospective monetary compensation. Prospective relief in the form of injunction becomes the best solution.

On remand, the district court seemed to reject this argument.[234] Future district courts should adopt this type of reasoning, however, because without it the threat of a copyright infringement action will be a dog with a bark but no bite. The threat of a permanent or preliminary injunction is one of the few bargaining chips available to a licensor. Even though statutory damages provide some financial remedy, the amount can be

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229. Winter v. Natural Res. Def. Council, Inc., 129 S. Ct. 365, 374 (2008).
230. *See Jacobsen*, 535 F.3d at 1379−82.
231. *See id.* at 1379.
232. *See id.* at 1381–82.
233. *See id.*
234. *See* Jacobsen v. Katzer, 609 F. Supp. 2d 925, 937–38 (N.D. Cal. 2009).

small, as low as $200 depending on the nature of the work.[235] A licensee in breach of the agreement may happily pay this amount, treating it as a below market value licensing fee, thereby frustrating both the compensatory and deterrence functions the statutory damage provisions are designed to promote. Additionally, the motive behind open source is collaboration, not compensation.[236] Open source programmers often desire compliance, not money, for their distribution efforts, and a court should respect such value judgments on the part of the licensor.

b.   Public Policy Concerns

Public policy also supports granting an injunction. The primary purpose of the Intellectual Property Clause of the Constitution is to promote progress and the dissemination of information to the public.[237] Open source programs serve this purpose because the code is provided to the public, oftentimes free of charge, thereby creating a wealth of available knowledge. Permitting copying of open source software absent compliance with the licensing terms will likely undercut these policy goals, as programmers may cease to disseminate information without protection of their works. Morals in the marketplace are critical to continued technological development, and open source licensing is no exception. Hence, public policy, when coupled with the irreparable harm likely to be endured by the licensor, supports a court awarding an injunction under the Supreme Court's standard.

3.   *Whether a Licensing Provision Is a Covenant or Condition Must Be More Clearly Defined*

The *Jacobsen* court recognized the attribution requirement imposed by the Artistic License as a condition of the license, making copyright enforcement possible.[238] Language in the licensing agreement led the court to conclude the condition was present.[239] Courts, however, must make sure that provisions that should be covenants are not smuggled into copyright law through language alone.

A court should not only consider the license's language, but also the substance of what the term hopes to achieve. Covenants relate to acts that are beyond what constitutes copyright infringement.[240] Conditions define the bounds of permitted action of the underlying work, serving as

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235.   17 U.S.C. § 504(c)(2) (2006) (allowing a court, in its discretion, to reduce the statutory damage award to $200).

236.   *See supra* Part II.B–D.

237.   *See* 1 NIMMER & NIMMER, *supra* note 23, §§ 1.01–1.08 (discussing the meaning and purpose of various portions of the IP Clause, U.S. CONST. art. I, § 8, cl. 8).

238.   *Jacobsen*, 535 F.3d at 1382.

239.   *Id.* at 1380–81.

240.   *See supra* note 104 and accompanying text.

a condition precedent of sorts.[241] The court must keep this dichotomy in mind going forward, as confusing a covenant for a condition may expand the scope of the license well beyond the permissible bounds of what is enforceable under copyright law.

B. Advice for Open Source Licensors

Although additional clarity and doctrinal development from the judiciary is certainly preferable, there is no indication of additional decisions in the near future. Therefore, licensors should draft licensing agreements to maximize the probability of enforcement and compliance under *Jacobsen*. Below are several recommendations that seek to promote these goals.

1. Continue Use of Formal Condition Language in Licensing Agreements

Given the emphasis the Federal Circuit placed on the "provided that" language used in the Artistic License conditions, it appears for at least the near future that in order to maximize the likelihood of a licensing term being considered a condition by the courts, a licensor should take care to draft terms that incorporate traditional condition language found in contract law.[242] The Artistic License and the GPL both incorporate such terms,[243] and programmers should continue to include them in licensing agreements going forward.

2. Provide Notice of Licensing Terms and Seek Voluntary Compliance with the Licensing Agreement Prior to Initiating an Enforcement Action

Notice reigns supreme. Therefore, future open source licensing agreements should be readily viewable by potential licensees and incorporate terms requiring attribution to the original author, as is required by the Artistic License at issue in *Jacobsen*.[244] Licensors should also adapt click-wrap licensing agreements used in more traditional proprietary protection models to the open source context.

The click-wrap license requires a user to affirmatively click an "I Agree" button (or the equivalent) located in close proximity to the licensing agreement prior to use of the underlying work.[245] If open source

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241. *See supra* note 104 and accompanying text.

242. *See Jacobsen*, 535 F.3d at 1380−82.

243. *Compare id.* at 1380 ("The Artistic License grants users the right to copy, modify, and distribute the software: 'provided that [the user] insert a prominent notice . . . .'" (first alteration in original)), *with* GPLv3, *supra* note 203 (using the "provided at" legalese in various provisions of the license).

244. *See Jacobsen*, 535 F.3d at 1380; Artistic License 2.0, *supra* note 85.

245. A click-wrap license may also be known as a point-and-click agreement, defined as "[a]n electronic version of a shrink-wrap license in which a computer user agrees to the terms of an electron-

licensors require such affirmative action on the part of downstream us-
ers, a user will be placed on notice of the licensing agreement. Further-
more, clicking the button will serve as acceptance of the terms, which will
not only bolster a copyright infringement suit, but a claim in contract as
well.

3.   *Continue Efforts to Maintain Centralized Databases of Open Source Projects, and Use the Artistic License or GPL to License Future Works*

All this discussion of copyright enforcement is moot if a licensor is
not aware of unauthorized use of the underlying source code. Software
is complex, often incorporating millions of lines of code. Hence, it is im-
portant that open source organizations, namely, the FSF, the OSI, and
open source collaboration forums such as SourceForge, continue to cata-
log and monitor software use. Developing a centralized tracking system
will enable open source proponents to monitor use of open source works,
pursuing compliance when a portion of code is used improperly. Most
programmers do not have the time or the resources to monitor such in-
fringing activity and therefore need help from these organizations.

C.   *Advice for Open Source Licensees*

Finally, licensees beware. Licenses are inherently complicated, and
in order to avoid future copyright infringement suits, licensees may take
a couple of steps to protect themselves. First, understanding a licensing
agreement before using open source software is critical.[246] Second, when
an open source programmer is made aware of a licensing agreement after
previously using the code without notice, ceasing the infringing activity
promptly is the safest course of action.

Before working on code provided under an open source license, a
licensee should have at least a fundamental understanding of the appli-
cable licensing agreement. The simplest, most cost effective way for
achieving understanding will be for a programmer to work under a li-
cense certified by the OSI, which provides a centralized database of
preapproved licenses that conform with open source.[247] This will help
protect programmers by alerting them to rights under existing licenses.

In sum, although the lack of case law relating to open source licens-
ing enforceability increases the risk of user liability, attempting to stay
informed regarding the licenses that apply to code within a particular
project should help reduce the licensor's exposure. As the case law con-
tinues to evolve, the boundaries of the licenses should become clearer,

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ically displayed agreement by pointing the cursor to a particular location on the screen and then click-
ing." BLACK'S LAW DICTIONARY, *supra* note 56, at 1275.

    246.   *See* GPLv3, *supra* note 203; Artistic License 2.0, *supra* note 85.

    247.   *See supra* notes 67−73 and accompanying text.

making enforcement more predictable. Until such a time, however, licensors should proceed with caution.

V. CONCLUSION

Open source licensing enforcement was thrust into the legal spotlight with the Federal Circuit's *Jacobsen v. Katzer* decision. The decision laid the foundation for copyright enforcement of these often-used licensing agreements, adding a new dimension to an already complex area of law. Although this decision addressed many issues pertaining to open source licensing, much has yet to be answered. This Note attempts to highlight some of the concerns pertaining to open source licensing enforcement under both contract and copyright law, and provides recommendations to the courts, licensors, and licensees going forward. Open source proponents should certainly embrace the decision as a victory for the movement, but must also recognize that this is only a starting point in what is likely to be an area of law that will continue to develop for years to come.