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## ARTICLES

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### WILL SHRINKWRAP SUFFOCATE FAIR USE?

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*Abstract*

*This article explores the balance between using copyright law and contract law to protect intellectual property, specifically computer software. This article analyzes the balance between the software creator's rights and the public good that results from access to the source code. Section II gives a general overview of the types of protection available to software producers. Section III discusses contract protection for software and the growing acceptance of shrinkwrap licenses and other adhesion agreements as valid contracts. Section IV discusses traditional copyright protection for software in great detail. It discusses the exclusive rights under copyright law as well as the fair use exception to these exclusive rights. Section V discusses the Digital Millennium Copyright Act (DMCA) and its reverse engineering exceptions. Section VI explains how contract law, traditional copyright law, and the DMCA work together, and how preemption doctrines control what happens when they are in conflict with one another. Section VII argues that decisions that uphold adhesion contract prohibitions on reverse engineering were wrong because they did not properly apply preemption analysis. Section VIII argues that the precedents set such decisions are especially frightening when applied to the DMCA.*

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## I. INTRODUCTION

Imagine that you are looking for a particular computer program, perhaps to give you the ability to track your finances, edit your digital pictures, or an endless host of other possibilities for which there is software that is readily available off the shelf for your consumption. You go down to your local computer store and find an attractive option. You buy it, take it home, and open it. Inside the box is a little pamphlet containing terms of your “license” for this product. If you are like most American consumers you throw this “license” away, pop the CD into your computer and start using the program. But let us step back and take a look at that little pamphlet. What is it? What rights and limitations does it give to you as a consumer? Why do software developers include it with your CD? This article will consider the broader implications for society embodied in these little pamphlets. It will analyze when courts should and should not enforce their “license” terms.

Intellectual property law attempts to strike an appropriate balance between the individual’s private property interest in their creations and the general public’s interest in having access to knowledge and innovation.<sup>1</sup> The Constitution states that, “Congress shall have the Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”<sup>2</sup> The purpose of this Constitutional provision is to promote public access to innovative works and inventions, which thereby promotes the development of art, science, and industry.<sup>3</sup> The financial reward guaranteed to the author or inventor is just a result of this general objective, rather than an end in itself.<sup>4</sup> As a result, courts must sometimes subordinate an author or inventor’s interest in a maximum financial return for the greater public good of the development of art, science, and industry.<sup>5</sup> Contract law on the other hand does not have such well-defined methods of balancing personal and societal

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1. See J.H. Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms*, 94 COLUM. L. REV. 2432, 2436-42 (1994).

2. U.S. CONST. art. I, § 8, cl. 8.

3. Anthony J. Mahajan, *Intellectual Property, Contracts, and Reverse Engineering After ProCD: A Proposed Compromise for Computer Software*, 67 FORDHAM L. REV. 3297, 3321 (1999).

4. *Berlin v. E. C. Publ’ns, Inc.*, 329 F.2d 541, 543-44 (2d Cir. 1964).

5. *Id.*

interests. Thus, the use of “licenses” like the ones mentioned above is a dangerous method of protecting intellectual property because it gives nearly unbridled power to the innovators.

This article will explore the balance between using copyright and contract law to protect intellectual property. It will look specifically at protections for computer software. This article analyzes the balance between the individual computer software creator’s rights and the public good that results from access to computer software source code. Section II gives a general overview of the types of protection available to software producers. Section III discusses contract protection for software and the growing acceptance of shrinkwrap licenses and other adhesion agreements as valid contracts. Section IV discusses traditional copyright protection for software in great detail. It discusses the exclusive rights under copyright law as well as the fair use exception to these exclusive rights. It also discusses recent case law, which has determined that reverse engineering software object code is a fair use of copyrighted software.<sup>6</sup> Section V discusses the Digital Millennium Copyright Act (DMCA) and its reverse engineering exceptions.<sup>7</sup> Section VI explains how contract law, traditional copyright law, and the DMCA work together, and how preemption doctrines control what happens when they are in conflict with one another. It discusses two methods of preemption, statutory preemption and constitutional preemption, which are used to determine when federal copyright law preempts state contract law. It gives two example cases of preemption analysis, *Bowers v. Baystate Technologies, Inc.*<sup>8</sup> and *Davidson & Associates v. Jung.*<sup>9</sup> Section VII argues that *Bowers* and *Davidson* decisions wrongly upheld adhesion contract prohibitions on reverse engineering because these decisions did not properly apply preemption analysis.<sup>10</sup> Section VIII argues that the precedents set in *Bowers* and *Davidson* are especially scary when applied to the DMCA. It argues that because the DMCA already gives a more limited scope of protection than traditional copyright law, courts should be especially wary of enforcing license terms in adhesion contracts for products covered under the DMCA protection.

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6. Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992).

7. 17 U.S.C. § 1201 (2000).

8. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003).

9. *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

10. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

Copyright law protection carefully balances the interests of an individual creator with the good of the public in having access to their creation.<sup>11</sup> The “fair use” test balances these competing interests.<sup>12</sup> However, shrinkwrap licenses, and other adhesion contracts, often attempt to prohibit actions that would otherwise be allowed under the “fair use” balancing test. Courts should not allow this unfair “licensing” scheme to prohibit otherwise fair uses of a product. Courts should instead use preemption analysis to subjugate contract law (state law) to copyright law (federal law) whenever the two conflict.<sup>13</sup> Unfortunately, as can be seen in *Bowers* and *Davidson*, there has been a recent trend to uphold these unfair prohibitions through an unusually narrow preemption analysis.<sup>14</sup> If courts do not reverse this trend, fair use may be totally subsumed by over reaching shrinkwrap license prohibitions, in other words shrinkwrap may suffocate fair use.

## II. METHODS OF PROTECTING COMPUTER SOFTWARE

Computer technology has emerged as a major driving force of the American economy in the past few decades. Software, hardware, and the World Wide Web have created an ease of communicating unprecedented in previous times. A long felt problem facing technology producers has been how to adequately protect their intellectual property in the marketplace.<sup>15</sup> For the sake of clarity, this paper will look at this issue in the limited context of computer software development.

There is a significant amount of effort and expense necessarily involved in the creation of software.<sup>16</sup> Therefore, software developers have long been looking for a means of software protection.<sup>17</sup> Computer software was not originally protected by either copyright or

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11. See Reichman, *supra* note 1, at 2436-42.

12. See 17 U.S.C. § 107 (2000).

13. 17 U.S.C. § 301(a) (2000).

14. See *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

15. See *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

16. Brian Paul Menard, *And The Shirt Off Your Back: Universal City Studios, DeCSS, And The Digital Millennium Copyright Act*, 27 Rutgers Computer & Tech. L.J. 371, 381 (2001) (stating that the losses to the Business Software Alliance to piracy were \$12 billion in 1999).

17. See Deanna L. Kwong, *Copyright-Contract Intersection*, 18 BERKELEY TECH. L.J. 349 (2003).

patent protection.<sup>18</sup> Thus, software producers turned to contract law and technological locks to for protection.

Software developers protected themselves through contract law under by devising licenses, usually shrinkwrap licenses, to obtain protection for their products.<sup>19</sup> Another method that developed before copyright and patent protections were given to software was trade secret protection through technological protections.<sup>20</sup> This originated as distribution of software only with machine-readable object code rather than human readable source code.<sup>21</sup>

Copyright protection was expanded to include computer software in 1980.<sup>22</sup> Patent protection was given to computer software to a limited degree in 1994.<sup>23</sup> Despite these new protection methods, unfortunately the old methods of protection have continued to develop even after copyright and patent protections were allowed for computer software.<sup>24</sup> This has created a situation of unfair overprotection for software.

This article concentrates on copyright protections, shrinkwrap licensing, and technological protections. The law in these areas sometimes conflicts, and when it does the doctrine of preemption decides which area of law will be followed.<sup>25</sup> Because copyright law is federal law while contract law is state law, the preemption doctrine tells us that the federal law should usually prevail.<sup>26</sup> However, there has been a recent trend to uphold contract law over copyright law.<sup>27</sup> This is potentially dangerous to the progress of technological innovation because contract law does not have the well-litigated “fair

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18. Stephen Fraser, *Canada-United States Trade Issues: Back from Purgatory? Why Computer Software “Shrink-Wrap” Licenses Should Be Laid to Rest*, 6 TUL. J. INT’L & COMP. L. 183, 189 (1998).

19. Thomas M. S. Hemmnes, *Restraints of Alienation, Equitable Servitudes, and the Feudal Nature of Computer Software Licensing*, 71 DENV. U. L. REV. 577, 578-80 (1994).

20. Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239, 1243 (1995).

21. See Himanshu A. Amin, *The Lack of Protection Afforded Software Under the Current Intellectual Property Laws*, 43 CLEV. ST. L. REV. 19, 21 (1995).

22. See Computer Software Copyright Act of 1980, 17 U.S.C. §§ 101, 117 (2000).

23. See *In re Alappat*, 33 F.3d 1526, 1542-45 (Fed. Cir. 1994) (holding that patentability is not precluded even though a computer program contains mathematical subject matter).

24. *Id.*

25. 17 U.S.C. § 301(a) (2000).

26. *Id.*

27. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1324 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630, 639 (8th Cir. 2005).

use” balancing test between society and the individual creator of copyright law.

### III. CONTRACT PROTECTION FOR COMPUTER SOFTWARE

Even before computer software had been protectable under copyright law, computer software developers had used contracts to protect their works.<sup>28</sup> After copyright protections were introduced for computer software, developers used contract law as a means to prohibit what would otherwise have been considered a lawful fair use copy of the software.<sup>29</sup>

Under traditional contract law, it is assumed that a contract is formed by the agreement of two parties of equal bargaining power during the course of free negotiation.<sup>30</sup> Before the advent of consumer software, this type of mutual bargained for exchange occurred because only large entities could afford software and so the lawyers for both the computer owners and the software developers drafted the contracts for the software sales transactions.<sup>31</sup> In such a case, the traditional provisions of contract law worked well to protect the software developers. As personal computers became affordable one on one negotiation became unmanageable. Software developers needed a way to produce a contractually binding agreement that did not impede the flow of their product into the stream of commerce.<sup>32</sup>

As sales boomed between software companies and consumers it was impossible to freely negotiate contracts between each consumer and the company.<sup>33</sup> Therefore, “shrinkwrap licenses” became popular.<sup>34</sup> A shrinkwrap license typically “offers” terms that the purchaser of the software “accepts” by opening the cellophane wrapper that encases the package containing the computer software.<sup>35</sup>

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28. Hemmes, *supra* note 19, at 578-80.

29. See Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 DUKE L.J. 479, 523-28 (1995).

30. See 1 E. ALLAN FARNSWORTH, FARNSWORTH ON CONTRACTS § 4.26 (2d ed. 2001).

31. See 3-4A DAVID BENDER, COMPUTER LAW 4A.02[4], at 4A-141 (1996).

32. Christopher L. Pitet, *The Problem with “Money Now, Terms Later:” ProCD, Inc. v. Zeidenberg and the Enforceability of the “Shrinkwrap” Software Licenses*, 31 LOY. L.A. L. REV. 325, 329 (1997).

33. *Id.*

34. *Id.*

35. See MELVILLE B. NIMMER & DAVID NIMMER, 5-27 NIMMER ON COPYRIGHT, § 27.02[B], at 27-14 (Matthew Bender & Co. 2002).

Shrinkwrap licenses are now universally accepted as a type of valid contract, but this was not always so.<sup>36</sup> In the early days of shrinkwrap licenses, courts did not often recognize the terms that they contained, usually because the courts found that the contract had been formed at the point of sale or a time preceding the point at which a consumer was given the opportunity to review the terms in the license.<sup>37</sup> The Court in *Step-Saver Data Systems, Inc. v. Wyse Technology* determined that a contract between the parties was formed before the purchasing party had an opportunity to review the terms of the license, and therefore the shrinkwrap license was just a proposed modification to the contract that the buyer did not accept.<sup>38</sup> Similarly, the court in *Arizona Retail Systems, Inc. v. Software Link, Inc.* held that when Arizona Retail had made several contracts with the subsequent purchaser, only the original purchase included the license terms because the formation of the subsequent contracts had already occurred before the buyer could read the license.<sup>39</sup> Therefore, the terms of these shrinkwrap licenses were not enforceable parts of the contracts between the parties in each of these cases because the court determined that the contract was formed at the point of sale or sometime shortly thereafter.<sup>40</sup>

In the 1980s and early 1990s courts declared that shrinkwrap licenses were generally unenforceable under U.C.C. Sections 2-207 and 2-209.<sup>41</sup> However, the Seventh Circuit pioneered a judicial trend toward the enforcement of shrinkwrap licenses in *ProCD, Inc. v. Zeidenberg*.<sup>42</sup> The court held that a contract could be formed at a time other than at the point of sale when the software producer stipulated acceptance by another means.<sup>43</sup> Since the *ProCD* case, courts have generally held that shrinkwrap licenses are generally enforceable.<sup>44</sup>

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36. Lemley, *supra* note 20, at 1248-53.

37. *See, e.g., Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91, 105-06 (3d Cir. 1991).

38. *Id.*

39. *Arizona Retail Sys., Inc. v. Software Link, Inc.*, 831 F. Supp. 759, 764 (D. Ariz. 1993).

40. *See Step-Saver*, 939 F.2d at 105-06.

41. Lemley, *supra* note 20, at 1248-53.

42. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996).

43. *Id.* at 1452.

44. Scott J. Spooner, *The Validation of Shrink-Wrap and Click-Wrap Licenses by Virginia's Uniform Computer Information Transaction Act*, 7 RICH. J.L. & TECH. 27, 34 (2001).

A. *Analysis of Step-Saver Data Systems, Inc. v. Wyse Technology*<sup>45</sup>

*Step-Saver Data Systems, Inc. v. Wyse Technology* is an example of an early court's determination that shrinkwrap licenses were unenforceable.<sup>46</sup> In *Step-Saver*, the court considered whether shrinkwrap terms sent after a phone order had been placed were a part of the contractual agreement.<sup>47</sup> The license agreement was printed on the outside of the box and disclaimed all warranties.<sup>48</sup> However, the box was not sent to the buyer until after the purchases had been placed.<sup>49</sup> When the product failed, Step-Saver sued Wyse for breach of warranty.<sup>50</sup> Wyse argued that the shrinkwrap license provision had effectively disclaimed all warranties.<sup>51</sup> The Court of Appeals for the Third Circuit court disagreed.<sup>52</sup> The Court stated that the contract had formed on the phone, before Step-Saver had an opportunity to read the terms of the license.<sup>53</sup> Thus, the Court concluded that the dispute was in fact "not over the existence of the contract, but the nature of its terms."<sup>54</sup> The court determined the terms of the contract through analysis of section 2-207 of the UCC.<sup>55</sup> The applicable section of 2-207 states that additional terms become part of the contract if they do not "materially alter it."<sup>56</sup> The court found that the license's disclaimer of warranties materially altered the contract formed on the phone, and therefore was not a part of the contract.<sup>57</sup>

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45. *Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91 (3d Cir. 1991).

46. *Id.*

47. *Id.* at 95-98.

48. *Id.* at 94-95.

49. *Id.* at 95-96.

50. *Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91, 94 (3d Cir. 1991).

51. *Id.* at 94-95.

52. *Id.* at 105.

53. *See id.* at 98.

54. *Id.*

55. *Id.* at 98-106.

56. U.C.C. § 2-207(2)(b) (1995).

57. *Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91, 105 (3d Cir. 1991). ("[W]e must conclude that adding the disclaimer of warranty and limitation of remed[y] provisions from the box-top license would, as a matter of law, substantially alter the distribution of risk between Step-Saver and TSL.").

B. *Analysis of ProCD, Inc. v. Zeidenberg*<sup>58</sup>

In early cases, like *Step-Saver*, in which software developers tried to use shrinkwrap licenses to protect their products the developers were unsuccessful because the courts determined that the contract between the buyer and seller was formed before the buyer had the opportunity to review the license terms.<sup>59</sup> However, this situation changed when *ProCD, Inc. v. Zeidenberg* determined that the contract did not have to be formed at the time of sale, but could be formed at a time determined by the software producer.<sup>60</sup>

In the *ProCD* case, ProCD made a database, called SelectPhone, which kept track of names and addresses of many people.<sup>61</sup> It engaged in price discrimination, charging businesses a higher price for its product than it charged to individual consumers.<sup>62</sup> In order to make this price discrimination work, ProCD included a shrinkwrap contract in its consumer product that declared that use of the application program and listings was limited to noncommercial purposes.<sup>63</sup> Zeidenberg bought a consumer package of the SelectPhone database but ignored the license.<sup>64</sup> Instead Zeidenberg made the database available on the Internet for a price.<sup>65</sup> ProCD sued for a breach of contract.<sup>66</sup> The Court looked at the UCC to see if the terms in the shrinkwrap license were enforceable.<sup>67</sup> The UCC states in section 2-204(1) that “a contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract.”<sup>68</sup> The Court noted that it is well accepted that the offeror is the master of his offer and may invite acceptance by conduct, and may propose limitations on the kind of conduct that constitutes acceptance.<sup>69</sup> The Court then concluded that although “a contract can be, and often is, formed simply by paying the price and walking out of the store, the UCC

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58. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996).

59. *See Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91 (3d Cir. 1991).

60. *See ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1452 (7th Cir. 1996).

61. *Id.* at 1449.

62. *Id.*

63. *Id.* at 1450.

64. *Id.*

65. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996).

66. *Id.*

67. *Id.* at 1452.

68. U.C.C. § 2-204(1) (1987) (2003).

69. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1452 (7th Cir. 1996).

permits contracts to be formed in other ways.”<sup>70</sup> ProCD proposed that a buyer would show acceptance of the license terms by using the software after having an opportunity to read the license at leisure.<sup>71</sup> Section 2-206(1)(b) states that a buyer accepts goods when, after an opportunity to inspect, he fails to make an effective rejection.<sup>72</sup> “ProCD extended an opportunity to reject if [the] buyer should find the license terms unsatisfactory; Zeidenberg inspected the package, tried out the software, learned of the license, and did not reject the goods.”<sup>73</sup> Therefore, the Court concluded that Zeidenberg accepted the offer when he used the software.<sup>74</sup> The Court therefore concluded that the shrinkwrap terms were a part of the contract.<sup>75</sup> Thus, the analysis of ProCD lead the way for software producers to use contract law, namely shrinkwrap type licenses, to protect their creations before software had the protection of other intellectual property regimes.

#### IV. COPYRIGHT PROTECTION FOR COMPUTER SOFTWARE

Copyright protection for computer software began in 1980.<sup>76</sup> However, given the nature of copyright law, protection of computer software is limited to only the code of the software and not the underlying idea of the program.<sup>77</sup> Under copyright protection an idea is not protected, only the specific expression of an idea is protected.<sup>78</sup> This is called the “idea expression dichotomy.” The principle is “that [copyright] protection does not extend to the ideas encapsulated in a work, but only to the original expression those ideas.”<sup>79</sup> This makes sense for a novel, but breaks down in the software context because software is not written to be read for enjoyment. The idea expression dichotomy is also codified in § 102(b) of the Copyright Act.<sup>80</sup> It states, “In no case does copyright protection of an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in

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70. *Id.*

71. *Id.*

72. U.C.C. § 2-206(1) (2003).

73. ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1452-53 (7th Cir. 1996).

74. *Id.* at 1452.

75. *Id.* at 1448.

76. See Computer Software Copyright Act of 1980, 17 U.S.C. §§ 101, 117 (2000).

77. 17 U.S.C. § 102(b) (2000).

78. *Id.*

79. Mahajan, *supra* note 3, at 3300.

80. 17 U.S.C. § 102(b).

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which it is described, explained, illustrated, or embodied in such work.”<sup>81</sup>

Copyright protection is still advantageous to a software developer in that it gives creators certain rights against those who copy the software directly or who use the copy to create an almost identical product.<sup>82</sup> The Copyright Act also gives the copyright owner the exclusive right to reproduce the original work and to prepare derivative works from the original.<sup>83</sup> The exclusive right to reproduce a copyrighted work is codified in § 106(1) of the Copyright Act which states, “Subject [to certain limitations] the owner of copyright under this title has the exclusive rights to . . . reproduce the copyrighted work in copies or phonorecords.”<sup>84</sup> The exclusive right to prepare derivative works is codified in § 106(2) which states that the copyright owner has the exclusive right to “prepare derivative works based upon the copyrighted work.”<sup>85</sup>

#### A. *The Fair Use Exception*

Despite the aforementioned exclusive rights, copyrighted works are subject to certain limitations. Copyright law has the constitutional objective of promoting the sciences.<sup>86</sup> This objective encourages public access to knowledge and innovation through creating incentives for individual authors to disseminate their writings.<sup>87</sup> This objective obtained by giving creators exclusive rights over their creations for a limited time.<sup>88</sup> This objective is also obtained by placing exceptions on those exclusive rights, such as the “fair use” exception.<sup>89</sup>

The fair use exception was originally judicially created.<sup>90</sup> The exception was codified in 1978 as § 107 of the Copyright Act.<sup>91</sup> Section 107 states that,

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81. *Id.*

82. *See* 17 U.S.C. §§ 106(1)-(2) (2000).

83. *Id.*

84. *Id.* § 106(1).

85. *Id.* § 106(2).

86. U.S. CONST. art. I, § 8, cl. 8.

87. Kodj Gbegnon, *Digitized Scholarship and the “Library” Concept: Allowing the History of the Library Exemption to Inform How We View Google’s Digitized Library*, 29 HASTINGS COMM. & ENT. L.J. 75, 88 (2006).

88. U.S. CONST. art. I, § 8, cl. 8.; 17 U.S.C. § 106 (2000).

89. 17 U.S.C. § 107 (2000).

90. *See generally* Folsom v. Marsh, 9 F. Cas. 342 (Dist. Mass. 1841).

[n]otwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright.<sup>92</sup>

The four non-exclusive statutory factors that courts must consider when evaluating fair use include:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.<sup>93</sup>

Courts must balance these four non-exclusive factors<sup>94</sup> in determining when copying software code and using the copy to create a similar product is a fair use and when it is an infringement of the exclusive right of reproduction or the exclusive right of preparing derivative works.

#### *B. Reverse Engineering – A Fair Use Exception for Copyrighted Software*

Reverse engineering is an important example of the fair use exception applied to copyrighted software.<sup>95</sup> As stated above, because copyright does not protect the underlying idea embodied in a work<sup>96</sup>, reverse engineering a copyrighted product is a fair way to learn about the ideas embodied in a copyrighted work. Reverse engineering can be defined generally as a “fair and honest means . . . [of] starting with the known product and working backwards to divine the process

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91. 17 U.S.C. § 107 (2000).

92. *Id.*

93. *Id.* The fair use factors are non-exclusive because the term “shall” in the statute preamble leaves room for other factors to be considered. *Id.*

94. *Id.*

95. See *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 843 (Fed. Cir. 1992).

96. *Feist Publ’ns, Inc. v. Rural Tel. Service Co., Inc.*, 499 U.S. 340, 350 (1991); Mahajan, *supra* note 3, at 3300.

which aided its development or manufacture.”<sup>97</sup> For example, in the mechanical world, reverse engineering is usually just the process of taking something apart to determine what makes it “tick.”<sup>98</sup> In computer software, reverse engineering is generally regarded as the process of deriving a program’s human-readable source code from its machine-readable object code.<sup>99</sup> It then involves analyzing the code once it is in a human readable format in order to understand the concepts embedded in the code.<sup>100</sup> Reverse Engineering is necessary for users and developers who desire to examine the structural and technical parameters of a computer program because object code is not intelligible to humans.<sup>101</sup>

### 1. Reasons to Reverse Engineer

There are reasons to reverse engineer that are accepted as fair use and reasons that are not.<sup>102</sup> First, one might reverse engineer a program for educational purposes, either to study and learn from it, or to teach computer programming to students.<sup>103</sup> Use for educational purposes is “fair use” as it is defined under the Copyright Act.<sup>104</sup> A second reason is for users to make the existing program more effective.<sup>105</sup> Users may reverse engineer in order to debug, customize, or modify the program’s source code.<sup>106</sup> This is also likely to be considered fair use in most circumstances. A third reason is when computer software programmers wish to develop a product that is compatible or interoperable with the existing product.<sup>107</sup> Likewise, this use is most likely considered fair use. A final reason to reverse

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97. *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 476 (1974).

98. Andrew Johnson-Laird, *Software Reverse Engineering in the Real World*, 19 U. DAYTON L. REV. 843, 843 (1994).

99. Charles McManis, *Intellectual Property Protection and Reverse Engineering of Computer Programs in the United States and the European Community*, 8 HIGH TECH L.J. 25, 29 (1993).

100. *See* Mahajan, *supra* note 3, at 3314.

101. McManis, *supra* note 99, at 28-29.

102. Mahajan, *supra* note 3, at 3314-15.

103. G. Gervaise Davis, III, *Scope of Protection of Computer-Based Works; Reverse Engineering, Clean Rooms and Decompilation*, in 15th Annual Computer Law Institute 115, 142 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course Handbook Series No. 370, 1993).

104. 17 U.S.C. § 107 (2000).

105. McManis, *supra* note 99, at 29-30.

106. *Id.*

107. *Id.* at 30-31.

engineer is to develop a competing product.<sup>108</sup> Courts have considered reverse engineering in order to develop a competing product fair use in some circumstances.<sup>109</sup>

One of the factors in determining whether an action is considered fair use is “the effect of the use upon the potential market for or value of the copyrighted work”<sup>110</sup> Clearly a competing product will have an effect on the potential market for a computer software product. However, this is not the only purpose of fair use that courts must consider. Courts have found that reverse engineering for the purpose of creating competing and interoperable products is regarded as a legitimate fair use in some circumstances.<sup>111</sup> Therefore, although the first three reasons to reverse engineer given above are arguably desirable for public interest by promoting the objectives of Copyright Law, the fourth purpose poses an especially dangerous situation for software producers. This danger is due to the relative ease with which a computer program may be appropriated by second-comers since software code is especially vulnerable to fast, precise, and inexpensive copying.<sup>112</sup> Thus, one of the most important questions for courts to resolve when dealing with a reverse engineering case is how to balance the goals of public interest in promoting the objectives of Copyright Law while at the same time retaining sufficient access restrictions to prevent the outright piracy of computer programs.<sup>113</sup>

## 2. Case Law Regarding Reverse Engineering and Copyright Law

Because the ideas embedded in computer programs are not ascertainable without reverse engineering, Courts have carved out a

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108. *Id.* at 31.

109. *See* Sega Enters. Ltd. v. Accolade, Inc. 977 F.2d 1510, 1527 (9th Cir. 1992) (holding that reverse engineering to circumvent a “lockout” program in order to make competing games run on defendant’s game system was fair use); *See also* Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832, 843 (Fed. Cir. 1992) (holding that replicating the source code and creating a program able to unlock defendant’s game system was fair use).

110. 17 U.S.C. § 107(4) (2000).

111. *See* Sega Enters. Ltd. v. Accolade, Inc. 977 F.2d 1510, 1520, 1527 (9th Cir. 1992) (holding that reverse engineering to circumvent a “lockout” program in order to make competing games run on defendant’s game system was fair use); *See also* Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832, 843 (Fed. Cir. 1992) (holding that replicating the source code and creating a program able to unlock defendant’s game system was fair use).

112. Dennis S. Karjala, *Copyright Protection of Computer Program Structure*, 64 BROOK. L. REV. 519, 532-33 (1998).

113. Michael J. Madison, *Legal-Ware: Contract and Copyright in the Digital Age*, 67 FORDHAM L. REV. 1025, 1097 (1998).

limited fair use exception in these cases.<sup>114</sup> Courts have concluded that decompilation and disassembly are legal if undertaken for the purpose of making interoperable or competing products if this is the only means by which the user can access the program's uncopyrightable ideas.<sup>115</sup> Two cases that have held that reverse engineering is a statutory fair use exception to the exclusive rights of a copyright holder are *Sega Enterprises Ltd. v. Accolade, Inc.*<sup>116</sup> and *Atari Games Corp. v. Nintendo of America Inc.*<sup>117</sup>

*a. Analysis of Sega Enterprises Ltd. v. Accolade, Inc.*<sup>118</sup>

In *Sega*, Accolade wanted to make games that would be operable on the Sega Genesis game system.<sup>119</sup> However, Sega had included a "lock out" program on its system that only allowed games with Sega's initialization code to be played.<sup>120</sup> Accolade reverse engineered Sega's program in order to obtain the initialization code, which it then included in its own games, thus making them compatible with the Sega game system.<sup>121</sup> Upon appeal, the Ninth Circuit held that reverse engineering in this way was fair use.<sup>122</sup> The Court stated that reverse engineering could be considered fair use if two conditions were met.<sup>123</sup> First, there had to be a legitimate reason for reverse engineering.<sup>124</sup> Second, reverse engineering had to be the sole method of gaining access to the ideas and functional elements embodied in the computer program.<sup>125</sup> Thus, the court concluded that even though Accolade's reverse engineering was for commercial purposes, it was still fair use in this instance.<sup>126</sup>

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114. Mark A. Lemley & David McGowan, *Legal Implications of Network Economics Effects*, 86 CAL. L. REV. 479, 524-25 (1998).

115. *See generally* *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 2000); *See also* *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832 (9th Cir. 1992).

116. *Sega*, 977 F.2d at 1510.

117. *Atari*, 975 F.2d at 832.

118. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 2000).

119. *Id.* at 1514-15.

120. *Id.*

121. *Id.* at 1514-16.

122. *Id.* at 1527.

123. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1527 (9th Cir. 2000).

124. *Id.*

125. *Id.*

126. *Id.* at 1522-23.

b. *Analysis of Atari Games Corp. v. Nintendo of America Inc.*<sup>127</sup>

A similar rule was developed in *Atari*. In this case, Nintendo designed a program to prevent its system from accepting unauthorized game cartridges by including a master chip or lock in the console and slave chips or keys in each of its game cartridges.<sup>128</sup> Atari and Nintendo developed an agreement in which Nintendo would take Atari's games and place the key program on them and then resell them to Atari, who would then sell the Nintendo game system compatible cartridges to the public.<sup>129</sup> Under this license agreement Nintendo strictly controlled Atari's access to its technology.<sup>130</sup> During the time that Atari and Nintendo were under contractual agreement, Atari obtained a copy of Nintendo's protection program by falsely alleging that it needed the program to defend a case.<sup>131</sup> Atari used this copy to decipher Nintendo's program, and then developed a program of its own to unlock the master chip lock on the Nintendo game system.<sup>132</sup> The court in *Atari* noted the limits of copyright protection. It stated, "An author cannot acquire patent-like protection by putting an idea, process, or method of operation in an unintelligible format and asserting copyright infringement against those who try to understand that idea, process or method of operation."<sup>133</sup> The court went on to say, "[w]hen the nature of a work requires intermediate copying in order to understand the ideas and processes in a copyrighted work," then intermediate copying is a fair use.<sup>134</sup> "Thus, reverse engineering object code to discern the unprotectible ideas in a computer program is a fair use."<sup>135</sup> The court noted that the Copyright Act allows individuals who have a rightful copy of a work make the necessary efforts to reveal the work's ideas, processes, and methods of operation.<sup>136</sup> The Court concluded that because Atari was not in possession of an authorized copy of Nintendo's work, it could not use

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127. *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832 (Fed. Cir. 1992).

128. *Id.* at 836.

129. *Id.*

130. *Id.*

131. *Id.*

132. *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 836-37 (Fed. Cir. 1992).

133. *Id.* at 842.

134. *Id.* at 843.

135. *Id.*

136. *Id.* at 842.

the defense of reverse engineering.<sup>137</sup> Therefore, although Atari was not able to use reverse engineering as a defense, this case articulates that reverse engineering a computer program to obtain unprotected ideas is a fair use under the Copyright Act.

These two cases show that reverse engineering has been regarded as a fair use under the federal Copyright Act. However, there is no case that holds there is a universal right to reverse engineer for any purpose or in all circumstances.<sup>138</sup> When deciding reverse engineering cases, courts rely on the doctrine of “fair use” in order to maintain the balance between public and private rights to copyrighted works.<sup>139</sup> Thus, the process of reverse engineering is a tool used to balance public and private rights.<sup>140</sup>

## V. DMCA PROTECTION FOR COMPUTER SOFTWARE

Although copyright law arguably does a good job of balancing the interests of software creators and the general public,<sup>141</sup> software creators often turn to technological methods to “lock up” their creations more completely than copyright doctrine allows. Even before copyright or patent law protected software, software developers sought to obtain protection for their creations under state trade secret law.<sup>142</sup> This posed a problem when the developers were intending to sell and widely distribute their works.<sup>143</sup> However, developers were able to claim trade secrecy in their code by distributing only the object code and not the source code when selling their software products.<sup>144</sup>

When a programmer creates software they write the program in human readable source code.<sup>145</sup> A compiler is then used to translate the source code into object code, a machine-readable sequence of zeros and ones.<sup>146</sup> Since object code is virtually impossible for

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137. *Id.* at 843.

138. Lemley & McGowan, *supra* note 114, at 525.

139. Mahajan, *supra* note 3, at 3317.

140. *Id.* at 3315.

141. *See supra* section IV.

142. Lemley, *supra* note 20, at 1243-44.

143. *Id.*

144. *See Gen. Corp. v. Grumman Sys. Support Corp.*, 825 F. Supp. 340, 359 (D. Mass. 1993).

145. Amin, *supra* note 21 at 21.

146. *Id.*

humans to read,<sup>147</sup> some courts held that widely distributed software programs could retain trade secret status if only object code was distributed.<sup>148</sup> Thus software creators could widely distribute their works and yet still claim that the code was “secret” because it was only intelligible to machines. In this way reverse engineering machine-readable object code into human readable source code could be completely stopped no matter whether the objective of the reverse engineering is a fair use or an unfair use.

*A. Technological Protections and Copyright Law*

Once copyright protection was given to software in 1980,<sup>149</sup> software developers could no longer rely exclusively on trade secret protection through restricting source code dissemination because people were allowed to decompile the code under the reverse engineering copyright fair use exception.<sup>150</sup> Because decompilation requires making an intermediate copy, software developers first argued that it was a violation of their exclusive rights to make copies under § 106(1).<sup>151</sup> However, courts determined that intermediate copying for the purposes of reverse engineering, in order to make competing or interoperable copies, was fair use where there were no other means of accessing the uncopyrightable elements of the software code.<sup>152</sup>

The problem with the fair use limitation for software copyright holders is that when a code is copied for ostensibly fair use purposes the copier is likely to obtain a significant amount of protected expression as well.<sup>153</sup> Copying of software code is quite easy and proving that the copying was in fact not for fair use can be quite cumbersome.<sup>154</sup> Therefore, one solution is to not disclose the code to the public at all. Software developers turned to technological

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147. *Id.*

148. *See* Data Gen. Corp. v. Digital Computer Controls, Inc., 297 A.2d 433, 436 (Del. Ch. 1971); *see also* Grumman Sys. Support, 825 F. Supp. at 354-55.

149. *See* Computer Software Copyright Act of 1980, Pub. L. No. 96-517, 94 Stat. 3015, 3018 (codified at 17 U.S.C. §§ 101, 117 (2000)).

150. *See supra* Section IV; *see also* Digital Computer Controls, 297 A.2d at 436; Grumman Sys. Support, 825 F. Supp. at 354-55.

151. 17 U.S.C. § 106(1) (2000).

152. *See* Sega Enters. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 2000); *See also* Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832 (9th Cir. 1992).

153. O'Rourke, *supra* note 29, at 516.

154. Menard, *supra* note 16, at 374.

protection measures to lock up their code.<sup>155</sup> They managed this by means of encryption of the code, digital locks, password protections, and other technological methods of protection.<sup>156</sup> However, technological methods of protection were not very effective.<sup>157</sup> The reason being, if these technological methods were circumvented, they became useless.<sup>158</sup> Reverse engineering could be used to “unlock” these “digital locks” which then left software holders in the same position as before, certain “fair use” actions could be made of their code.

### B. *The Digital Millennium Copyright Act*

The resulting pressure of the software developers to find protection under copyright law resulted in the Digital Millennium Copyright Act (DMCA).<sup>159</sup> The DMCA was signed into law by President Clinton on October 28, 1998 and became effective on October 28, 2000.<sup>160</sup> The DMCA prohibits the circumvention of technological protection measures.<sup>161</sup>

#### 1. Prohibitions under the DMCA

There are two main prohibitions in 17 U.S.C. § 1201(a) (2000). The first prohibition, § 1201(a)(1)(A), broadly prohibits the circumvention of technological measures and is often referred to as the anti-circumvention provision.<sup>162</sup> It states that “[n]o person shall circumvent a technological measure that effectively controls access to a work protected under this title.”<sup>163</sup> The term “circumvent a technological measure” is defined in § 1201(a)(3)(A) as the “means to descramble a scrambled work, to decrypt an encrypted work, or otherwise avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner.”<sup>164</sup>

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155. See Dan L. Burk, *Anticircumvention Misuse* 50 UCLA L. REV. 1095, 1100-01 (2003).

156. See Cheng Lim Saw & Winston T.H.-Koh, *Does P2P Have a Future? Perspectives from Singapore*, 13 INT'L J. L. & INFO. TECH. 413, 430 (2005).

157. Burk, *supra* note 155, at 1102.

158. See *id.*

159. 17 U.S.C. § 1201 (2000).

160. Menard, *supra* note 16, at 377-78.

161. 17 U.S.C. § 1201 (2000).

162. *Id.* § 1201(a)(1)(A).

163. *Id.*

164. *Id.* § 1201(a)(3)(A).

The second prohibition, § 1201(a)(2), is an anti-trafficking provision.<sup>165</sup> It states, “[n]o person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology product, service, device, component, or part thereof . . . .”<sup>166</sup> Section 1201(a)(2) then lists certain types of products that are prohibited:

- Products designed for the purpose of circumventing,<sup>167</sup>
- Products with only limited purpose other than to circumvent,<sup>168</sup> or
- Products marketed with the knowledge that they will be used in circumventing.<sup>169</sup>

## 2. Exceptions under the DMCA

The DMCA is a separate and independent set of regulations on activities related to the use of copyrighted works, which has been termed “paracopyright”.<sup>170</sup> The exceptions and limitations on the traditional exclusive rights of copyright owners do not necessarily apply.<sup>171</sup> The exception of fair use and specifically reverse engineering for software as discussed earlier in this note do not specifically apply to the DMCA.<sup>172</sup> Thus, the balance between the public good and private interests is in danger of tipping too far in favor of private interests.

The DMCA has its own set of narrowly tailored statutory exemptions in § 1201 (c)-(j). Exceptions are made for libraries, educational institutions, government law enforcement and intelligence agencies, archives, encryption research and security testing.<sup>173</sup> The two exceptions that are of special interest in this paper are the exception for fair use<sup>174</sup> and the exception for reverse engineering.<sup>175</sup> These are codified narrower versions of these doctrines discussed above. In fact, although they are codified, they, in effect, do not exist

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165. *Id.* § 1201(a)(2).

166. *Id.*

167. *Id.* § 1201(a)(2)(A).

168. *Id.* § 1201(a)(2)(B).

169. *Id.* § 1201(a)(2)(C).

170. Burk, *supra* note 155, at 1096.

171. CRAIG JOYCE ET AL., COPYRIGHT LAW 813 (6th ed. 2003).

172. *See* 17 U.S.C. § 1201 (2000).

173. *See Id.* §§ 1201(d)-(j).

174. *Id.* § 1201(c).

175. *Id.* § 1201(f).

at all because by other more sweeping provisions of the DMCA overshadow them.

Section 1201(c)(1) states that “[n]othing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title.”<sup>176</sup> However, the anti-trafficking provision effectively negates the fair use in digital copyright.<sup>177</sup> Many critics have argued that the prohibition on circumvention effectively bars all access to technologically protected works, not just infringing uses on those works, and that the provision effectively does not acknowledge fair use as a countervailing value.<sup>178</sup> By allowing the act of fair use but barring the means necessary to achieve it, § 1201 reinforces the exclusionary characteristic of digital technology.<sup>179</sup> This leads commentators to believe that although fair use is listed as an exception in the DMCA, it remains there in name only but not in effect.<sup>180</sup>

Section 1201(f) covers the reverse engineering exception to the anti-circumvention and anti-trafficking provisions of the DMCA.<sup>181</sup> Section 1201(f)(1) states that

[n]otwithstanding the provisions of subsection (a)(1)(A) [the anti-circumvention provision], a person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention, to the extent any such acts of identification and analysis do not constitute infringement . . . .”<sup>182</sup>

This is a limited provision. The sole purpose must be for the purpose of interoperability.<sup>183</sup> Reverse engineering is never allowed for the manufacturing a competing product, even in cases where

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176. *Id.* § 1201(c)(1).

177. *See* Menard, *supra* note 16, at 384.

178. *See* Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM & MARY L. REV. 1245, 1321 (2001).

179. David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 733 (2000).

180. *See* Menard, *supra* note 16, at 385.

181. 17 U.S.C. § 1201(f) (2000).

182. *Id.* § 1201(f)(1).

183. *Id.*

previous courts had determined that reverse engineering was a “fair use” exception.<sup>184</sup> This is because, as stated above, there is effectively no “fair use” balancing test allowed under the DMCA.

The DMCA has a strong impact on software developers because it gives them much more power to control access to their computer software than was previously available under Copyright Law.<sup>185</sup> The DMCA also had an effect on the necessity of protection for software developers under contract law. Software developers no longer need to put provisions in shrinkwrap licenses that prohibit decryption or other circumvention of their code protections because this protection is automatically provided by the DMCA.<sup>186</sup> Since the DMCA provides a very detailed exception for reverse engineering,<sup>187</sup> shrinkwrap licenses that include prohibitions for reverse engineering should be preempted by the DMCA.

## VI. PREEMPTION

Now that contract law protection, copyright law protection, and DMCA protection have been introduced we will look at how they interact with each other. When a contract, like a shrinkwrap license, prohibits a right given to a software user under copyright law there is a potential conflict between copyright and contract law. Contract law is state law and Copyright law is federal law.<sup>188</sup> Preemption is a method in which state law is subordinated by federal law when the two are in conflict with one another.<sup>189</sup> In some instances specific causes of action are preempted, while in other cases entire state laws are preempted.<sup>190</sup> Another option under contract law is that just a particular provision of the contract will be preempted.<sup>191</sup>

There are two types of preemption applicable to copyright law.<sup>192</sup> One is statutory preemption, which is applied through § 301 of the

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184. *See Sega Enters. Ltd. v. Accolade, Inc.* 977 F.2d 1510, 1518 (9th Cir. 1992) (holding that reverse engineering to circumvent a “lockout” program in order to make competing games run on defendant’s game system was fair use); *See also Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832, 843 (Fed. Cir. 1992). (holding that replicating the source code and creating a program able to unlock defendant’s game system was fair use).

185. *See Menard, supra* note 16, at 384.

186. 17 U.S.C. § 1201(a)(1)(A) (2000).

187. *Id.* § 1201.

188. Lemley, *supra* note 20, at 1269.

189. 17 U.S.C. § 301(a) (2000); U.S. CONST. art. VI, cl. 8.

190. *See e.g., Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 269 (5th Cir. 1988).

191. Lemley, *supra* note 20, at 1269.

192. Kwong, *supra* note 17, at 359.

Copyright Act.<sup>193</sup> The other is constitutional preemption, which derives from the Supremacy Clause of the Constitution<sup>194</sup> and determines that a state law is preempted when it conflicts with the goals and objectives of Congress.<sup>195</sup>

#### A. Statutory Preemption

“Statutory preemption”, which is also sometimes called “direct conflict preemption”<sup>196</sup> occurs when federal copyright law preempts state statutes or court decisions that directly conflict with the subject matter of the Copyright Act.<sup>197</sup> Section 301 of the Copyright Act is the basis of this type of preemption because it states that federal copyright law governs “all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright.”<sup>198</sup> Therefore, laws that grant rights not equivalent to copyright are not subject to statutory preemption.<sup>199</sup>

In the context of contract law, it is generally accepted that federal copyright law does not preempt all state contract laws but rather the laws are evaluated on a case-by-case basis to determine whether they impermissibly create a state right equivalent to a right under federal copyright law.<sup>200</sup> Some courts have held that contracts may conflict with the direct terms of the statute by denying the right to make a “fair use” of the copyrighted work.<sup>201</sup> Courts have held that copyright law gives a user a right to reverse engineer for fair use purposes, so a contract provision that expressly prohibits reverse engineering is statutorily preempted.<sup>202</sup>

There is a general consensus that private freely negotiated contracts are not equivalent to any of the exclusive rights within copyright law.<sup>203</sup> However, the extent to which direct conflict

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193. See 17 U.S.C. § 301 (2000).

194. U.S. CONST. art. VI, cl. 2.

195. California Fed. Sav. & Loan Ass’n v. Guerra, 479 U.S. 272, 281 (1987).

196. Kwong, *supra* note 17, at 359.

197. 17 U.S.C. § 301(a) (2000).

198. *Id.*

199. *Id.* § 301(b)(1),(3).

200. See, e.g., S.O.S., Inc. v. Payday, Inc., 886 F.2d 1081, 1088 (9th Cir. 1989) (interpreting contract terms so as to be consistent with policies of copyright law).

201. 17 U.S.C. § 107 (2000) (delimiting fair use limitations on exclusive rights).

202. Vault Corp. v. Quaid Software Ltd., 847 F.2d 255, 269-70 (5th Cir. 1988).

203. See, e.g., Expeditors Int’l of Wash., Inc. v. Direct Line Cargo Mgmt. Servs. Inc., 995 F. Supp. 468, 483 (D.N.J. 1998) (noting that a contract claim is not equivalent to rights under copyright law because a promise is required); See also Architectonics, Inc. v. Control Sys., Inc.,

preemption affects shrinkwrap licenses depends on what is meant by direct conflict.<sup>204</sup> Consensual bargain models (as pertaining to negotiated agreements) do not apply to such standard form licensing agreements as shrinkwrap licenses.<sup>205</sup> Therefore, the issue facing the courts became one of deciding whether the differences in the bargaining model between the negotiated context and the standard form context compelled a different conclusion as to whether § 301 of the Copyright Act preempted terms given in shrinkwrap licenses.<sup>206</sup>

### 1. The Extra Element Test

The authors of the 1976 Copyright Act set specific criteria for preemption under § 301.<sup>207</sup> They sought to clarify the boundary between federal and state enforcement of proprietary rights in works of authorship by specifically addressing federal preemption of state law causes of action in § 301.<sup>208</sup> However, “sorting out the impact of § 301 on the wide variety of possible state-created causes of action . . . has proven not to be the easy task that the framers of the 1976 Act envisioned.”<sup>209</sup>

Section 301 states that federal copyright law exclusively governs “all legal or equitable rights that are *equivalent* to any of the exclusive rights within the general scope of copyright.”<sup>210</sup> The difficulty that courts have found in examining this test is that “equivalent” has no stable meaning.<sup>211</sup> Thus, courts have devised a method called the “extra element” test to determine when state law confers an equivalent right.<sup>212</sup> This test looks to see if there is some “extra element” in the state statute that is not explicitly present in the copyright laws, and if this extra element is found then the state law is considered qualitatively different than copyright law and will not be preempted.<sup>213</sup> Most courts have held that for *freely negotiated*

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935 F. Supp. 425, 438-41 (S.D.N.Y. 1996) (recognizing that the consensus among courts and commentators is that breach of contract claims are not preempted by the Copyright Act).

204. Lemley, *supra* note 20, at 1272.

205. O’Rourke, *supra* note 29, at 528.

206. *Id.*

207. See 17 U.S.C. § 301(a) (2000).

208. See *e.g.*, O’Rourke, *supra* note 29, at 528 (discussing preemption of state standard form contract law).

209. JOYCE, *supra* note 171, at 1019-20.

210. 17 U.S.C. § 301(a) (*emphasis added*).

211. See JOYCE, *supra* note 171, at 1041.

212. *Id.*

213. Katz Dochtermann & Epstein, Inc. v. Home Box Office, 50 U.S.P.Q.2d 1957, 1959

*contracts*, the mutual assent and consideration represent the “extra element” necessary to save the contract from preemption.<sup>214</sup> Therefore, parties are free to individually negotiate a contract containing provisions that prohibit actions such as fair use that would ordinarily be allowed under copyright law. This extra element is more attenuated in the shrinkwrap license context of contract law.

2. Analysis of *Bowers v. Baystate Technologies, Inc.*<sup>215</sup>

*Bowers v. Baystate Technologies, Inc.* provides an example of a case where mutual assent and consideration were found in a shrinkwrap contract, even though the terms were not freely negotiated.<sup>216</sup> The finding of the extra element in a contract of adhesion such as existed in *Bowers*, seems especially tenuous to this author.

In *Bowers*, Harold L. Bowers created a template to improve computer aided design (CAD) software, which lies on top of a CAD computer and places many CAD commands in a visual and logical order.<sup>217</sup> Bowers sold his product with a shrinkwrap license prohibiting any reverse engineering.<sup>218</sup> Baystate obtained copies of Bowers’ product and three months later released a product which incorporated many of the same features that were in Bowers’ product.<sup>219</sup> The jury found that Baystate had reverse engineered Bowers’ product to create a competing product.<sup>220</sup> The court on appeal considered whether Bowers’ shrinkwrap license was a valid prohibition of reverse engineering or whether the Copyright Act preempted it.<sup>221</sup>

In considering the issue of preemption of a shrinkwrap license provision, the court analyzed the leading cases on the topic of copyright law, contract law, and preemption. The court first articulated that federal copyright law does not preempt a state law if the state cause of action contains an “extra element” instead of, or in addition to, the acts of reproduction, performance, distribution, or

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(1999).

214. See Lemley, *supra* note 20, at 1272.

215. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003).

216. *Id.*

217. *Id.* at 1320-21.

218. *Id.* at 1322.

219. *Id.*

220. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1326 (Fed. Cir. 2003).

221. *Id.* at 1323.

display, which are protected by federal copyright law.<sup>222</sup> The court held that the mutual assent and consideration required by a contract claim were that “extra element” necessary to uphold a shrinkwrap contract.<sup>223</sup> The court seemed to have no trouble in assuming that *mutual assent and consideration* were present in the *shrinkwrap license* between Bowers and Baystate.<sup>224</sup>

The court noted that *Atari* found that reverse engineering is a statutory fair use exception to copyright infringement.<sup>225</sup> However, the court distinguished the *Bowers* case from *Atari* by reasoning that the application of the extra element test to a copyright claim did not change *Atari's* findings that reverse engineering is a fair use exception.<sup>226</sup> In this way the court did not overrule *Atari*.<sup>227</sup> Instead it noted that although reverse engineering is a fair use exception, as long as there was a valid contract (even a shrinkwrap contract), the “extra element” is present, and thus the fair use exception from copyright protection is contractually prohibited.<sup>228</sup>

#### B. Constitutional Preemption

A second type of preemption is applicable to state contract and federal copyright law. This is “constitutional preemption” sometimes called “delicate balance preemption.”<sup>229</sup> Section 301 of the Copyright Act was meant to codify the Supremacy clause of the Constitution,<sup>230</sup> but it left much undecided such that the Supremacy clause can still be applied directly.<sup>231</sup> Even when a particular cause of action survives the preemption analysis under § 301, it should still be evaluated under constitutional preemption.<sup>232</sup> “Theoretically, at least, some state laws that do not technically fall within the cope of § 301’s provisions for ‘specific statutory preemption’ nevertheless might operate to frustrate

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222. *Id.* at 1324.

223. *Id.* at 1324-25.

224. *Id.* at 1325.

225. *Id.* (citing *Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832 (Fed. Cir. 1992)).

226. *Bowers v. Baystate Tech., Inc.*, 320 F.3d 1317, 1325 (Fed. Cir. 2003).

227. *Id.*

228. *See id.* at 1325-26.

229. Kwong, *supra* note 17, at 359-60.

230. U.S. CONST. art. VI, cl. 2.

231. JOYCE, *supra* note 171, at 1032-35.

232. O’Rourke, *supra* note 29, at 534.

the policies behind the copyright system, which are rooted in Article I, § 8, cl. 8 of the Constitution.<sup>233</sup>

Constitutional Preemption arises from the Supremacy Clause of the Constitution which states, “This constitution, and the Laws of the United States which shall be made in Pursuance thereof; . . . shall be the supreme Law of the Land . . . any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”<sup>234</sup> There are three areas in which the Supremacy Clause preempts state law.<sup>235</sup> First, it will preempt where Congress has mandated an express decree.<sup>236</sup> Congress has not spoken directly on the issue of federal preemption of state rights in the context of software programs, so this provision does not apply.<sup>237</sup> Second, it will preempt where a congressional regulation in a certain area gives rise to an inference that Congress left no room for supplementary regulation.<sup>238</sup> In the past it seems that Congress had generally permitted states to supplement federal intellectual property protection with State schemes to a certain limited degree, for example by allowing unfixed creations to be protected by state copyright law.<sup>239</sup> Third, state law is preempted where it conflicts with the federal law to such a degree that it hinders the objectives of Congress.<sup>240</sup> This last area is the one that gives courts the most flexibility in determining a preemption issue.<sup>241</sup> This particular element is referred to as “conflict preemption.”

Conflict preemption looks to see if the state law should be preempted because it “stands as an obstacle to the accomplishment of the full purposes and objectives of Congress.”<sup>242</sup> The difference between statutory preemption and conflict preemption is that “conflict preemption requires an inquiry into not only whether the rights at issue are equivalent to those that the Copyright Act established, but also consideration of policy decisions underlying the Copyright

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233. JOYCE, *supra* note 171, at 1032.

234. U.S. CONST. art. VI, cl. 2.

235. Eric Beal, *It's Better to Have Twelve Monkeys Chasing You Than One Gorilla: Humana, Inc. v. Forsyth, The McCarran-Ferguson Act, RICO, and Deterrence.*, 5 CONN. INS. L. J. 751 (1998-1999).

236. California Fed. Sav. & Loan Ass'n v. Guerra, 479 U.S. 272, 280-81 (1987).

237. See Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 BERKELEY TECH. L.J. 1089, 1130-31 (1998).

238. *Guerra*, 479 U.S. at 280-81.

239. JOYCE, *supra* note 171, at 10341.

240. *Guerra*, 479 U.S. at 281.

241. Mahajan, *supra* note 3, at 3321.

242. NIMMER, *supra* note 35, § 1.01[B][3][a].

Act.”<sup>243</sup> Regardless of the applicability of § 301, it is possible for a court to set aside a licensing scheme that frustrates the Copyright Act’s overall objectives.<sup>244</sup> Claims are evaluated under conflict preemption when they do not directly conflict with federal copyright law, but nevertheless “upset the balance struck by Congress.”<sup>245</sup> The *Vault Corp. v. Quaid Software Ltd.*<sup>246</sup> and *Davidson & Associates v. Jung*<sup>247</sup> cases analyze the relationship between federal copyright law and state law under conflict preemption.

1. Analysis of *Vault Corp. v. Quaid Software Ltd.*<sup>248</sup>

In 1988 the Fifth Circuit, in *Vault Corp. v. Quaid Software Ltd.*, considered whether the terms in a shrinkwrap license were enforceable.<sup>249</sup> Vault made a product that was used in conjunction with another vendor’s software and prevented users from making unauthorized copies of that software.<sup>250</sup> Quaid made a program that deactivated Vault’s software.<sup>251</sup> In producing this program Quaid made several copies of Vault’s software code and decompiled and disassembled it.<sup>252</sup> With each version of Vault’s product a license agreement was included which specifically prohibited the copying, modification, translation, decompilation or disassembly of Vault’s program.<sup>253</sup> The court considered whether the terms of this license were enforceable or were invalid under constitutional preemption.<sup>254</sup> In doing so it concluded that a shrinkwrap agreement is a contract of adhesion and therefore could only be enforced if the Louisiana License Act, which enforced terms in shrinkwrap agreements, was a valid and enforceable statute.<sup>255</sup> The court considered § 117(1) of the Copyright Act, which permits a rightful possessor of a program to “make or authorize the making of another copy or adaptation of that computer program provided that such a new copy or adaptation is

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243. Kwong, *supra* note 17, at 360.

244. O’Rourke, *supra* note 29, at 535.

245. Lemley, *supra* note 20, at 1272.

246. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988).

247. *Davidson & Associates v. Jung*, 422 F.3d 630, 635 (8th Cir. 2005).

248. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988).

249. *Id.* at 255.

250. *Id.* at 256.

251. *Id.* at 257.

252. *Id.*

253. *Id.* at 256.

254. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 270 (5th Cir. 1988).

255. *Id.*

created as an essential step in the *utilization of the computer program* in conjunction with a machine and that it is used in no other manner. . . (emphasis added).<sup>256</sup>

The court determined that the copy made by Quaid was “created as an essential step in the utilization of Vault’s [computer] program,” and that § 117(1) “contained no language to suggest that the copy it permits must be employed for a use intended by the copyright owner. . . .”<sup>257</sup> Thus, Quaid’s decompilation for the purpose of producing a product that deactivated Vault’s product was an essential step in Quaid’s utilization of Vault’s program. The court therefore concluded that the Louisiana License Act conflicted with the rights of computer program owners under section 117 of the Copyright Act, so the restrictions in Vault’s shrinkwrap license agreement were unenforceable under constitutional preemption.<sup>258</sup>

## 2. Analysis of *Davidson & Associates v. Jung*<sup>259</sup>

In *Davidson & Associates v. Jung* a group of volunteers created a non-profit website called bnetd.org which offered game play for a multi-player games created by Blizzard without having to go to the Blizzard official site called Battle.net.<sup>260</sup> By necessity, the individuals reverse engineered Blizzard’s protocol language to ensure that their website worked with the Blizzard games.<sup>261</sup> This allowed other users to play without necessarily verifying the authenticity of their software.<sup>262</sup> Each of the creators of bnetd.org had agreed to the terms of the End User License Agreement (EULA) and the Terms Of Use (TOU) in order to play the Blizzard game contained on the CD-ROM. Both the TOU and EULA prohibited reverse engineering.<sup>263</sup> The court ruled that by agreeing to the terms of the EULA and TOU these individuals had expressly relinquished their rights to reverse engineer.<sup>264</sup> The court quoted the reasoning from *Bowers*: “private parties are free to contractually forego the limited ability to reverse engineer a software product under the exemptions of the Copyright

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256. 17 U.S.C. § 117(1) (1977) (*emphasis added*).

257. *Vault*, 847 F.2d at 261.

258. *Id.* at 270.

259. *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

260. *Id.* at 635.

261. *Id.* at 636.

262. *Id.*

263. *Id.* at 634.

264. *Davidson & Associates v. Jung*, 422 F.3d 630, 639 (8th Cir. 2005).

Act . . . .<sup>265</sup> The court also quoted the *Bowers* dissent: “a state can permit parties to contract away a fair use defense or to agree not to engage in uses of copyrighted material that are permitted by the copyright law if the contract is *freely negotiated*.”<sup>266</sup> The court stated that although *Bowers* dealt with express preemption, the reasoning applied with equal force to conflict preemption as well.<sup>267</sup>

#### VII. HARD CASES MAKE BAD LAW – ADHESION CONTRACTS SHOULD NOT PREEMPT COPYRIGHT LAW FAIR USE

This author finds the reasoning in both *Bowers* and *Davidson* baffling because both cases state that copyright law will not preempt contract law in cases where contracts are freely negotiated, but the facts of both cases show that the contracts were in fact not freely negotiated.<sup>268</sup> Both were agreements made by parties of vastly differing bargaining positions, where the terms were given on a “take it or leave it” basis only by the party in power – a contract of adhesion.<sup>269</sup> The “extra element” of mutual assent and consideration are by definition not present in mass contracts such as shrinkwrap, clickwrap, or End User License Agreements. In both *Bowers* and *Davidson* the defendants were “reaping where they had not sewn,”<sup>270</sup> so this makes these cases difficult to uphold on their facts. However, “hard cases make bad law,” and these two cases show exactly that. Just because the defendants were “free riding” does not mean that courts should create a legal precedent to uphold any and all terms present in adhesion contracts. Courts should not allow software creators to use adhesion contracts to create a zone of protection around their products far wider than both traditional copyright law and the DMCA allows.

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265. *Id.* (quoting *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1325-26 (Fed. Cir. 2003)).

266. *Id.* (quoting *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1337 (Fed. Cir. 2003) (Dyk, J. dissenting)).

267. *Id.* at 639.

268. *See generally* *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

269. *See generally* *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

270. *See generally* *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

Software creators should not be allowed to use contract law to give themselves perpetual monopolies. If adhesion contracts can never be preempted by copyright law, the delicate balancing of fair use will be completely lost. This would not only limit a consumer's choice for competing products but would also halt development of interoperable products making consumers totally dependant on the first companies to arrive in a particular market.

The national objective of copyright law is "to promote the Progress of Science and useful Arts."<sup>271</sup> This is achieved by providing incentives to the authors of the copyrightable works by giving them exclusive rights to protect the discrimination and reproduction of their works for a limited time.<sup>272</sup> Copyright law balances the author's exclusive rights with the goal of public knowledge, which is promoted through the public gaining access to the author's writings.<sup>273</sup> Sometimes the goal of Congress to benefit the public is best achieved through creating exceptions to the exclusive rights of a copyright owner.<sup>274</sup> One of these exceptions is fair use,<sup>275</sup> which in the context of computer software is embodied in reverse engineering.<sup>276</sup> Not all reverse engineering is permitted, but courts have held that when reverse engineering meets the copyright fair use elements it should be allowed.<sup>277</sup> Therefore, when looking at cases that involve adhesion contracts with provisions that prohibit reverse engineering, courts should be wary of allowing these contracts provisions to stand.

#### VIII. PROTECTING REVERSE ENGINEERING FOR COMPETING PRODUCTS UNDER THE DMCA

Courts should be even more careful with adhesion contracts that prohibit the DMCA reverse engineering exceptions. Since most software products are protected by some sort of technological measure for protection of the code, the DMCA allowance for reverse engineering will become increasingly important in future cases.<sup>278</sup>

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271. U.S. CONST. art. I, § 8, cl. 8.

272. *Id.*

273. *See id.*

274. *See* 17 U.S.C. §§ 107-122 (2000) (establishing exceptions to the exclusive right granted with copyright).

275. 17 U.S.C. § 107 (2000).

276. *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 843 (Fed. Cir. 1992).

277. *See McManis, supra* note 99 at 50; *see also Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1520 (9th Cir. 1992); *see also Atari*, 975 F.2d 832, 843 (Fed. Cir. 1992).

278. *See Menard, supra* note 16, at 377 (noting that the DMCA is "the most significant

Due to the fact that the DMCA is a separate “paracopyright” provision, statutory preemption under section 301(d) does not apply.<sup>279</sup> Therefore, only constitutional preemption can be applied to contracts conflicting with the DMCA. Also, the DMCA’s exception for reverse engineering is much narrower than that of general copyright law.<sup>280</sup> The three elements that must be met to qualify as for the reverse engineering exception under the DMCA are: (1) one must lawfully obtain the right to use the program; (2) the product must be a computer program; and (3) one’s purpose must be only to identify and analyze the program to achieve interoperability.<sup>281</sup> Thus, the DMCA should be interpreted to prevent the adhesion contracts prohibition on reverse engineering in all but the most extreme cases.

The DMCA creates a narrower definition of when reverse engineering can be claimed than traditional copyright law allows. These narrow exceptions apply only to those cases that involve the subject matter of the DMCA – circumventions of technological protection measures. Furthermore, the DMCA only allows reverse engineering for the purpose of creating an *interoperable product*.<sup>282</sup> The DMCA does not allow reverse engineering for the purpose of creating a *competing product*.<sup>283</sup> Therefore, knowing that reverse engineering for the purposes of creating competing products is already unavailable should encourage courts to vigorously protect the right to reverse engineer for the purpose of creating interoperable products. In other words, when courts face a contract law versus DMCA law preemption issue, they should weigh the cost to “the progress of sciences and useful arts” and rule to preempt broad prohibition clauses in adhesion contracts with the reverse engineering rights granted in the DMCA.

## IX. CONCLUSION

Software developers used contract law, such as licensing, to protect their creations before they had protection under traditional forms of intellectual property such as copyright law.<sup>284</sup> However, now

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change to the copyright law since . . . 1976”).

279. See 17 U.S.C. § 301(d) (2000).

280. See 17 U.S.C. § 1201(f)(1) (2000).

281. *Id.*

282. *Id.*

283. See *id.*

284. See *supra* Section III.

that software is protected under copyright law; software developers should not be allowed to continue to use contract law to supplement their protections. Copyright law carefully balances the interests of an individual creator with the good of the public in having access to that creation through the “fair use” test.<sup>285</sup> However, software developers currently try to use license terms to prohibit acts that would otherwise be fair use. This “licensing” scheme is especially unfair when the consumer is given the license on a “take-it-or-leave-it” basis. This no negotiation contract is called an “adhesion contract,” and shrinkwrap licenses are an example of this type.<sup>286</sup> When licenses prohibit otherwise fair use actions contract law and copyright law are put in conflict. Traditionally, preemption law says that federal laws win over state laws when they are in conflict with one another.<sup>287</sup> Copyright law is federal law, but contract law is only state law. Thus, courts should be able to use a preemption analysis to subjugate unfair license terms by determining that the fair use test of copyright law trumps the license terms of an adhesion contract. However, recently there has been a trend to uphold these adhesion contract terms.<sup>288</sup> This trend must stop.

In the light of the Constitution’s stated goal of “promoting the sciences and useful arts” courts should be especially careful to protect the right to reverse engineer to create *interoperable* software products. The creation of interoperable products through reverse engineering is specifically allowed under the DMCA.<sup>289</sup> Traditional copyright law’s definition of fair use is also broad enough to cover the use of reverse engineering to create interoperable products.<sup>290</sup> Thus there is a strong basis for protecting this type of reverse engineering. However, if adhesion contracts were allowed to prohibit this use, software owners would be able to create monopolies entire market sectors leaving consumers with no product choices. Courts should use both statutory and constitutional preemption to protect the right to reverse engineer at least interoperable software products, by finding

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285. See 17 U.S.C. § 107 (2000).

286. See *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 269 (5th Cir. 1988) (citing the district court’s language).

287. See discussion *supra* Section VI.

288. See *e.g.*, *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003); *Davidson & Associates v. Jung*, 422 F.3d 630 (8th Cir. 2005).

289. 17 U.S.C. § 107 (2000).

290. See discussion *supra* Section IV.

that the DMCA provisions preempt any license provisions which broadly prohibit all forms of reverse engineering.

The decisions in *Bowers* and *Davidson* come dangerously close to ruling that both statutory preemption and constitutional preemption do not apply to any adhesion contract.<sup>291</sup> Courts should be wary of applying *Bowers* and *Davidson* to situations where contract law and copyright law conflict. Courts should especially not to apply *Bowers* or *Davidson* to situations where adhesion contracts are used to prohibit reverse engineering for the creation interoperable products. Instead the courts should have a strong presumption that the DMCA and traditional copyright law should preempt adhesion contracts.

A strong presumption of preemption of contracts of adhesion will promote the “progress of the sciences and useful arts.” This presumption of preemption comports with the goals of copyright law, which is to give incentive to creators while at the same time allowing the public to benefit from their creations.<sup>292</sup> This balancing is the main purpose of the “fair use” exception in traditional copyright law, sharing this purpose with the reverse engineering exception.<sup>293</sup> Reverse engineering is just a specific type of “fair use” that often appears in the context of computer software.<sup>294</sup> This presumption does not negate the use of shrinkwrap licenses, but limits them to uses for the protection of software developers in areas where copyright law has not spoken. A presumption of preemption of adhesion contracts both furthers the national objectives of copyright law and leaves the market free to develop interoperable products, which promotes the progress of the sciences and useful arts. If courts do not reverse the recent trend by creating a strong presumption of copyright law over contract law, shrinkwrap licenses may very well suffocate fair use.

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291. See discussion *supra* Section VI.

292. See U.S. CONST. art. I, § 8, cl. 8.

293. See Mahajan, *supra* note 3, at 3315.

294. See generally *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832 (Fed. Cir. 1992).