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Is Turn About Fair Play? Copyright Law and the Fair Use of Computer Software Loaded Into RAM

Chad G. Asarch

I am not an advocate for frequent changes in laws and constitutions. But laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths discovered and manners and opinions change, with the change in circumstances, institutions must advance also to keep pace with the times. We might as well require a man to wear still the coat which fitted him when a boy

—Thomas Jefferson (first head of the U.S. Patent Office)¹

INTRODUCTION

Computer systems, especially those in heavy-use commercial settings, often require routine maintenance to continue functioning properly. Many businesses turn to an independent service organization ("ISO")² to provide computer maintenance services because ISOs frequently charge less than the original equipment manufacturer ("OEM") for those services.³ The tremendous growth in computer use⁴ has spawned a multi-billion dollar computer maintenance industry in the

1. Inscription at the Jefferson Memorial, Washington, D.C.

2. An ISO, also known as a third party maintainer, is a company that services and repairs computers that it did not manufacture.

3. Most computer users cannot afford to hire full-time employees to provide routine maintenance or handle emergency repairs. See Richard H. Stern, *Section 117 of the Copyright Act: Charter of the Software Users' Rights or an Illusory Promise?*, 7 W. NEW ENG. L. REV. 459, 479-80 (1985); Trinnie Arriola, Note, *Software Copyright Infringement Claims After MAI Systems v. Peak Computer*, 69 WASH. L. REV. 405, 424 (1994). Although ISOs also may offer other services such as consulting, this Note focuses only on the issues involved in the use of software associated with computer repair and maintenance.

4. At least one well-known commentator, however, predicts that computer use will diminish in the future as the public realizes that computers do not offer services people actually want and instead really represent "the biggest fraud in the world." "You can have 3,000 newspapers" on-line on a "computer for \$9,000," but for "half a dollar" you can buy a newspaper and get the same information in a portable format that can be taken "wherever you want to go. You can't take a computer to the toilet." Jackie Mason, *Love Thy Neighbor* (live monologue, Apr. 20, 1996), quoted in *Taking a P.C. to the Toilet*, N.Y. TIMES, Apr. 21, 1996, at E6.

United States,⁵ and ISOs and OEMs have become engaged in fierce competition for this computer service business.⁶

The struggle between ISOs and OEMs to capture this expanding market has spilled over into the courts, spawning a number of recent decisions in the area of copyright law that have added significant legal consequences to the mechanics of computer operation and maintenance. In particular, the Ninth Circuit in *MAI Systems Corp. v. Peak Computer, Inc.*⁷ ruled that, for purposes of the Copyright Act,⁸ loading software into a computer's active memory — known as Random Access Memory ("RAM")⁹ — from a permanent storage device such as a hard disk, diskette, or Read Only Memory ("ROM")¹⁰ results in the making of a "copy" of the software.¹¹ A user engages in "copying" under the Act by making a "fixed" copy of a copyrighted work.¹² Concluding that software stored in RAM is "sufficiently permanent" to be perceived and used by the computer, the court in *Peak* held that software loaded into RAM constitutes a "fixed" copy of the original stored in permanent memory.¹³

5. Recent reports estimate that businesses in the United States spent over \$23 billion on computer support and maintenance in 1995. See Dinah Zeiger, *Keeping Those Bits in Line: Computer Repair Business Growing More Competitive*, DENV. POST, Jan. 29, 1996, at C1.

6. See *id.* at C1 (predicting that "the already huge computer service, maintenance, and repair industry will only get bigger and more fiercely competitive as more personal computers are installed in businesses and homes").

7. 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994).

8. 17 U.S.C. §§ 101-710 (1994).

9. See RICHARD T. CHRISTOPH & GLENN T. SMITH, *COMPUTER LITERACY* 42-44 (2d ed. 1993).

10. All computers rely on some form of long-term memory to store software and data. A computer continues to store items in this permanent memory regardless of whether the computer is turned on or off. See V. CARL HAMACHER ET AL., *COMPUTER ORGANIZATION* (3d ed. 1990); JAMES V. VERGARI & VIRGINIA V. SHUE, *FUNDAMENTALS OF COMPUTER—HIGH TECHNOLOGY LAW* (1991).

11. See *Peak*, 991 F.2d at 518.

12. See 17 U.S.C. § 101 (1994).

13. See *Peak*, 991 F.2d at 518 (quoting 17 U.S.C. § 101 (1994)). The court rested its conclusion on the finding that software, particularly MAI's operating software, could be utilized to perform the software's intended functions while in RAM. See 991 F.2d at 518. The court in *Peak* was the first to hold that the loading of software into a computer's RAM creates a copy of the software under the Copyright Act. See 991 F.2d at 519.

The court in *Peak* did not determine how long a copy had to be in RAM in order to be considered fixed. However, the court in *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 363 (E.D. Va. 1994), suggested that more than a momentary, fleeting existence in RAM is required for making a fixed copy. Courts in subsequent decisions also have held that an ISO makes an infringing copy even if only part of the software is copied into RAM. See, e.g., *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *6 (N.D. Cal. Mar. 18, 1994) [hereinaf-

The *Peak* decision has serious ramifications for an ISO's ability to compete in the computer service market because an ISO generally must load or "copy" software into RAM when servicing computers. The simple act of turning on a computer requires the activation of the computer's operating software, which is designed to make the computer perform its most basic functions.¹⁴ Operating software includes both operating system software¹⁵ and utility or diagnostic software.¹⁶ A computer must store its software in some form of permanent memory.¹⁷ However, in order to use items stored in permanent memory, the computer must load the software into RAM: software remains inert until copied into RAM where it can be processed by the computer hardware.¹⁸ Because

ter *Triad I*], modified, 64 F.3d 1330 (9th Cir. 1995) [hereinafter *Triad II*], cert. denied, 116 S. Ct. 1015 (1996).

14. See CHRISTOPH & SMITH, *supra* note 9, at 113-20; STEPHEN A. WARD & ROBERT H. HALSTEAD, JR., COMPUTATION STRUCTURES 348-49 (1990); see also *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 (9th Cir. 1993), cert. dismissed, 510 U.S. 1033 (1994). Computers operate by executing the commands issued by a computer program. See Christian H. Nadeau & James W. Morando, *How Courts Encourage Standardization and Interoperability*, COMPUTER LAW., Apr. 1993, at 12, 13. The Copyright Act defines a "computer program" as a "set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (1994).

15. Operating system software manages the internal functions of the computer and allows the computer to translate application programs that perform specific tasks, such as word processing, into language the computer can understand, making use of the application software possible. See CHRISTOPH & SMITH, *supra* note 9, at 113-20; see also *Computer Assocs. Intl., Inc. v. Altai, Inc.*, 775 F. Supp. 544, 549-50 (E.D.N.Y. 1991) (observing that "[o]perating systems are the programs that manage the resources of the computer and allocate those resources to other programs that need them"), *aff'd.*, 982 F.2d 693 (2d Cir. 1992). For example, IBM computers use either Disk Operating System ("DOS"), Operating System 2 ("OS/2"), or UNIX software as their operating system software. See CHRISTOPH & SMITH, *supra* note 9, at 115-20. Microsoft Windows software is not an operating system; it is a "software environment" that functions like an applications program. See *id.* Macintosh computers utilize a specialized systems program that incorporates many of the functions of Microsoft Windows into the operating software. See *id.*

16. Utility, diagnostic, or other computer service software often is designed to locate computer errors. See CHRISTOPH & SMITH, *supra* note 9, at 113-15. Some utility software programs automatically display an error log upon being loaded into RAM in order to inform the user of any problems. See *Peak*, 991 F.2d at 518. Utility software is usually bundled together with operating system software so that loading of the operating system software into RAM from the permanent memory source in which it is stored necessarily involves loading the utility software. See CHRISTOPH & SMITH, *supra* note 9, at 114.

17. See *id.* CHRISTOPH & SMITH, *supra* note 9, at 80.

18. See *id.* at 113-20. No matter how the operating system might be permanently stored (i.e. in ROM, hard disk, or diskette), a computer cannot function unless the operating system is loaded into the computer's RAM because the operating system manages the computer's physical resources and orchestrates the execution of all programs. Thus, a computer's operating software is loaded automatically into RAM as soon as someone

even the lowest-level computer maintenance involves turning on the computer and testing it to make sure that the computer functions properly,¹⁹ effective computer maintenance requires loading the operating software into RAM.²⁰

Under the Copyright Act, a copyright infringement claim must satisfy two elements: (1) ownership of a valid copyright; and (2) unauthorized "copying" of copyrighted material.²¹ In *Peak*, the OEM had licensed copyrighted software²² to the computer owner (the "customer") under a restrictive licensing agreement that allowed the customer to use and copy the software during the normal operation of the computer but prohibited the making of any copies of the software by nonlicensed parties.²³ As a result, the court held that any copying of the software by the

turns on the computer. See Arriola, *supra* note 3, at 407; *Triad I*, 1994 WL 446049, at *5 (noting that "[i]n order to use a Triad computer, one must reproduce the operating system software in the computer's RAM"); *Advanced Computer Servs. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 360 (E.D. Va. 1994) (observing that "[r]egardless of the means of loading, none of the [computer] programs can communicate with the computer unless they are first loaded into RAM").

19. See, e.g., *Triad I*, 1994 WL 446049, at *5. In addition, proper maintenance often requires making archival copies on disk or tape in order to ensure that information stored on the computer is not lost during maintenance (i.e., when the computer is reformatted or rebooted after it has been serviced). See *Triad I*, 1994 WL 446049, at *6.

20. See Katrine Levin, Note, *MAI v. Peak: Should Loading Operating Software into RAM Constitute Copyright Infringement?*, 24 GOLDEN GATE U. L. REV. 649 (1994).

21. See *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991); *Sid & Marty Krofft Television Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1162 (9th Cir. 1977).

22. Under the Computer Software Copyright Act of 1980, computer programs clearly are entitled to copyright protection as literary works. See 17 U.S.C. §§ 101, 117 (1994). Of course, an OEM bringing a copyright infringement claim against an ISO must establish actual ownership of a valid copyright by showing that the software is original and that the OEM complied with the applicable statutory formalities. See *Lotus Dev. Corp. v. Borland Intl., Inc.*, 49 F.3d 807, 813 n.5 (1st Cir. 1995), *affd. by an equally divided Court*, 116 S. Ct. 804 (1996); *Engineering Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1340 (5th Cir. 1994). For the purposes of discussion, this Note assumes that the OEM has proven ownership of a valid copyright of the software in question.

23. A representative software license used by MAI (the OEM in *Peak*) provided in part:

(a) *License*. . . . Customer may use the Software . . . solely to fulfill Customer's own internal information processing needs on the particular items of Equipment

. . . .

(b) *Customer Prohibited Acts*. . . . Any possession or use of the Software . . . not expressly authorized under this License or any act which might jeopardize [MAI]'s rights or interests in the Software . . . is prohibited, including without limitation, examination, disclosure, copying, modification, reconfiguration, augmentation, adaptation, emulation, visual display or reduction to visually perceptible form or tampering.

ISO²⁴ without the permission of the OEM occurred "beyond the scope of the license"²⁵ and therefore constituted copyright infringement.²⁶

A "Peak claim" arises when: (1) an OEM transfers computer operating software to a customer under a restrictive licensing agreement, and (2) an ISO copies the software into RAM without the OEM's permission or "beyond the scope of the license" while servicing the computer.²⁷ In other words, any third party makes an infringing "copy" of licensed operating software *simply by turning on the customer's computer* without the OEM's permission. The *Peak* decision has widespread significance given the growing trend among OEMs²⁸ to license rather than transfer ownership of software to customers.²⁹

MAI Sys. Corp. v. Peak Computer, Inc., 991 F.2d 511, 517 n.3 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994). The terms of the license in *Peak* are typical of many such restrictive licensing agreements in the software industry.

24. In *Peak*, personnel employed by Peak Computer (the ISO) copied operating system software and diagnostic/utility software into RAM by turning on the computer while servicing MAI customers. See 991 F.2d at 517-19. The ISO then used the software, which automatically generated an error log when copied into RAM, to identify and correct system errors. See 991 F.2d at 517-19.

25. 991 F.2d at 517-19. The Copyright Act grants a number of exclusive rights to the holder of a copyright, including the exclusive right to make and distribute "copies" of the copyrighted work. See 17 U.S.C. § 106 (1994). The owner of a copyright may transfer these rights to others under an exclusive license. See 17 U.S.C. § 201(d) (1994). A user infringes on the rights granted to a copyright holder by making or distributing copies of the copyrighted material without the permission of the copyright owner when such copying occurs beyond the scope of a license. See 17 U.S.C. §§ 106, 501(a) (1994); *SOS, Inc. v. Payday, Inc.*, 886 F.2d 1081, 1085 (9th Cir. 1989).

26. See *Peak*, 991 F.2d at 517-19.

27. See 991 F.2d at 517-19.

28. Most OEMs own the copyright to the operating software that runs the computers sold by the OEM. See Levin, *supra* note 20, at 678 n.167. Although the software developer, copyright holder, and OEM may be separate entities, generally the same entity that manufactures a computer also will produce and hold the copyright to the operating software for that computer.

29. The practice of licensing rather than selling software is common across the industry. See Albert P. Cefalo, *Software Licensing*, in TECHNOLOGY LICENSING AND LITIGATION: 1994, at 385 (PLI Pat. Copyrights, Trademarks, and Literary Property Course Handbook Series No. 382, 1994) (providing a list of different license types). The licenses often prohibit the customer from allowing others to use the software for any purpose, including computer maintenance. See Appellants' Brief at 5, *Triad II*, 64 F.3d 1330. In fact, MAI began employing restrictive licenses specifically as a way to limit competition in the computer service market from Peak Computer. Peak Computer enticed four MAI employees, including MAI's customer service manager, to work for Peak Computer. Peak Computer subsequently convinced a large percentage of MAI customers to switch over to Peak Computer for computer maintenance services. See Brian J. Murphy, Case Note, *Loading Software into RAM Creates a "Copy"*: MAI Systems Corp. v. Peak Computer, Inc., 10 SANTA CLARA COMPUTER & HIGH TECH. L.J. 499, 500 (1994). In response, MAI hired a leading computer service consultant to regain its lost share of the service market. The consultant recommended that MAI sue to enjoin Peak Computer from servicing MAI computers. The consultant suggested that MAI

In a *Peak* situation, an OEM has two separate potential causes of action: (1) a breach of contract claim only against the customer, and (2) a copyright infringement claim against the ISO — a *Peak* claim. Although this Note only addresses the copyright claim, a brief comparison of the two causes of action will help clarify the scope of the copyright claim. The breach of contract claim arises because the customer violates the terms of the license by allowing the ISO or any other unauthorized third party to use the software.³⁰ The OEM cannot bring a breach of contract claim against the ISO because the ISO is not a party to the restrictive licensing agreement. In contrast, the OEM can bring a copyright claim only against the ISO and not against the customer because any copying performed by the customer does not occur “beyond the scope of the license.”³¹ The ISO only infringes on the copyright when the ISO performs the copying. Thus, no copyright cause of action ac-

bring a copyright infringement action and argue to the court that loading software into RAM constituted “copying” under the Copyright Act, a course of action which ultimately proved successful. See Levin, *supra* note 20, at 650. This note uses the term “sales” to mean sales of licenses, rather than sales of copies of the software in the § 117 sense. See *infra* note 31 (noting that the analysis would be different if customers were owners of copies of the software, instead of licenses).

30. Although no court has held that a customer’s actions constitute a breach of contract, such a result is an obvious conclusion based on the terms of the license. However, aside from the financial impediments to bringing numerous individual breach of contract suits against customers, it is unlikely that an OEM would actually pursue litigation against its own customers given the strong probability that doing so would drive away those customers in droves. See also *infra* note 122 (discussing the antitrust issues raised by such a breach of contract claim).

31. In addition, the *Peak* ruling does not affect customers who own, rather than hold licenses to, software. § 117 of the Copyright Act allows for “owners” of copies of computer programs to make copies of the program provided “(1) that such new copy or adaptation is created as an essential step in the utilization of the computer program . . . or (2) that such new copy or adaptation is for archival purposes only.” 17 U.S.C. § 117 (1994). Because copying a computer program into RAM is essential in order to use the software, an ISO would not violate copyright law by loading the software into RAM if § 117 covered software held by a customer under a restrictive license agreement. However, in a one-sentence footnote, the court in *Peak* dismissed the applicability of a § 117 defense to a *Peak* claim by ruling that users of licensed software “do not qualify as ‘owners’ of the software and are not eligible for protection under § 117.” *Peak*, 991 F.2d at 518 n.5; see also *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 367 (E.D. Va. 1994). Some commentators have argued that “rightful possessors,” including licensees, should be covered under the exemptions in § 117. See, e.g., Michael E. Johnson, Note, *The Uncertain Future of Computer Software Users’ Rights in the Aftermath of MAI Systems*, 44 DUKE L.J. 327, 341-47 (1994). Recent legislation has been introduced by Rep. Joseph Knollenberg (R-MI) to include rightful possessors as owners under § 117. See H.R. 533, 104th Cong. (1995). Nevertheless, because Congress actually replaced the term “rightful possessor” with the word “owner” when drafting the legislation, it is likely that courts will be reluctant to extend § 117 to rightful possessors, including licensees.

crues where the customer allows the ISO to use the software while servicing the computer as long as the customer activates the computer and loads the software into RAM.³²

These problems would be avoided if the courts considered the ISO's use of a computer's operating software "copied" into RAM to be a "fair use" of the software.³³ Under section 107 of the Copyright Act, a user may create copies of a copyrighted work without violating the Copyright Act if the user's activities constitute a "fair use."³⁴ The stat-

32. The court in *Triad I* suggested that no copyright infringement would occur where the customer starts up the computer before the ISO arrives or where an ISO representative instructs the customer "to start up or reset the computer whenever necessary to perform various service functions." *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *9 (N.D. Cal. Mar. 18, 1994). Thus, an ISO would not violate copyright law by borrowing the customer to turn on the computer and punch the necessary keys to boot up the service software because any copy made by the customer would be permitted under the license. *But see Advanced Computer Servs.*, 845 F. Supp. at 367 (holding that the customer/licensee infringes on the copyright by permitting third party access to the software).

33. *See Triad I*, 1994 WL 446049, at *6-7. Application of the fair use defense to a *Peak* claim would not affect the OEM's potential breach of contract claim against the customer.

34. *See* 17 U.S.C. § 107 (1994). Courts also have recognized the defense of copyright misuse to prevent the inappropriate expansion of the limited monopoly created by the copyright. *See Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990); *see also* 3 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.09[A] (1995). As a result of the recent Fifth Circuit decision in *DSC Communications Corp. v. DGI Technologies, Inc.*, 81 F.3d 597 (5th Cir. 1996), some commentators have argued that misuse might be applicable to *Peak* claims. *See* Mark Walsh, *High Tech Firms Cheer Ruling in Copyright Case: Court Says Software Makers Can't Misuse Law to Create a Monopoly*, THE RECORDER, May 29, 1996, at 1, 12. The court in *DSC Communications* applied copyright misuse to invalidate an OEM's attempt to use copyright protection to prevent third parties from developing competing microprocessor cards. *See DSC Communications*, 81 F.3d at 601-02. When competitors tested the alternative microprocessing cards for compatibility with an OEM computer's switching system, the cards automatically downloaded the OEM's copyrighted operating software into the computer's RAM. *See DSC Communications*, 81 F.3d at 599, 601.

However, the misuse defense generally is limited to situations where a copyright holder attempts to use copyright protection to prevent others from developing alternative works that compete with the original. *See NIMMER & NIMMER, supra*, § 13.09[A]. As a result, courts routinely have rejected copyright misuse as a valid defense for an ISO against a *Peak* claim because the plaintiff OEMs' licensing agreements have not included restrictions designed to prevent ISOs from developing competing software. *See Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330, 1337 (9th Cir. 1995); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1169-70 (1st Cir. 1994); *In re Indep. Serv. Orgs. Antitrust Litig.*, 910 F. Supp. 1537, 1541-42 (D. Kan. 1995) (finding no copyright misuse where the OEM does not prohibit a third party from developing its own diagnostic software); *Advanced Computer Servs.*, 845 F. Supp. at 366-67; *Triad I*, 1994 WL 446049, at *14. The Fifth Circuit in *DSC Communications* focused on the OEM's attempt to prevent its competitors from developing alternative microprocessor cards, rather than on any effort to stymie competition in the computer service market. *See DSC Communications*, 81 F.3d at 601. Consequently, courts em-

ute directs courts to weigh four factors in determining whether a particular use is fair: (1) the purpose of the use, (2) the nature of the copyrighted work, (3) the amount of the work copied, and (4) the effect of the use upon the market for the copyrighted work.³⁵ However, a precise definition of what qualifies as a fair use so far has eluded courts and commentators.³⁶ Instead, courts have characterized the fair use defense as an equitable doctrine that turns on a determination of the specific facts involved in a given copyright infringement case.³⁷ Although the Ninth Circuit in *Peak* did not address the issue of fair use, courts in subsequent rulings have concluded that ISOs cannot rely successfully on the fair use defense against a *Peak* claim.³⁸

This Note argues that the fair use defense should be applied to ISOs charged with copyright infringement under a *Peak* claim. Part I maintains that the four fair use factors identified by Congress in the Copyright Act support a finding of fair use in *Peak* claims, primarily because an ISO's computer maintenance activities do not impact adversely the market for sales of computer software. Part II contends that equity and policy considerations support application of the fair use defense to *Peak* claims. Specifically, Part II reasons that preventing an ISO from successfully raising the fair use defense against a *Peak* claim would grant OEMs the ability to exclude ISOs from the computer service market simply by licensing rather than selling operating software to their customers. While an OEM should be able to license software to its customers, an OEM should not be able to use copyright protection improperly to acquire a *de facto* monopoly in the computer maintenance market.

playing the reasoning in *DSC Communications* would not apply the copyright misuse defense to *Peak* claims because they only involve competing services, not the development of competing computer hardware or software. See Walsh, *supra*, at 12.

35. See 17 U.S.C. § 107 (1994).

36. See, e.g., *NIMMER & NIMMER*, *supra* note 34, § 13.05; *American Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 916 (2d Cir. 1994) (citing H.R. REP. NO. 94-1476, at 65-66 (1976) reprinted in 1976 U.S.C.C.A.N. 5659, 5679 (noting that "no generally applicable definition [of fair use] is possible")).

37. See, e.g., *Harper & Row Publishers, Inc. v. Nation Enterp.*, 471 U.S. 539, 560 (1985) (citing H.R. REP. NO. 94-1476, at 65 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5679 (stating that "each case raising the question must be decided on its own facts")); see also *NIMMER & NIMMER*, *supra* note 34, § 13.05.

38. Courts have considered the fair use defense in two cases involving *Peak* claims. In both cases the courts found that an ISO defending against a *Peak* claim did not have recourse to the fair use defense because of the commercial nature of the use and the ISO's failure to pay royalties to the OEM. See *Triad II*, 64 F.3d 1330; *Advanced Computer Serv.*, 845 F. Supp. 356.

I. THE FOUR FAIR USE FACTORS

This Part argues that the fair use defense should be available to ISOs against a *Peak* claim because the four statutory fair use factors,³⁹ particularly the market impact factor, on balance weigh in favor of fair use. Section I.A discusses market impact, the most important of the four factors,⁴⁰ and contends that an ISO's use of software does not negatively impact the market for software sales because the use is non-proliferative. Section I.B submits that despite the commercial nature of an ISO's use of the software, the purpose of the use does not weigh against fair use because it lacks any negative impact on the market for sales of the software and because copying only serves as an intermediate step to an otherwise fair use. Section I.C postulates that the nature of the copyrighted work supports fair use because operating software is a functional work⁴¹ subject to less protection under copyright law. Finally, section I.D maintains that while the software is completely copied into RAM, the reality of computer operations offers the ISO no alternative but to copy the entire work in order to use it. Therefore, the extent of the copying factor also should not weigh against fair use.

A. *Market Impact*

The Copyright Act directs courts to consider "the effect of the use upon the potential market for or value of the copyrighted work"⁴² in deciding fair use claims. This section argues that market impact supports fair use because ISOs do not compete with OEMs for sales of the

39. See *supra* text accompanying note 35 (listing the four factors).

40. See *Stewart v. Abend*, 495 U.S. 207, 238 (1990); *Harper & Row*, 471 U.S. at 566 (characterizing whether the use tends to interfere with sales of the copyrighted article as "the single most important factor" bearing on whether the use is fair); *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *8 (N.D. Cal. Mar. 18, 1994); *Lewis Galoob Toys, Inc., v. Nintendo of America, Inc.*, 780 F. Supp. 1283, 1294 (N.D. Cal. 1991), *aff'd*, 964 F.2d 965 (9th Cir. 1992); see also NIMMER & NIMMER, *supra* note 34, § 13.05[A][4]; BRUCE A. LEHMAN & RONALD H. BROWN, *INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS* 79 (1995) (noting that "courts have repeatedly identified [the economic effect of the use] as the most significant of the four factors"). But see *American Geophysical Union*, 60 F.3d at 926 (interpreting the omission of language highlighting the priority of the market impact factor in *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1171 (1994), as an indication that all four fair use factors should be considered equally); William F. Patry & Shira Perlmuter, *Fair Use Misconstrued: Profit, Presumptions, and Parody*, 11 CARDOZO ARTS & ENT. J. 667, 693-97 (1993) (criticizing the Supreme Court's emphasis on market impact).

41. Fair use analysis distinguishes between works that serve a functional, utilitarian purpose and more creative works. See *infra* text accompanying notes 98-111.

42. 17 U.S.C. § 107(4) (1994).

software and because an ISO's use of the software to service customers' computers is nonproliferative: the ISO does not create any permanent, additional copies of the software. Section I.A.1 contends that the relevant market should include only the sales of copies of the software and should exclude potential licensing fees. Section I.A.2 maintains that an ISO's use of licensed software while servicing computers does not negatively impact the relevant market.

1. *Defining the Relevant Market: Excluding Potential Licensing Fees*

The relevant market in a *Peak* claim should be the market for sales of the OEM's software. Potential licensing revenues from computer maintenance should not be included in the relevant market because doing so in effect would extend copyright protection to the process of servicing computers — an uncopyrightable procedure.

Before an analysis of the market impact of a given use can begin, a court must define the parameters of the potential market in question.⁴³ When defining the relevant market, courts focus their analysis on whether the disputed use would diminish demand for the original copyrighted work.⁴⁴ Thus, the appropriate inquiry is whether the challenged use "supplants any part of the normal market for a copyrighted work"⁴⁵ or whether "it fulfills the demand for the original."⁴⁶ Specifically, in order to protect the incentives established by copyright law — to encourage authors to bring copyrighted works to the market in the first place — courts determine whether the challenged use would have a detrimental effect on the potential market for the copyrighted work "by diminishing potential sales, interfering with marketability, or usurping the market" if the use became widespread.⁴⁷

43. Indeed, defining the potential market remains the central question of any market impact analysis. See Daniel M. Wall & Charles S. Crompton, III, *The Antitrust and Intellectual Property Law Issues: Exploiting Computer Software Copyrights in Multiple "Markets,"* 8 ANTITRUST, Summer 1994, at 20.

44. See *Fisher v. Dees*, 794 F.2d 432, 438 (9th Cir. 1986).

45. *Marcus v. Rowley*, 695 F.2d 1171, 1177 (9th Cir. 1983).

46. *Fisher*, 794 F.2d at 438; see also *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 550 (1985) (holding that the fair use doctrine is designed to preclude uses that "supersede the use of the original") (quoting *Folsom v. Marsh*, 9 F. Cas. 342, 344-45 (No. 4,901) (C.C.D. Mass. 1841)); *Pacific & S. Co. v. Duncan*, 744 F.2d 1490, 1496 (11th Cir. 1984); *Maxtone-Graham v. Burtchae*, 631 F. Supp. 1432, 1438 (S.D.N.Y.), *aff'd*, 803 F.2d 1253 (2d Cir. 1986); *NIMMER & NIMMER*, *supra* note 34, § 13.05[B][4] (noting that courts investigate whether the disputed use satisfies "the same purpose" or performs the same "function" as the copyrighted work).

47. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523 (9th Cir. 1992) (citation omitted); see also *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1177 (1994); *Sega Enters., Ltd. v. Maphia*, 857 F. Supp. 679, 688 (N.D. Cal. 1994) (arguing

An average layperson considering the issue for the first time might conclude intuitively that potential licensing fees should be included in the relevant market by reasoning as follows: assuming that loading software into RAM constitutes copyright infringement, certainly the ISO should pay the OEM for any actual use the ISO makes of the software after it has been copied into RAM. An OEM should be able to collect permission fees from an ISO just as a wrench manufacturer should be able to collect fees from a plumber who uses the wrench to service pipes because both the OEM and the wrenchmaker would expect to sell additional copies of their products to everyone who uses them. Similarly, OEMs have argued that denial of the fair use defense is necessary in order to insure that OEMs recoup the cost of creating the operating software either by forcing ISOs to purchase licenses to use the operating software or by reaping the profits that would be generated by having the OEMs perform the maintenance themselves — the obvious consequence of preventing ISOs from entering the market.⁴⁸ These positions seem bolstered by the fact that an ISO makes extensive use of the operating software in RAM while servicing a customer's computer. For example, while utility software generally does not fix computer problems, ISOs often rely on utility software to generate error logs and to identify and diagnose system problems.⁴⁹

However, the layperson's and the OEMs' arguments focus on the wrong issue by confusing protection against *unauthorized use* with protection against *unauthorized copying*.⁵⁰ Their reasoning mistakes the

that one need only show that the challenged use would diminish the copyrighted work's potential market to negate a claim of fair use) (citing *Harper & Row*, 471 U.S. at 568).

48. See Appellee's Brief on the Merits at 26-28, *Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330 (9th Cir. 1995).

49. In *Peak*, the software loaded into RAM permitted a user "to view the system error log and diagnose the problem with the computer." *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994). However, if the software actually fixed a computer's problems by itself, there would be no great need for ISOs to service the computer.

50. In fact, there are two separate distinctions that elude the layperson. The first distinction is between "use" and "copying." Although the copying of the software from ROM to RAM is technically a "use" for infringement purposes, it is not the "use" for which the customer pays the ISO. The customer pays the ISO to service the computer; this "use" of the software to service the computer, *once the copy is already in RAM*, is not an infringement. This Note refers to "use" in the latter sense.

The second distinction deals with the way in which the copying and use are "unauthorized." The use (in the servicing-computers sense) is unauthorized for the customer *as a matter of contract law* — the contract is the license agreement between the OEM and the customer. Therefore, because the ISO is not privy to the license agreement, the use (in the servicing-computers sense) is not "unauthorized" for the ISO. On the other hand, because the ISO's copying of the software from ROM to RAM is a potential copyright infringement, the *copying* is unauthorized for the ISO *as a matter of*

scope of the licenses at issue in a *Peak* claim, which prohibit third-party use of the software, with the reach of copyright law. Copyright law prevents the creation of an alternative market for copies of copyrighted works by parties other than the copyright holder. Such protection provides copyright holders with a legitimate expectation of income from the sale of *copies* of the work, *but does not create any expectation of gain from a third-party's use of the work*. Protecting against unauthorized uses of an item like a wrench is the province of patent law, not copyright law. Thus, the relevant market under fair use analysis should include only the market for additional copies of the work, not the market for uses of the work. This is why, when determining whether the fair use defense applies, courts have distinguished between copying that constitutes "simple exploitation of another's creative efforts" and copying incident to the use of the copyrighted material — only the former being prohibited by copyright law.⁵¹

Both the layperson and the OEM err by concluding that the use of the copy of software in RAM detracts from the value of the original, thereby treating the creation and use of a copy of software in RAM the same as making copies of a newspaper article on a Xerox machine for use instead of the original. By doing so, they fail to recognize the unique characteristics of copying software into RAM. An item loaded into RAM is an "ephemeral" copy that only exists in RAM for as long as the computer is turned on while the original remains permanently stored in some form of long-term memory.⁵² When the computer is

copyright law, unless the use is deemed a fair use. See *supra* notes 30-32 and accompanying text.

51. *Accolade*, 977 F.2d at 1523. For example, the Supreme Court in *Campbell* looked favorably on application of the fair use defense to the use of lyrics and music copied from Roy Orbison's licensed and copyrighted classic rock ballad "Oh, Pretty Woman" in a rap music parody recorded by 2 Live Crew. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 569 (1994). The Court limited the market impact analysis to an investigation of whether sales of 2 Live Crew's version of the song would negatively impact sales of copies of the original. See 510 U.S. at 590-92. In other words, the Court ruled that the proper inquiry should focus exclusively on the question of whether buying 2 Live Crew's "copy" of the original would disincite consumers to buy Orbison's version, not on whether the band's unauthorized use of the lyrics and music adversely affected permission fees collected by the copyright holders. If no one purchasing the 2 Live Crew song would have bought the Orbison original anyway, then no negative market impact would have resulted from 2 Live Crew's use of the copied lyrics despite 2 Live Crew's unauthorized use of the licensed work. See 510 U.S. at 591-92.

52. See CHRISTOPH & SMITH, *supra* note 9, at 43-44. Indeed, commentators have sharply criticized the ruling in *Peak* for completely misconstruing the meaning of the term "fixed copy." See, e.g., Johnson, *supra* note 31, at 334 (arguing that because a computer program in RAM is "a transitory and ephemeral writing, like a message written in sand," it should not be considered "fixed in the same way a program copied onto permanent, read-only memory (ROM) is") (internal quotation marks omitted). Conclud-

turned off, the information in RAM is erased.⁵³ Because software only can be used in RAM, copying software into RAM does not create a real, additional copy of the software that can be used instead of the original, unlike copies of, say, a newspaper article that can serve as a substitute for the original.

In addition, the market impact of a given use should be gauged only for the potential market of the copyrightable product, not the market for related but *uncopyrightable* activities.⁵⁴ Processes, functions, and uses are not copyrightable.⁵⁵ In particular, the process of servicing a computer, even when such a process relies on the use of copyrighted software, is not copyrightable.⁵⁶ Alternatively, one can copyright

ing that software in RAM represents a "fixed" copy of the same software in ROM or on a hard disk is similar to arguing that a person's shadow represents a copy of that person because it can be seen around the corner before the person comes into view. Moreover, *Peak's* detractors point to the House Report that accompanied the 1976 Copyright Act to show that Congress did not intend for software in RAM to be considered fixed. See H.R. REP. NO. 94-1476, at 53, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5666 (stating that the "definition of fixation would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen . . . or captured momentarily in the 'memory' of a computer").

53. See CHRISTOPH & SMITH, *supra* note 9, at 43-44.

54. See *Marcus v. Rowley*, 695 F.2d 1171, 1177 (9th Cir. 1983).

55. "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b) (1994).

The Copyright Act does grant copyright holders copyright protection on works derived from the work with the original copyright. See 17 U.S.C. § 103 (1994); NIMMER & NIMMER, *supra* note 34, § 13.05[A][4]. The Copyright Act defines a derivative work as "a work based upon one or more preexisting works . . . or any other form in which a work may be recast, transformed, or adapted." 17 U.S.C. § 101 (1994). However, a derivative work must meet the same standards as an original work to receive copyright protection. See 17 U.S.C. § 103 (1994). Thus, processes, even if derived from a copyrightable work, do not qualify as derivative works subject to copyright protection.

56. See *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *9 (N.D. Cal. Mar. 18, 1994) (stating that because the OEM's "copyrights do not extend to the methods, procedures, and processes involved in servicing" a computer manufactured by the OEM, injury to the OEM's "position in the service market is not cognizable under copyright law"); see also H.R. REP. NO. 94-1476, at 57, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5670 ("Section 102(b) is intended, among other things, to make clear that the expression adopted by the [computer] programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of copyright law"). OEMs do not deserve copyright protection over the process of servicing computers when such service involves the use of copyrighted diagnostic software despite the substantial investment of time, money, and labor they may have put into the development of the software. The Supreme Court in *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 490 U.S. 340 (1991), rejected the "sweat of the brow" doctrine and held that substantial effort alone cannot confer copyright status on an otherwise uncopyrightable work.

software designed to perform a diagnostic service, but one cannot copyright the process by which one uses the software because computer maintenance is a process without authorship. Thus, the only relevant market courts should consider is *the market for sales of the software*, the sole market in which an ISO could usurp the demand for the copyrightable work. Courts should *not* include in the relevant market the business of servicing computers and the potential licensing fees that would be generated by requiring ISOs to pay for the use of licensed software.

Copyright protection does not provide any expectation of recouping software development costs from computer maintenance activities, regardless of how the OEM wishes to recover those costs. OEMs can recover the cost of development by charging higher prices for copies of their software, but should not be able to recoup those costs through service contracts by operation of copyright law. As a result, the software price would reflect its true cost instead of forcing the customer to pay part of the cost of the software through the OEM's higher service rates.

The two courts that have considered the application of the fair use defense to a *Peak* claim disagreed with this analysis.⁵⁷ The court in *Advanced Computer Services of Michigan v. MAI Systems Corp.* ruled that an ISO's maintenance of computers running on licensed software "clearly deprives" the OEM of license fees associated with the use of that software and, thus, necessarily diminishes the market value of the software license agreements.⁵⁸ Similarly, the court in *Triad II* found that the ISO diminished the potential market for sales of licenses for the utility software because the ISO would have to purchase a license for the software in order to use it.⁵⁹

However, by assuming that ISOs should be included as potential licensors of the software, these decisions rest on the faulty reasoning that a potential market has been supplanted "to the extent that the defendant, by definition, has made some actual use of plaintiff's work, which use could in turn be defined as the relevant potential market."⁶⁰

57. *Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330, 1336-37 (9th Cir. 1995); *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 366 (E.D. Va. 1994).

58. 845 F. Supp. at 366. OEMs also would point out that in cases of duplication of the copyrighted work, the court may presume a negative market impact if the use of the work is wholly commercial. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 593 (1994); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984) (holding that a commercial use creates a rebuttable presumption of negative market impact).

59. See *Triad II*, 64 F.3d at 1337.

60. NIMMER & NIMMER, *supra* note 34, § 13.05[A][4].

Under the rationale employed in *Advanced Computer Services* and *Triad II*, a contested use of a licensed work always would cause a negative market impact because a copyright holder always could charge licensing fees to the user for the contested use. Thus, including unauthorized users in the market of prospective software licensors automatically establishes negative market impact in every fair use case because the plaintiff always can claim the loss of a potential market "if that potential is defined as the theoretical market for licensing the very use at bar."⁶¹ Given the extreme importance courts place on market impact, this reasoning would lead to different fair use decisions depending on whether the work was licensed or sold. Copyright holders effectively could preclude recourse to the fair use defense by potential users of copyrighted works simply by licensing those works. A magazine could always claim lost permission fees for copies of articles made by a teacher to distribute to her students simply by licensing each copy of its weekly issue,⁶² thereby creating a negative market impact and possibly denying the fair use defense to the teacher.⁶³ However, the relevance of the fair use defense to a particular use does not depend on whether the copyrighted work is licensed or sold because the Supreme Court has found no negative market impact stemming from the use of a licensed work.⁶⁴

61. *Id.* One commentator has noted that "by definition every fair use involves some loss of royalty revenue because the secondary user has not paid royalties." Pierre N. Leval, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1124 (1990); see also *American Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 929 n.17 (2d Cir. 1994); William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1661, 1671 (1988).

62. Licensing each copy of a magazine through shrink wrap licenses would require little effort. Shrink wrap licenses, already heavily utilized in the software industry, operate by sealing the copyrighted work with a label informing the customer that by opening the package or wrapper and breaking the seal they agree to the terms of the license. See *Committee Report: Division III-Copyright*, in ABA SEC. PAT., TRADEMARK & COPYRIGHT LAW, REPORT 181 (1987).

63. The Copyright Act specifically designates such an educational use by a teacher as a probable protected fair use. See 17 U.S.C. § 107 (1994).

64. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 593 (1994). The Court noted that while a copyright holder could assert harm to the potential market for licenses of the work, the appropriate inquiry remains "the harm of market substitution." 510 U.S. at 593. But see *Richard Anderson Photography v. Brown*, No. 85-0373-R, 1990 U.S. Dist. LEXIS 19846, at *5 (W.D. Va. Apr. 16, 1990) (holding that "use of photographic images used without license was not fair because such use denied the [copyright holder] licensing fees which clearly affects the value of the copyrighted work"). However, in *Richard Anderson Photography*, the challenged use involved the creation and distribution of additional, proliferative copies of the photographs in question. The analysis would have been the same regardless of whether the pictures had been sold or licensed.

Including potential licensing fees in the relevant market would have the practical effect of extending copyright protection to the uncopyrightable process of servicing the computer. A copyright violation occurs in a *Peak* claim only because the software is copied into RAM by the ISO. Indeed, if the customer and not the ISO performed the copying, no copyright infringement would occur and the OEM would be unable to bring a *Peak* claim against the ISO, even though the ISO does the same task for the customer.⁶⁵

Moreover, because an ISO's use of the software does not interfere with any legitimate expectation conferred by the operation of copyright law that the OEM has regarding income from the market for copies of the copyrightable software,⁶⁶ courts should not include the market for royalties from use of the software as part of the relevant market. Even in *American Geophysical Union v. Texaco, Inc.*, where the court considered potential licensing fees when evaluating market impact, the court confined its analysis by concluding that "[o]nly an impact on potential licensing revenues for traditional, reasonable, or likely to be developed markets should be legally cognizable."⁶⁷ The court defined traditional markets as those that the copyright holder has "typically sought to, or reasonably been able to obtain or capture."⁶⁸ In addition, the court only considered markets for additional copies of the work, not for simple use of the work.⁶⁹ Because the copying in a *Peak* claim does not create additional, usable copies of the software, including licensing fees in the relevant market would subvert the purpose of the market impact analysis — defining and guarding markets appropriately subject to copyright protection.

In *Peak* claims, the market for licensing fees from ISOs to service computers is neither part of the traditional or normal market, which consists of the market for software sales, nor part of the market protected by copyright because the use of the software occurs as part of the uncopyrightable process of servicing computers. Even if one could ar-

65. See *supra* notes 31-32.

66. When analyzing market impact, the equitable goals of the fair use doctrine call for striking a balance between the public benefit derived by permitting the disputed use and the personal gain to the copyright owner that will result from denying the use. See *MCA, Inc. v. Wilson*, 677 F.2d 180, 183 (2d Cir. 1981). The less impact a disputed use will have on the copyright holder's legitimate expectations of personal gain from ownership of the copyright, the "less public benefit need be shown to justify the use." 677 F.2d at 183.

67. *American Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 930 (2d Cir. 1994); see also *Princeton Univ. Press v. Michigan Document Servs., Inc.*, No. 94-1778, 1996 U.S. App. LEXIS 29132, at *13-17 (6th Cir. Nov. 8, 1996) (en banc).

68. 60 F.3d at 930.

69. See 60 F.3d at 916-17.

gue that licensing fees for an ISO's use of the software while servicing computers is part of a traditional market because OEMs bring copyright infringement suits against ISOs, there is still a high level of "circularity to the problem: the market will not crystallize unless courts reject the fair use argument . . . but, under the statutory [fair use] test, [a court] cannot declare a use to be an infringement unless" there is already a market in existence "to be harmed."⁷⁰ A potential licensing market that is either "unrealized" or "cumbersome" to enforce should not be included in the relevant market.⁷¹ In a *Peak* claim, the potential market for licensing fees only exists after the court denies the fair use defense, not before, and thus should not be included in the relevant market because it is an "unrealized" market.

Evidence of lost permission fees should not bear on a court's market impact analysis. Indeed, a copyright holder's ability to obtain permission fees is precisely what is at issue when examining the fair use defense.⁷² Courts should avoid the circular reasoning that concludes that a use is unfair, and that a user should therefore be required to pay permission fees to the copyright holder, simply because the copyright holder is otherwise deprived of a fee by applying the fair use exception to a claim of copyright infringement.⁷³ The court must find that a user's

70. 60 F.3d at 937 (Jacobs, J., dissenting).

71. See 60 F.3d at 939 (Jacobs, J., dissenting).

72. See *Princeton Univ. Press v. Michigan Document Servs., Inc.*, No. 94-1778, 1996 U.S. App. LEXIS 29132, at *85 (6th Cir. Nov. 8, 1996) (Ryan, J., dissenting).

73. See *Princeton Univ. Press*, 1996 U.S. App. LEXIS 29132, at *84-88 (Ryan, J., dissenting) (arguing that "[i]t is circular to argue that a use is unfair, and a fee therefore required, on the basis that the publisher is otherwise deprived of a fee"). Although the en banc majority opinion rejected the "circularity" argument, the court limited its consideration of lost permission fees to revenues generated by "traditional, reasonable, or likely to be developed" licensing markets. See *Princeton University Press*, 1996 U.S. App. LEXIS 29132, at *13-17 (quoting *American Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 930-31 (2d Cir. 1994)). Consequently, the holding in *Princeton University Press* should not alter the market impact analysis for a *Peak* claim. See *supra* notes 67-69 and accompanying text.

In *Princeton University Press*, publishers sued a copying service for copyright infringement for reproducing portions of the publishers' copyrighted work as part of "coursepacks" used by professors to make materials available to the students. The publishers claimed that the copying service failed to pay a permission fee to the publishers. See *Princeton Univ. Press*, 1996 U.S. App. LEXIS 29132, at *1-2. Finding a negative market impact resulting from the loss of permission fees, the court concluded that the circularity argument proved too much:

Imagine that the defendants set up a printing press and made exact reproductions — asserting that such reproductions constituted "fair use" — of a book to which they did not hold the copyright. Under the defendants' logic it would be circular for the copyright holder to argue market harm because of lost copyright revenues, since this would assume that the copyright holder had a right to such revenues. *Princeton University Press*, 1996 U.S. App. LEXIS 29132, at *13-14.

use of a work negatively impacts the value of the copyrighted work, not just that the user's failure to pay royalties causes a loss of revenue to which the copyright holder may or may not have been entitled in the first place.

2. Lack of Impact on the Relevant Market

Because ISOs do not compete with OEMs for the sale of operating software, market impact, the most significant fair use factor,⁷⁴ weighs in favor of a finding of fair use. Although an ISO competes against an OEM in the computer maintenance field, that arena does not comprise part of the market for copies of the software. Copying of software into RAM by an ISO, unlike copying of copyrightable material in general, does not in any way reduce the customer's demand for that software because the copying is nonproliferative. Even when a copy of software exists in RAM, that copy cannot be distributed anywhere else.⁷⁵ Anyone who wants a copy of the software for a different use either would have

The majority's argument, however, confuses the impact on the market for permission fees with the impact on the market for, or the value of, the original work. Making exact reproductions of a book on a printing press undoubtedly would have a negative impact on the market for the book and thus would not qualify as a fair use *regardless of any impact on permission fees*. The problem with the majority's logic in *Princeton University Press* is that it "would always yield a conclusion that the market had been harmed because any fees that a copyright holder could extract from a user if the use were found to be unfair would be 'lost' if the use were instead found to be 'fair use.'" *Princeton Univ. Press*, 1996 U.S. App. LEXIS 29132, at *86 (Ryan, J., dissenting). Market impact analysis concerns itself with whether the use in question damages the value of the original work or damages the value of derivative products such as coursepacks that the copyright holder wishes to market, not whether the use deprives the copyright holder of permission fees. See *Princeton Univ. Press*, 1996 U.S. App. LEXIS 29132, at *84-85 (Ryan, J., dissenting). Because permission fees are what should be paid if the use is found to be unfair, and consequently should not be paid if the use is fair, the question of lost permission fees should not be considered until after the court determines whether the use is fair. Significantly, a distinguished group of copyright law professors filed an amicus curiae brief in *Princeton University Press* supporting a finding of fair use for this reason. See L. Ray Patterson, *Amicus Advocacy: Brief Amicus Curiae of Eleven Copyright Law Professors in Princeton University Press v. Michigan Document Services, Inc.*, 2 J. INTELL. PROP. L. 183 (1994).

74. See *supra* note 40.

75. For example, the court in *Peak* suggested that a potential customer "desiring to utilize" a program in ROM could "arrange to copy [the software] into RAM" and thus avoid purchasing the software. *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 519 (9th Cir. 1993) (quoting *Apple Computer, Inc. v. Formula Intl., Inc.*, 594 F. Supp. 617, 622 (C.D. Cal. 1984)). However, any copy of the software in RAM would not have an independent existence that could be transferred into permanent form for use on the customer's computer. As a result, the customer could not avoid purchasing a copy of the software by making a copy of the software in RAM.

to obtain it from another source, presumably the OEM, or copy the software from long-term memory into another permanent location.⁷⁶

In this way, *Peak* cases can be distinguished from other computer copying cases. For example, in *Playboy Enterprises, Inc. v. Frena*, the court held that downloaders of photographs from a computer bulletin board were not entitled to the fair use defense because their ability to view the photographs necessarily decreased the market for those pictures.⁷⁷ Similarly, the court in *Sega Enterprises, Ltd. v. Maphia*, refused to apply the fair use defense to downloaders of computer game software from a computer bulletin board because the ability to use the software necessarily diminished the market for sale of the software to the downloaders.⁷⁸ In a *Peak* case, however, the ISO has no independent interest in buying or licensing the software for its own use. ISOs only want to use the software for the benefit of the customer who already possesses a licensed copy.⁷⁹ As opposed to copying a book, which would reduce the demand for additional copies of the book, an ISO's use of the software when copied into RAM does not reduce the demand for the software.⁸⁰

An ISO cannot market its services as an alternative to purchasing the software; an ISO offers its services as an alternative to the maintenance services offered by the OEM. If an ISO marketed alternative operating systems or utility software copied from the OEM's software,

76. See Carol G. Stovsky, Note, *MAI Systems Corp. v. Peak Computer, Inc.: Using Copyright Law to Prohibit Unauthorized Use of Computer Software*, 56 OHIO ST. L.J. 593, 608 (1995). This analysis also would apply to copies made on disk or tape for archival purposes because such copies are made only as backups in case the computer malfunctions during servicing and are destroyed after the maintenance process is complete. See discussion *supra* note 19. Of course, the analysis should only apply as long as the ISO destroys and does not proliferate those copies in a way that supplants the market for the original software. The fair use defense would not protect an ISO's proliferative activities from the reach of copyright law.

77. See *Playboy Enterprises, Inc. v. Frena*, 839 F. Supp. 1552, 1558-59 (M.D. Fla. 1993).

78. See *Sega Enterprises, Ltd. v. Maphia*, 857 F. Supp. 679, 688 (N.D. Cal. 1994).

79. Unlike other copyrighted works such as books that "need not be copied by the reader . . . to be used," computer programs "must be copied to be used by the computer and hence, the user." Stovsky, *supra* note 76, at 595 (citing RAYMOND T. NIMMER, *THE LAW OF COMPUTER TECHNOLOGY* 1-103 (2d ed. 1992)).

80. The analysis would be the same even if the operating system software and utility software were decoupled from each other because the lack of market impact and the customer's necessity in using the software to operate the customer's computer successfully would remain unchanged. In other words, although the utility/service software would no longer be copied automatically into RAM whenever the computer was turned on, the copying would still be necessary to perform the maintenance on the computer and an ISO's use of the software would not alter the customer's demand for the software.

such activity clearly would create competition with the OEM for sales of the original. However, such activity is impossible when the ISO simply loads the software into RAM because it transfers the "copy" in RAM to any other form of memory; only items in ROM or some other form of permanent memory can be copied.

In this respect, ISO copying of software into RAM for the purpose of servicing the computer parallels reverse engineering cases where courts have found in favor of fair use.⁸¹ Reverse engineering involves the transformation of the machine-readable code of a computer program into human-readable code by a programmer in order to understand how the program interfaces with a computer and discover the requirements for making a program compatible with that computer.⁸² Courts have held that the process of translating computer code into language understandable by computer programmers creates a copy of the software.⁸³

In these cases, courts have found fair use because the defendant's use of the software codes through reverse engineering did not compete directly with the plaintiff's sales of the software codes.⁸⁴ In both a *Peak* case and a reverse engineering case, although copying occurs, the copying does not create additional marketable copies of the software. Rather, it is a necessary step in the use of the software for purposes that do not adversely affect the demand for the software.⁸⁵ Indeed, the existence of

81. See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992).

82. See 977 F.2d at 1518-20.

83. See 977 F.2d at 1518-20; *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983).

84. See 977 F.2d at 1523.

85. Nevertheless, the court in *Triad II* held that *Peak* claims differed from reverse engineering cases because the ISO's use is "neither creative nor transformative and does not provide the marketplace with new creative works" whereas reverse engineers developing entirely new software do inject something creative into the market. *Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330, 1336 (9th Cir. 1995) (quoting *Accolade*, 977 F.2d at 1523); see also *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994) (stressing the importance of the transformative nature of the use as a strong factor for finding in favor of fair use). However, focusing solely on whether a given use is transformative is perilously shortsighted. First, a use need not be transformative to be a fair use. For example, the copying of an article by a teacher to use in class, one of the examples of fair use listed in 17 U.S.C. § 107 (1994), would not be considered a transformative use. Second, the court in *Triad II* relied on its inquiry into the question of whether the use is transformative as an intermediate step in determining market impact of the use. See *Triad II*, 64 F.3d at 1336. The relevant software market in a *Peak* claim, however, suffers no harm as a result of the ISO's use. Analyzing whether the use is transformative as a way of measuring market impact would be a misguided enterprise if a lack of market impact had already been established through an independent analysis.

competition in the service market for a given computer system likely will enhance, not suppress, the demand for that system.⁸⁶

B. *Purpose of the Use*

Section 107 also directs courts to consider the "purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit education purposes" when evaluating the fairness of a challenged use.⁸⁷ The Supreme Court has ruled that "every commercial use of copyrighted material" creates a rebuttable presumption of an unfair use.⁸⁸ An ISO's commercial use of operating software thus creates a presumption of unfair use.⁸⁹ Nevertheless, despite this negative presumption, a commercial use still may constitute a fair use if it has no effect on the market for the copyrighted material.⁹⁰ Consequently, while the purpose of the use factor may not weigh in favor of fair use, it should not weigh against fair use either because an ISO's commercial gain from the use of the software does not detract in any way from the OEM's profits from sales of the software.

An analysis of the commercial nature of a given use should be used to help determine the extent to which the infringing copy "supersedes" the original work.⁹¹ Courts investigate whether the user stands to profit from her exploitation of the copyrighted material in a way that di-

86. See *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 366 (E.D. Va. 1994) (concluding that an ISO's use likely "enhances the value of the [operating] software" since the OEM "would lose business in the sale of [its] computers if customers could not use ISOs to service" the equipment).

87. 17 U.S.C. § 107(1) (1994).

88. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984); see also *Campbell*, 510 U.S. at 584; *Harper & Row Publishers, Inc. v. Nation Enterp.*, 471 U.S. 539, 562 (1986); *Accolade*, 977 F.2d at 1522 (citing *Hustler Magazine, Inc. v. Moral Majority, Inc.*, 796 F.2d 1148, 1152 (9th Cir. 1986)); *NIMMER & NIMMER*, *supra* note 34, § 13.05[A][1](c).

89. The court in *Advanced Computer Services* concluded that the commercial purpose of an ISO's use of copyrighted software weighed "substantially against" a finding of fair use. The court concluded that the ISO's commercial use of copyrighted software is "an unfair exploitation of the monopoly privilege that belongs to the holder of the copyright." 845 F. Supp. at 365 (quoting *Sony*, 464 U.S. at 451).

90. See *Campbell*, 510 U.S. at 589-95; see also *Accolade*, 977 F.2d at 1522 (holding that the presumption of unfairness arising from a commercial use "can be rebutted by the characteristics of the particular commercial use").

91. See *Campbell*, 510 U.S. at 579. The Supreme Court rejected the proposition that a commercial use automatically establishes an unfair use. See 510 U.S. at 584; see also *Lotus Dev. Corp. v. Borland Intl., Inc.*, 49 F.3d 807 (1st Cir. 1995) (Boudin, J., concurring) (although fair use is "presumptively" unavailable where the use is commercial, " 'presumptively' does not mean 'always', and, in any event, the doctrine of fair use . . . can be adapted to new purposes"), *affd. by an equally divided Court*, 116 S. Ct. 804 (1996). The Supreme Court, quoting Samuel Johnson, has noted that "[n]o man but

rectly competes with sales of the copyrighted work.⁹² If the copying of a work only serves as an intermediate stage in the use of that work, and therefore any commercial benefit derived from the use is only an indirect result of the copying, the use of the work overcomes the rebuttable presumption that commercial uses are unfair.⁹³

Under these standards, the ISO's use of the software in a *Peak* claim successfully rebuts the presumption of unfairness associated with commercial uses.⁹⁴ An ISO's use does not compete with the OEM for sales of the software.⁹⁵ Rather, the copying of the software only serves as an intermediate stage in the use of that work, and any resulting commercial benefit to the copier is an indirect result of the copying.

C. Nature of the Work

The next factor under section 107 is "the nature of the copyrighted work."⁹⁶ "[N]ot all copyrighted works are entitled to the same level of protection" under fair use analysis.⁹⁷ Specifically, courts have held that

a blockhead ever wrote, except for money." *Campbell*, 510 U.S. at 584 (quoting 3 BOSWELL'S LIFE OF JOHNSON 19 (G. Hill ed., 1934)).

92. See *Harper & Row*, 471 U.S. at 562; *Meredith Corp. v. Harper & Row, Publishers, Inc.*, 378 F. Supp. 686, 690 (S.D.N.Y.), *affd.*, 500 F.2d 1221 (2d Cir. 1974).

93. See *Accolade*, 977 F.2d at 1522-23.

94. See 977 F.2d at 1522-23. ISOs also have argued that the purpose of the use factor weighs in favor of fair use because the ISOs use of the software provides a public benefit. See *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *11 (N.D. Cal. Mar. 18, 1994). Commercial uses that result in public benefit may qualify as fair uses. See *Accolade*, 977 F.2d at 1523; *MCA, Inc. v. Wilson*, 677 F.2d 180 (2d Cir. 1981). ISOs have claimed that their ability to use copyrighted software in a *Peak* claim benefits customers who own computers using licensed software by providing those customers with "a choice and price competition in the service and maintenance markets." *Triad I*, 1994 WL 446049, at *11.

Public benefit, though, "typically involves 'the development of art, science, and industry . . . and not, as here, the purely financial interests of customers.'" *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 365 (E.D. Va. 1994) (internal quotation marks omitted). Thus, despite the financial benefits bestowed to customers by an ISO's ability to service their computers, courts likely will find that the public benefit exception does not apply to *Peak* claims. See, e.g., *Advanced Computer Serv.*, 845 F. Supp. at 365 (concluding that the public benefit exception did not apply because "customers, having signed license agreements, were on notice that they could not allow third parties to use the software"); see also *Triad II*, 64 F.3d at 1337 (detecting "no appreciable public benefit" arising from enhanced competition in the computer service market that would justify a finding of fair use). Nevertheless, an ISO's public benefit argument highlights the fact that an ISO's ability to use the software likely serves to enhance rather than detract from the software's value. This result bolsters the case that the commercial nature of an ISO's use should not weigh against fair use because it does not have any detrimental impact on the value of the original work.

95. See *supra* text accompanying notes 75-86.

96. 17 U.S.C. § 107(2) (1994).

97. *Accolade*, 977 F.2d at 1524.

fair use should be applied more freely to the copying of "informational," "functional," or "factual" works than to "creative" works, because allowing users to copy more functional works does not threaten to undermine the incentives copyright law creates to promote advances in the arts and sciences.⁹⁸ In a *Peak* claim, the nature of the work should weigh in favor of fair use because operating software is primarily a functional work undeserving of a high degree of copyright protection.

Although courts have agreed that operating software is used for a functional purpose,⁹⁹ they are split on the issue of whether computer software deserves a higher or lower degree of copyright protection.¹⁰⁰ On the one hand, the recent trend in fair use software cases has been to apply a lower degree of protection to computer software,¹⁰¹ especially

98. See *Hustler Magazine, Inc. v. Moral Majority, Inc.*, 796 F.2d 1148, 1152-54 (9th Cir. 1986); *Advanced Computer Servs.*, 845 F. Supp. at 365 (citing *Accolade*, 977 F.2d at 1524 (noting that copyright protection does not extend to the functional aspects of a work); *N.A.D.A. Serv. Corp. v. Business Data, Inc.*, 651 F. Supp. 44, 48 (E.D. Va. 1986). Indeed, because authors would be less likely to open creative works to public review without stronger guarantees of protection for those works, courts have held that more creative works deserve greater copyright protection. See *Maxtone-Graham v. Burtchae*, 631 F. Supp. 1432 (S.D.N.Y.), *aff'd.*, 803 F.2d 1253 (2d Cir. 1986); *NIMMER & NIMMER*, *supra* note 34; § 13.05[A][2][a] (citing *Hustler Magazine*, 796 F.2d 1148); *Diamond v. Am-Law Corp.*, 745 F.2d 142 (2d Cir. 1984); see also *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 586 (1994). This analysis comports with the underlying purpose of copyright law. The Constitution provides that copyright law shall serve 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." U.S. CONST. art. I, § 8, cl. 8. "To this end, copyright assures the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work." *Feist Publication, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349-50 (1991).

99. See *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *12-*13 (N.D. Cal. Mar. 18, 1994); *Advanced Computer Servs.*, 845 F. Supp. at 365.

100. Compare *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1224-25 (3d Cir. 1986) and *Digital Communications v. Softklone Distrib. Corp.*, 659 F. Supp. 449, 457-59 (N.D. Ga. 1987) and *Broderbund Software, Inc. v. Unison World, Inc.*, 648 F. Supp. 1127, 1135 (N.D. Cal. 1986) (extending a high degree of copyright protection to all aspects of a computer program, including its functional characteristics) with *Lotus Dev. Corp. v. Borland Intl., Inc.*, 49 F.3d 807, 819 (1st Cir. 1995), *aff'd. by an equally divided Court*, 116 S. Ct. 804 (1996) and *Accolade*, 977 F.2d at 1524-25 and *Computer Associates Intl., Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992) (extending a low degree of copyright protection to computer software, especially to a program's more functional aspects).

101. See Pamela Samuelson, *Counterpoint: An Entirely New Legal Regime Is Needed*, *COMPUTER LAW.*, Feb. 1995, at 11 (observing that although the "trend in caselaw in the mid to late 1980s seemed to 'zig' in favor of an expansive scope of copyright protection for programs, the trend in the early 1990s has been to 'zag' toward a narrower scope of protection"). Many recent commentators have argued in favor of

where the software is primarily a "functional" work.¹⁰² In particular, the court in *Triad I* ruled that operating system software is a functional, utilitarian work.¹⁰³ Other courts have concluded that software deserves a high degree of copyright protection because it "is not a mere compilation of existing information . . . [but] is instead a specially designed and crafted work which represents a substantial investment of time and labor."¹⁰⁴

Nevertheless, because of its functional nature, operating software should receive less protection than creative works such as poems or novels under fair use analysis. Operating software ensures the effective operation of the computer so that it can perform the tasks for which it was designed. Operating software, including operating system software and utility software, is essentially utilitarian, and it should not merit a high enough degree of protection to weigh against a finding of fair use.¹⁰⁵

However, the court in *Triad I* distinguished between operating system software and utility/diagnostic software, providing greater protection to the latter.¹⁰⁶ The court in *Triad I*, reasoning that the computer could operate without utility/service software but could not function without operating system software, concluded that diagnostic software was not "clearly functional" and deserved greater protection than oper-

lowering the degree of copyright protection for computer software. See Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 STAN. L. REV. 1045 (1989); Frederick R. Warren-Boulton et al., *Point: Copyright Protection of Software Can Make Economic Sense*, COMPUTER LAW., Feb. 1995, at 10. But see Arthur R. Miller, *Copyright Protection For Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977 (1993) (arguing in favor of broader copyright protection for computer software).

102. *Accolade*, 977 F.2d at 1524-26; *Triad I*, 1994 WL 446049, at *11-*13; see also *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983) (holding that the method which instructs a computer to perform its operating functions is not subject to copyright law protection). "Copyright provides strong but thin protection to software, absolutely prohibiting piracy by duplication of disks or unauthorized distribution, but not protecting the methods by which software operates." Lionel Sobel, quoted in Richard C. Reuben, *No Lotus Position for Supreme Court: Experts See Confusion in Wake of Justices' 4-4 Split on Software Copyrights*, A.B.A. J. 30 (April 1996).

103. See *Triad I*, 1994 WL 446049, at *12-*13.

104. *Advanced Computer Serv. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 365 (E.D. Va. 1994). Courts have often considered the financial investment of copyright holders in developing their works when evaluating the nature of the work factor. See *Wainwright Sec., Inc. v. Wall St. Transcript Corp.*, 558 F.2d 91, 96 (2d Cir. 1977); *Allen-Myland, Inc. v. I.B.M. Corp.*, 746 F. Supp. 520, 534 (E.D. Pa. 1990).

105. See David A. Rice, *Sega and Beyond: A Beacon for Fair Use Analysis . . . At Least as Far as It Goes*, 19 U. DAYTON L. REV. 1131 (1994) (arguing that functional software deserves a lower degree of protection against copying under the nature of the work analysis).

106. See *Triad I*, 1994 WL 446049, at *13.

ating system software.¹⁰⁷ Consequently, the court found the nature of the work weighed against the fair use of service software because such software was not "clearly functional."¹⁰⁸

The court in *Triad I*, though, improperly departed from its own standards. The court considered operating system software to be "functional" and to deserve a lower degree of protection because of the relationship between operating system software and "any productive use of the computer."¹⁰⁹ Utility software, like operating system software, plays an essential role in insuring that the computer functions properly. The customer does not purchase a computer to run utility software. Instead, the customer purchases a computer to run certain application software and buys the utility/service software only to make sure that the computer can continue to run the application software. In other words, utility software ensures that the computer can operate but does not perform the functions for which the computer was designed. It is not an "elective" component because without it the computer could not continue to function.

Because it is designed as an essential component in ensuring that the computer operates properly and does not perform any "productive use of the computer," utility/service software should receive the same, lower level of protection afforded to operating system software. Operating software, including both operating system software and utility/diagnostic software, is supportive of the computer's main functions, such as managing memory, checking for and displaying errors, listing the files on a disk, formatting a diskette, and coordinating processing functions.¹¹⁰ It does not perform the primary creative functions for which the computer was purchased.¹¹¹

107. See 1994 WL 446049, at *13. The court also noted that utility/service software requires operating system software and not vice versa. See 1994 WL 446049, at *13.

108. 1994 WL 446049, at *13.

109. 1994 WL 446049, at *13.

110. See CHRISTOPH & SMITH, *supra* note 9, at 114.

111. This is not to say that utility software does not deserve copyright protection because it is primarily a functional work. Rather, this Note argues that in a *Peak* claim, the fair use defense should apply because operating software, including both operating system and utility software, is primarily functional in nature and thus deserves a lower degree of protection in the fair use analysis. See *Lotus Dev. Corp. v. Borland Intl., Inc.*, 49 F.3d 807, 819 (1st Cir. 1995) (Boudin, J., concurring) ("Utility does not bar copyright . . . but it alters the calculus."), *affd. by an equally divided Court*, 116 S. Ct. 804 (1996).

D. *Extent of the Copying*

The remaining factor listed in section 107 is “the amount and substantiality of the portion used in relation to the copyrighted work as a whole.”¹¹² Courts have held that “[c]opying an entire work weighs against a finding of fair use.”¹¹³ Because an ISO copies the entirety of the program into RAM, the extent of the copying factor would seem to weigh against a finding of fair use if mechanically applied.¹¹⁴ However, courts have held that the extent of the copying factor is not dispositive of the fair use issue when the user has no viable alternative but to copy the work in order to achieve a use that is otherwise fair.¹¹⁵ As a result, the extent of the copying should not preclude application of the fair use defense because the software is loaded into RAM automatically by the computer as a necessary function of the computer’s operation and not because the ISO intends to make a copy of the software. The ISO’s copying of operating software into RAM is not an exploitation of protected creative expression, but a necessary use of the “functional” aspects of a program.

II. POLICY CONSIDERATIONS SUPPORTING FAIR USE

This Part maintains that courts should apply the fair use defense to *Peak* claims because the policy considerations raised by the impact of the *Peak* decision support a finding of fair use. Specifically, application of the fair use defense will prevent OEMs from establishing a stranglehold on the market for computer maintenance by bringing *Peak* claims against ISOs competing for service work.

Courts apply the fair use defense when the broader ramifications of failing to do so conflict with the purposes behind copyright law, allowing courts the ability to tailor the application of copyright law to meet new conditions and realities.¹¹⁶ The four statutory fair use factors

112. 17 U.S.C. § 107(3) (1994).

113. *Advanced Computer Servs., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 365 (E.D. Va. 1994) (citing *McGowan v. Cross*, No. 92-1480, No. 92-1584, 1993 U.S. App. LEXIS 9134, at *4-*5 (4th Cir. Apr. 22, 1993)).

114. *See Advanced Computer Servs.*, 845 F. Supp. at 365-66 (arguing that copying the entire program into RAM weighs against fair use); *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049, at *13 (N.D. Cal. Mar. 18, 1994).

115. *See Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 586-87 (1994); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1526-27 (9th Cir. 1992) (noting that wholesale reproduction of a copyrighted work may be permitted as a fair use when a user can only make use of the work by copying all of it); *see also NIMMER & NIMMER*, *supra* note 34, § 13.05[D][4].

116. Any evaluation of the fair use defense must be circumscribed by the equitable demands of the fair use doctrine and guided by an understanding of the underlying

serve only as examples to aid the courts' analyses of whether a given use is fair; they do not serve as an "exhaustive enumeration" nor do they provide "a rule that may automatically be applied in deciding whether any particular use is 'fair.'" ¹¹⁷ Fair use analysis under section 107 "is not to be simplified with bright-line rules, for the statute, like the doctrine it recognizes, calls for case-by-case analysis."¹¹⁸

The importance of the Ninth Circuit's holding in *Peak* cannot be overstated. Under the guise of copyright law, the *Peak* decision allows OEMs to reserve "an exclusive right to service the hardware on which the software runs," effectively extending their copyright monopoly on the software they produce into the computer service market.¹¹⁹ Because an ISO must be able to turn on a computer while servicing it,¹²⁰ denying

purpose of copyright law. See *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 552, 560 (1986). Fair use enables courts to avoid stifling "the very creativity" copyright law seeks to foster by protecting uses of copied material that further the goals of copyright law. *Campbell*, 510 U.S. at 577 (quoting *Stewart v. Abend*, 495 U.S. 207, 236 (1990)); see also *Iowa State Univ. Res. Found., Inc. v. Am. Broadcasting Co.*, 621 F.2d 57, 60 (2d Cir. 1980). Courts rely on the fair use doctrine to maintain a balance between favoring competition and ensuring the protection of an author's creative labor. See *Computer Assocs. Intl., Inc. v. Altai, Inc.*, 982 F.2d 693, 702, 711 (2d Cir. 1992). As a result, courts strive to avoid any mechanical application of the fair use defense when faced with new situations arising from technological developments. See *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975) (arguing that "[w]hen technological change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of [its] basic purpose"); see also *Triad I*, 1994 WL 446049, at *7 (holding that "when adopting the principles of copyright law to new circumstances, the development of the law is best served by attention to [the] underlying principles [of copyright law], rather than by fruitless attempts to fit proverbial square pegs into round holes.").

117. *NIMMER & NIMMER*, *supra* note 34, § 13.05[A]. "The factors listed in 17 U.S.C. §107 are preceded by the words 'shall include,' and use of the term 'including' is defined as 'illustrative and not limitative.'" *Id.* § 13.05[A] n.27 (quoting 17 U.S.C. §§ 101 & 107; *Campbell*, 510 U.S. at 577); see also *New Era Publications Intl., ApS v. Henry Holt & Co.*, 873 F.2d 576, 588 (2d Cir. 1989) (Oakes, C. J., concurring) (emphasizing the "nonexclusive" nature of the four factors).

118. *Campbell*, 510 U.S. at 577; see also *Harper & Row*, 471 U.S. at 552 & 560.

119. *Stovsky*, *supra* note 76, at 600. The ruling in *Peak* effectively enables OEMs to monopolize the computer service market by enforcing copyright protection on computer operating system and utility/service software transferred to customers under restrictive licensing agreements. In *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994), the Ninth Circuit affirmed the district court's grant of a permanent injunction to MAI (the OEM) that prohibited Peak Computer (the ISO) from servicing MAI computers running software licensed exclusively to MAI customers. See 17 U.S.C. § 502(a) (1994) (authorizing courts to grant injunctive relief "to prevent or restrain infringement of a copyright").

120. See discussion *supra* note 20.

the availability of the fair use defense to ISOs significantly undermines their ability to compete in the computer maintenance market.¹²¹

Despite the serious antitrust implications raised by this type of licensing scheme,¹²² an OEM will remain exempt from antitrust proceedings under the *Peak* doctrine because *Peak* gives the OEM copyright protection and thus court-sanctioned unilateral control over the com-

121. See Ronald S. Katz & Janet S. Arnold, *Fair Use of Operating System Software: Square Pegs in Round Holes?*, COMPUTER LAW., May 1994, at 1; Jeff A. MacDaniel, *Selected Recent Developments in Copyright Law*, 3 TEX. INTELL. PROP. L.J. 57, 60 (1994) (stating that the decision in *Peak* has "cast doubt on the viability of the independent service organization (ISO) industry"); Richard L. Goff, *Can Software Copyrights Restrict Related Competition?*, COMPUTER LAW., Oct. 1994, at 9 (arguing that a "combination of copyright protection and well-drafted software license limitations may lawfully accomplish some restrictions on competition" in the computer service market); Levin, *supra* note 20, at 671-73 & n.167.

122. If copyright protection applies, OEMs clearly have the unfettered ability to preclude ISOs from performing computer maintenance by refusing to sell them software licenses without violating antitrust laws. See *infra* note 123. However, if loading software into RAM by an ISO did not create a "copy" of the software or did not constitute an infringing copy because the fair use defense applied, any attempt by an OEM to force the customer to hire only the OEM for computer maintenance likely would run afoul of antitrust law.

In order successfully to preclude customers from hiring ISOs to perform computer maintenance without the benefit of copyright protection, an OEM would need to argue that the restrictive licenses prohibited customers from using anyone other than the OEM to service the customer's computer. Such a reading, though, likely would render the contract unenforceable as an illegal tying of the sale or licensing of software to an exclusive contract for the OEM to perform computer service on computers using the software, a practice the Supreme Court held to be a violation of antitrust law in *Eastman Kodak Co. v. Image Technical Services, Inc.*, 112 S. Ct. 2072 (1992) (holding that an OEM's attempt to restrain ISO competition in the computer service market by refusing to sell spare parts necessary for computer maintenance implicated antitrust prohibitions against monopolistic activities). Because courts consider software licensing and computer maintenance to constitute two separate markets, see *Service & Training, Inc. v. Data Gen., Inc.*, 963 F.2d 680, 684 (4th Cir. 1992); *Advanced Computer Serv. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 368 (E.D. Va. 1994), an OEM's attempt to use restrictive licensing agreements to prevent competition in the service market would be highly susceptible to an antitrust tying claim if copyright law did not serve to prohibit such competition.

For a more in depth discussion of the antitrust issues raised by an OEM's attempt to prevent ISOs from entering the computer repair business see David Bender, *ISO Use of System Software: Copyright Infringement? . . . Or Antitrust Violation*, in INTELLECTUAL PROPERTY ANTITRUST 1994, at 107 (PLI Pat., Copyrights Trademarks, and Literary Property Course Handbook Series No. 390, 1994); Anthony L. Clapes, *Software, Copyright and Competition: The Use of Antitrust Theory to Undercut Copyright Protection for Computer Programs*, in INTELLECTUAL PROPERTY ANTITRUST: 1995, at 553 (PLI Pat., Copyrights, Trademarks, and Literary Property Course Handbook Series No. 414, 1995); Barry Reingold, *Lower Court Decisions in the Aftermath of Kodak*, COMPUTER LAW., Aug. 1994, at 21; Wall & Crompton, *supra* note 43.

puter maintenance process for computers manufactured by that OEM.¹²³ Such a result clearly runs counter to the underlying purpose of copyright law by granting copyright holders the benefits of copyright protection in a market for an uncopyrightable commodity, the process of servicing computers.¹²⁴ Precisely for this reason, numerous commentators have sharply criticized the *Peak* decision as an inappropriate expansion of copyright protection stemming from a misunderstanding of how computers function and a misreading of congressional intent.¹²⁵ In spite of this infirmity, courts have consistently reaffirmed the holding in *Peak*.¹²⁶

123. See *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994) (ruling that an OEM could refuse to allow ISOs access to the OEM's copyrighted service software without violating antitrust law because copyright law does not compel an OEM to share software with its competitors); *Service & Training*, 963 F.2d at 690 (selective licensing of a copyrighted work is not evidence of an illegal tying arrangement); *In re Indep. Serv. Org. Antitrust Litigation*, 910 F. Supp. 1537, 1542 (D. Kan. 1995) ("Generally, the exercise of one's rights under the Patent and Copyright Acts, even by refusing to license or sell one's protected work to a competitor," does not automatically create an antitrust violation); *Advanced Computer Serv.*, 845 F. Supp. at 368-70 (denying an ISO's antitrust claims against the OEM on the grounds that copyright protection gives the OEM a valid monopoly). Because servicing computers necessarily involves the copying of protected software, OEMs can restrict an ISO's maintenance activities under copyright law without violating antitrust law, in effect collapsing the otherwise distinct software and service markets. See *supra* note 122. As a result, an OEM could outright refuse to sell ISOs licensing rights to service customer computers without violating antitrust law despite the general proposition that copyright law should not be used "to support a tie over . . . noncopyrighted products." *Tricom, Inc. v. Elec. Data Sys. Corp.*, 902 F. Supp. 741, 744 (E.D. Mich. 1995) (citing *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 704 (Fed. Cir. 1992)).

124. Cf. *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523-24 (9th Cir. 1992) (holding that "an attempt to monopolize the market by making it impossible for others to compete runs counter to the statutory purpose of promoting creative expression and cannot constitute a strong equitable basis for resisting the invocation of the fair use doctrine"). Indeed, at the trial that followed the decision in *Triad I*, Triad (the OEM) admitted that the licensing scheme was employed as a strategy to protect Triad's market in the service market, not as a means to protect its ability to control the proliferation and distribution of the software. See C.R. 387, E.R. 212; C.R. 396, E.R. 371-74, 379-80 (cited in Appellant's Opening Brief at 31, *Triad Sys. Corp. v. Southeastern Express Co.*, 64 F.3d 1330 (9th Cir. 1995)). This result is contrary to the strong concern for the necessity of maintaining competition in the service market between ISOs and OEMs expressed by the Supreme Court in *Eastman Kodak*, 112 S. Ct. at 2072 nn.18 & 21.

125. See, e.g., Arriola, *supra* note 3; Levin, *supra* note 20.

126. See *Triad II*, 64 F.3d 1330; *NLFC, Inc. v. Devcom Mid-America, Inc.*, 45 F.3d 231 (7th Cir.), *cert. denied*, 116 S. Ct. 2249 (1995); *Roeslin v. Dist. of Columbia*, 921 F. Supp. 793 (D.D.C. 1995); *In re Indep. Serv. Org. Antitrust Litigation*, 910 F. Supp. 1537; *Religious Technology Ctr. v. Netcom On-line Communication Serv., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995); *Tricom*, 902 F. Supp. at 745; *Advanced Computer Serv.*, 845 F. Supp. 356; *Triad Sys. Corp. v. Southeastern Express Co.*, No. C92 1539-FMS, 1994 WL 446049 (N.D. Cal. Mar. 18, 1994). In addition, the *Peak* doctrine is un-

Without the benefit of the fair use defense, courts would be forced into the ludicrous position of arguing that copyright infringement occurs in one scenario where the ISO performs the activity itself and not in another where the customer performs the exact same activity with the ISO standing over the customer's shoulder telling the customer what to do.¹²⁷ The Seventh Circuit in *NLFC, Inc. v. Devcom Mid-America, Inc.*,¹²⁸ refused to apply the *Peak* doctrine where an ISO used a "dumb terminal" to perform computer service.¹²⁹ A dumb terminal consists of a keyboard, an input device, a monitor screen, and an output device, and though lacking any independent memory such as ROM or RAM, a user on a dumb terminal still can send commands to the live computer hooked up to the dumb terminal and view the results of those commands.¹³⁰ In *NLFC*, the ISO used a dumb terminal connected by phone line to the customer's computer to service the computer. Even though the ISO in reality still performed the service, caused the software to be copied into RAM, and then used the software in RAM, the court found that the holding in *Peak* did not apply to the use of dumb terminals.¹³¹

While employing a dumb terminal scheme or having the customer turn on the computer and punch keys at the ISO's direction would allow ISOs to avoid copyright infringement, a customer may not be too interested in hiring an ISO when doing so would require the presence and attention of the customer any time the ISO needed to turn on a computer or run a program. Causing such significant inconveniences for customers likely would do as much to foreclose ISO access to the computer service market as would a strict application of the *Peak* doctrine. Application of the fair use defense to a *Peak* claim would protect ISOs from the unfair exploitation of copyright law by OEMs while avoiding the necessity for focusing on nonsensical factual distinctions such as

likely to be overruled by the force of international obligations. International conventions relating to copyright law to which the United States is a party are silent on the issue of what constitutes the making of a copy of computer software. See STEPHEN M. STEWART, INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS §§ 12.12-13 (2d ed. 1989). Most notably, the Berne Convention for the Protection of Literary and Artistic Works, Paris Act, July 24, 1971, art. IX, para. 2, S. TREATY DOC. NO. 99-27, 99th Cong., 2d Sess. 37 (1986), 828 U.N.T.S. 221, allows a member country to determine what constitutes the making of an unauthorized copy under that country's copyright laws.

127. See *Triad I*, 1994 WL 446049, at *9; see also *supra* note 32.

128. 45 F.3d 231 (7th Cir. 1995).

129. See 45 F.3d at 231.

130. See 45 F.3d at 231.

131. The court reasoned that since the copy of the software made into RAM was created by the customer on the customer's computer, the ISO did not copy the software even though the ISO was the one using the copy of the software via the dumb terminal. See 45 F.3d at 231.

whether the customer turned on the computer or whether maintenance was performed through a dumb terminal.¹³²

Because the holding in *Peak* allows OEMs to extend the reach of copyright protection beyond the scope supported by the goals of copyright law, ISOs should be able to rely on fair use as a defense against a *Peak* claim.¹³³ Otherwise, OEMs receive a de facto copyright on the uncopyrightable process of servicing computers by licensing rather than selling operating software to their customers.

CONCLUSION

"Applying copyright law to computer programs is like assembling a jigsaw puzzle whose pieces do not quite fit."¹³⁴ In order to insure the most effective application of copyright law in the relatively new arena of computer software litigation, courts should strive to remain faithful to the fundamental aims of copyright law and the equitable principles underlying the fair use doctrine. Courts should allow ISOs to rely on the fair use defense in a *Peak* claim because the fair use factors on balance weigh in favor of a finding of fair use: the commercial purpose of an ISO's use of the operating software is offset by the fact that the use has no negative market impact, the operating software is primarily a functional and not a creative work, and an ISO has no viable alternative but to copy the entirety of a computer's operating software when turning on the computer. Such a decision also would make sense on policy grounds: courts should not allow OEMs to monopolize unfairly the

132. Application of the fair use doctrine in a *Peak* claim would not infringe on an OEM's legitimate use of software licensing agreements such as ensuring that customers have to upgrade the software each time the OEM releases a new version. However, considering an ISO's use of the software to be fair would protect customers and ISOs from the improper use of licensing agreements designed to prohibit competition in the computer maintenance market. In addition, the fair use defense in *Peak* claims would allow the continued application of the *Peak* doctrine in cases where it may make sense, such as prohibiting third parties from loading data or pictures into RAM that can be used as a substitute to the purchase of the original (i.e. reading a book displayed in RAM that is stored in ROM instead of buying an additional copy). For a discussion of the potential implications of copyright law on the growing number of works accessible through computers that can be perceived in RAM see Jane C. Ginsburg, *Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace*, 95 COLUM. L. REV. 1466 (1995).

133. The courts that have held otherwise demonstrate what one commentator described as the process by which "a series of legal determinations, each somewhat defensible as a mechanical application of statutory language and case law precedent, can yield a result that is plainly at odds with the policies behind the statute it seeks to apply." Johnson, *supra* note 31, at 328.

134. *Lotus Dev. Corp. v. Borland Intl., Inc.*, 49 F.3d 807, 819 (1st Cir. 1995) (Boudin, J., concurring), *aff'd. by an equally divided Court*, 116 S. Ct. 804 (1996).

computer service market by relying on copyright protection to stifle competition in the related but uncopyrightable field of computer maintenance.

Critics may argue that using the fair use defense to avoid the implications of the decision in *Peak* is nothing more than a subterfuge, an attempt to circumvent a controversial ruling by relying on a convenient but inappropriate doctrine. However, because the issues raised by a *Peak* claim involve equitable claims about the valid scope of copyright protection on software and the fairness of extending that protection to the uncopyrightable work of servicing computers, fair use is an appropriate defense. Fair use serves as a safety valve to avoid the consequences of strictly applying copyright law in certain situations when such an application would contravene the fundamental purposes of copyright law.¹³⁵ Thus, fair use should be available as a defense to a *Peak* claim to offset the inequitable results that would flow from a strict application of the *Peak* doctrine.

135. See Rice, *supra* note 105, at 1131 (arguing that fair use is an appropriate doctrine to avoid the unfair results of strictly applying copyright law when dealing with computer software).