

A BRIEF DEFENSE OF MASS MARKET SOFTWARE LICENSE AGREEMENTS

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I. Introduction

In the rapidly changing world of personal computer software, the end user license agreement (“EULA”) has endured. The EULA is a familiar component of most personal computer software transactions.¹ Many commentators, however, have maligned the practice of standard form software licensing. A survey of the literature on the subject might lead one to conclude that there are *only* critics— and no proponents— of EULAs.²

Despite the din of criticism, EULAs continue to be widely used by almost every mass-market software publisher, even though the cost of doing so is significant.³ This Article explains the value of EULAs for both software publishers and users, and why EULAs will be even more valuable for distributing the rich variety of information products available on the “information superhighway.”

Given the benefits provided by EULAs, courts and legislatures should seek to validate their use.⁴ This perspective is particularly significant in light of the National

¹ See discussion *infra* part II (discussing the various forms that EULAs take).

² See, e.g., Christopher Celentino et al., *Vault Crop. v. Quaid Software, Ltd.: Invalidating Shrink-wrap Licenses?*, 2 J.L. & TECH. 151 (1987); David A. Einhorn, *Box-Top Licenses and the Battle-of-the-Forms*, 5 SOFTWARE L.J. 401 (1992) [hereinafter Einhorn, *Box-Top Licenses*]; David A. Einhorn, *The Enforceability of the Tear-Me-Open Software License Agreements*, 67 J. Pat. & TRADEMARK OFF. SOC'Y 509 (1985) [hereinafter Einhorn, *Tear-Me-Open Software License Agreements*]; Gary W. Hamilton & Jeffrey C. Hood, *The Shrink-Wrap License— Is it Really Necessary?*, COMPUTER LAW., Aug. 1993, at 16; Thomas M.S. Hemnes, *Restraints on Alienation, Equitable Servitudes, and the Feudal Nature of Computer Software Licensing*, 71 DENV. U.L. REV. 577 (1994); Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239, 1241 (1995); David W. Maher, *The Shrink-Wrap License: Old Problems in a New Wrapper*, 34 J. COPYRIGHT SOC'Y 292 (1987); Steven A. Marenberg & Elliot Brown, “Scope of Use” Restrictions in Software Licenses, COMPUTER LAW., Dec. 1993, at 1; Michael Schwartz, *Tear-Me Open Software License Agreements: A Uniform Commercial Code Perspective on an Innovative Contract of Adhesion*, 7 COMPUTER L.J. 261 (1986); Graham P. Smith, *Shrink-Wrap Licenses in Europe After the EC Software Directive*, 11 COMPUTER L.J. 597 (1992); Richard H. Stern, *Licenses of Mass Marketed Software: Enforceable Contracts or Whistling in the Dark?*, 11 RUTGERS COMPUTER & TECH. L.J. 51 (1985); Karen Pubala, Note, *The Protection of Computer Software Through Shrink-Wrap License Agreements*, 42 WASH. & LEE L. REV. 1347 (1985). But see Fred M. Greguras & Sandy J. Wong, *Software Licensing Flexibility Complements the Digital Age*, COMPUTER LAW., Dec 1994, at 15; James T. Peys, Note, *Commercial Law— The Enforceability of Computer “Box Top” License Agreements Under the U.C.C.*, 7 WHITTIER L. REV. 881 (1985); Michael Ryan, Note, *Offers Users Can't Refuse: Shrink-Wrap License Agreements as Enforceable Adhesion Contracts*, 10 CARDOZO L. REV. 2105 (1989).

³ Hemnes, *supra* note 2, at 577. Producing and distributing a EULA consumes many resources, including in-house lawyer and paralegal time, outside counsel fees, product management efforts, manufacturing, foreign language translation, layout and printing, and the materials on which the EULA is printed. *Id.*; See also Michael Rustad et al., *An Empirical Analysis of Software Licensing Law and Practice*, 10 COMPUTER LAW ASSOC. BULL. 8 (1995); DAVID BENDER, COMPUTER LAW § 4A.141 (1994) discussing legal costs involved in creating “shrinkwrap contracts”).

⁴ Recently, a number of courts have declined to enforce EULAs. See *ProCD v. Zeidenberg*, 908 F. Supp. 640, 651 (W.D. Wis. 1996) (invalidating a scope of use restriction in a EULA between an end user and a database licensor); See also *Step-Saver Data Sys., Inc. v. Wyse Technology & Software Link, Inc.*, 939 F.2d 91, 98 (3d Cir. 1991) (finding a EULA warranty disclaimer unenforceable in a transaction between a retail store and a software publisher); *Arizona Retail Sys. v. Software Link, Inc.* 831 F. Supp. 759, 766 (D. Ariz. 1993) (holding a EULA enforceable in the initial transaction between a value-added retailer and a software publisher, but unenforceable in a subsequent transaction); Robert B. Mitchell, *Restoring Realism in Software Licensing Law*, MULTIMEDIA AND TECHNOLOGY LICENSING LAW REP., Apr. 1996, at A4 (criticizing the *ProCD*, *Step-Saver*, and *Arizona Retail* line of cases as a stark departure from the “legal realist” roots of the U.C.C.).

The district court's ruling in *ProCD* demonstrates how far judicial interpretation of EULAs departs from commercial reality in software transactions. The end user in *ProCD* was notified four separate times (on the product package, in the user guide, upon installation of the software, and prior to gaining access to the product's data) that use of the software was subject to the EULA. *ProCD*, 908 F. Supp. at 652. The end user's explanation for violating the EULA was *not* that he was unaware of it, and *not* that he would have foregone purchasing the product had he known about the EULA, but that he thought it was unenforceable (i.e., essentially a *legal* conclusion). *Id.* Contract law does not allow what amounts to unjust enrichment. See U.C.C. § 1-103 (1995) stating that general equitable principles apply to contracts); U.C.C. § 1-203 (noting that every contract imposes obligation of good faith in its performance); U.C.C. § 2-202(a) (stating that a contract's terms are supplemented by usage of trade); U.C.C. §2-206(a) & § 2-206 cmt. 1 (stating that an offeror may invite acceptance in any manner reasonable under the circumstances); RESTATEMENT (SECOND) CONTRACTS § 221 (1981) (same).

Conference of Commissioners on Uniform State Laws and the American Law Institute's efforts to draft an article of the Uniform Commercial Code which addresses software licensing (currently referred to as "U.C.C. Article 2B").⁵

This Article first introduces the various forms EULAs take, and then explains the main advantages of EULAs. It argues that EULAs provide valuable information to end users, and that EULAs permit software publishers to offer the wide variety of rights that are associated with the features of today's software products. This Article further explains why the ability to offer a variety of rights in a EULA will be even more important for the information products of the future. This Article concludes by proposing methods for improving how EULAs are used in the software contracting process.

II. A BRIEF OVERVIEW OF END USER LICENSE AGREEMENTS, PAST AND PRESENT

Most early software development focused on the creation of customized software for mainframe computers and mini computers.⁶ Contracts for this type of custom software were few, and involved two readily identifiable contracting parties.⁷ This model changed when personal computers and their accompanying software became mass market items.⁸ To be useful in the mass market, software license agreements could not be individually negotiated, and had to be standardized and concise.⁹ The software license agreement needed to be presented to the customer in a fashion that

⁵ As noted in the Reporter's preface to Draft Article 2B:

Much has been written about whether software does or does not come within the definition of goods in Article 2 and particular areas of dispute continue to exist in the current case law. In a law reform context, however, this is not the proper question. We deal with how intangibles *should* be dealt with in contract law.

Raymond T. Nimmer, ARTICLE 2B PREFACE: MEETING THE INFORMATION AGE, p. vi (Dec 1, 1995). In that spirit, this Article examines the virtues of EULAs and proposes that contract law should validate them. See discussion *infra* part III (discussing the value of EULAs). See generally Bruce A. Lehman, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE, THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS, at 58 (1995) (stating that a software transaction may not be a sale, but rather a license to use or access the work, and therefore, should be scrutinized with common law contract analysis); Raymond T. Nimmer, *Commercial Licensing Adapts to Information Age*, NAT. L.J., Feb. 20, 1995, at C16 (pointing out that, at present, the U.C.C. is "hard goods centric" and needs to be transformed to be applied to information products); Raymond T. Nimmer et al., *License Contracts Under Article 2 of the Uniform Commercial Code: A Proposal*, 19 RUTGERS COMPUTER & TECH. L.J. 281, 283 (1993) (outlining proposed changes to Article 2 of the U.C.C. that "may be desirable in accommodating software contracts").

⁶ See Bender, *supra* note 3, § 4A.141 (stating that originally, there were only *mainframe* computers and customized software programs, which cost the typical user tens of thousands of dollars).

⁷ Mainframe software contracts usually involved two corporations negotiating through their lawyers, with the terms of the contract unique to each transaction. See *id.*

⁸ See generally Hamilton & Hood, *supra* note 2, at 16 (stating that with the expansion of mass market computer software, users have little or no contact with the software developer); Schwartz, *supra* note 2, at 261-2 (discussing how logistical problems in getting signed agreements from users of mass market software led to the development of "tear-me-open" agreements); BENDER, *supra* note 3, §§ 4A-141 to -142 (discussing that with the development of mass market, low cost software, it became prohibitive to have contracts signed between vendors and purchasers).

⁹ See Hamilton & Hood, *supra* note 2, at 16 (discussing the logistical problems involved in mass market software and the ways in which shrinkwrap licenses have addressed them); Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Preemption of Software License Terms*, 45 DUKE L.J. 479, 495 (1995) ("In the case of mass market software, usually distributed for use with high-volume hardware like personal computers (PCs), licensors cannot practically incur the huge transaction costs that would be involved if they attempted to negotiate with every license.").

would allow for mass distribution of software, yet would draw the customer's attention to the conditions under which the publisher offered to allow use of the software.¹⁰

By far, the most commonly used EULAs are of the "shrink-wrap" or "break the seal" variety.¹¹ EULAs in this form are printed on product packaging, a diskette or CD-ROM container (such as an envelope or a plastic case), a card inside the package, or a page of the user manual.¹² The user is asked to "accept" the terms of the agreement by performing a certain action designated on the package or in the EULA, such as tearing open the plastic wrapper covering the box, breaking the seal on the diskette container, sending a self-addressed, stamped card back to the software publisher, or installing or using the software.¹³ The user can refuse to enter into the agreement by returning the software product for a complete refund.¹⁴

When publishers of software operating systems began distributing their software by pre-loading it on computer hard disks, they had to find different ways to allow the user to "accept" the license.¹⁵ Some software publishers place, near the computer's "on/off" switch, a notice stating that the user accepts the terms of the license— usually printed on a sticker beside the switch, on an accompanying card, or in the user manual— by flipping the switch to the "on" position. Other publishers attach a notice to the computer system's power cord stating that the end user accepts the accompanying license terms by plugging in the power cord and booting up the computer.

Software publishers began to experiment with presenting EULAs via media other than paper to make the license agreement more conspicuous to the software user.¹⁶ One popular method displays the EULA on the computer screen the first time a user operates the software.¹⁷ The user can then accept the EULA's terms by pressing a certain key, clicking on a "yes" button icon, or taking some other specified action.¹⁸

¹⁰ See Lloyd L. Rich, *Mass Market Software and the Shrinkwrap License*, 23 COLO. LAW. 1321 (1994) (discussing how shrinkwrap licenses for mass market software have been developed to inform purchasers of the conditions under which they can use the software).

¹¹ See Lemley, *supra* note 2, at 1241 n.5 (noting that, while it is not clear who started the trend, shrinkwrap licenses were "part of the licensing landscape of the early 1980's"); Peys, *supra* note 2, at 882 n.9 (discussing the contents of typical "box-top or "shrinkwrap" licenses).

¹² See Lemley, *supra* note 2, at 1241 (describing shrinkwrap licenses consisting of a single sheet of paper wrapped in plastic along with computer disks); Rich, *supra* note 10, at 1327 (referring to shrinkwrap licenses as documents connected to the software in a manner such that the purchaser will notice and read the license prior to use); Michael D. Scott, *Frontier Issues: Pitfalls in Developing and Marketing Multimedia Products*, 13 CARDOZO ARTS & ENT. L.J. 413, 444 (1995) (discussing how terms of the agreement are accepted by opening the software packaging or using the software).

¹³ See Hamilton & Hood, *supra* note 2, at 16-17 (describing shrinkwrap agreements that bind the purchaser when the purchaser opens the software packaging); Lemley, *supra* note 2, at 1241 (describing acceptances of shrinkwrap licenses by using the software); Schwartz, *supra* note 2, at 262 (describing shrinkwrap agreements that bind the purchaser once the shrinkwrap is removed from the software package).

¹⁴ See Hamilton & Hood, *supra* note 2, at 16-17 (discussing how common shrinkwrap agreements allow for full refunds if the software is returned prior to the package being opened).

¹⁵ See Joel R. Wolfson, *Information Transactions on the Information Superhighway: It's Not Just Software Anymore*, 11 J OF PROPRIETARY RTS. 2 (1994) (noting that users who bought computers that contain pre-loaded software receive disk packages that have already been opened, resulting in no shrink-wrap to tear open).

¹⁶ See, e.g. Hamilton & Hood, *supra* note 2, at 16 (discussing the practice of having licensing agreements appear on computer screens when the software is first installed.).

¹⁷ See *id.*

¹⁸ See *id.* (discussing that the user is requested to verify that he or she agrees to the terms of the license).

Presenting EULAs via the computer screen is especially important now that more software is being distributed electronically. For example, programs can be distributed to a user's desktop computer from a server over a local area network, and can be downloaded from computer bulletin boards and World Wide Web sites.¹⁹ For this form of distribution, the EULA often appears on the potential user's screen before the software is downloaded to the user. If the user assents to the on-screen EULA (usually by typing "yes" or "I accept," clicking on an icon with similar words, or simply pressing the "Enter" key), the user may install the software.

Software publishers thus rely on a variety of forms of EULAs in adapting their contracting practices to rapid changes in software technology and distribution.

III. THE VALUE OF EULAS

A. EULAs Are Efficient for Mass Market Distribution

One important benefit of EULAs is that they promote efficient software transactions.²⁰ Many personal computer software publishers distribute their works on a mass market scale.²¹ For broad distribution, individually negotiated contracts are not feasible, and the EULA is an efficient tool to set the terms for the standard, mass market transaction.²²

Software publishers benefit from significant economies of scale in the development of software that can be distributed on a mass market basis.²³ For example, if a new software program costs \$100,000,000 to develop and publish, and 1,000,000 end users acquire a copy, the publisher needs to receive only \$100 per copy to recover its development and publishing costs.²⁴ Mass distribution allows users to obtain licenses for sophisticated and expensive software at relatively low prices.²⁵ The software publisher, however, can offer products at such low prices only if each transaction has very low transaction costs.²⁶ The uniform terms of EULAs facilitate high-volume distribution without the cost of individually negotiating individual licenses.²⁷

¹⁹ See, e.g., Jessica D. Litman, *Copyright Legislation and Technological Change*, 68 OR. L. REV. 275, 348-49 (1989) (describing how computer users can now download software from computer bulletin boards).

²⁰ See *infra* notes 71-72 and accompanying text.

²¹ See Schwartz, *supra* note 2, at 261. Indeed, to qualify for distribution by national software retailers such as Egghead Software, a software product must have a projected distribution of thousands of copies.

²² See generally Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms*, 73 CAL. L. REV. 261, 295 (1985) (contrasting mainframe and microcomputer software transactions and discussing the benefits of EULAs).

²³ See Darren J. Carroll, *When More is Less: Controlling the Market for Computer Software Enhancements*, 43 SYRACUSE L. REV. 1321, 1324-25, 1345-46 (1992) (discussing the ways in which economies of scale affect software markets).

²⁴ See Stewart Brand, *The Physicist*, WIRED, Sept., 1995, at 152, 154 (interview of Nathan Myhrvold, Group Vice-President, Applications and Content Group, Microsoft Corporation).

²⁵ See generally Robert G. Sterne & Edward J. Kessler, *An Overview of Software Copying Policies in Corporate America*, 1 J.L. & TECH. 157, 160 (1986) (discussing how mass market software allows publishers to recoup their high development costs by selling many copies, thus avoiding costs for specialized programs).

²⁶ See Michael Klausner, *Corporations, Corporate Law and Networks of Contracts*, 81 VA. L. REV. 757, 783 (1995) (discussing economies of scale and the basic model of and costs associated with the marketing and sale of a software product).

²⁷ See O'Rourke, *supra* note 9, at 495 ("The shrink wrap thus serves as a shorthand for essentially those terms negotiated in the custom software context, in which transaction costs are low enough to facilitate the face to face bargaining that is impractical in the mass market.") Some argue that the most efficient method of distributing software is with no EULA at all, by simply relying on the copyright doctrine of first sale and other intellectual property rights. This, however, is not an effective model for most software transactions. See discussion *infra* part III.B.

The Restatement of Contracts asserts that “standardization of agreements serves many of the same functions as standardization of goods and services; both are essential to a system of mass production and distribution. Scarce and costly time and skill can be devoted to a class of transactions rather than to the details of individual transactions.”²⁸

Although EULAs are most likely “contracts of adhesion,” they are neither unusual nor pernicious. The vast majority of contracts in the United States are adhesion contracts,²⁹ and any rule automatically invalidating them would be unworkable.³⁰ In this respect,²⁹ software EULAs are no different from most other mass market contracts, including contracts that are actually signed. Parties seldom, if ever, negotiate the contracts they sign to rent a video, to acquire a credit card, or to borrow money to purchase a home. In reality, a negotiated contract is atypical in the mass market context; most transactions are “take it or leave it.”³¹

The face-to-face negotiation model that prevails in purchases of mainframe software and hardware³² would work poorly in purchasing or distributing personal computer software.³³ The typical potential user of packaged word processing software has no more time or inclination to sit down and negotiate a contract for this product than he or she does when purchasing a microwave oven. Most users would likely

²⁸ RESTATEMENT (SECOND) OF CONTRACTS § 211, cmt. a (1981). Coordination, record-keeping, and supervision are streamlined by using one document— the EULA— for all transactions. *Id.* Personnel can focus on major points of the sale instead of molding less significant details for each transaction, and can learn common routines tailored to repeated mass transactions, thereby maximizing efficiency. *See id.*

²⁹ *See* 1 JOSEPH M. PERILLO, CORBIN ON CONTRACTS § 1.4. (rev. ed. 1993) (“[T]he contract of adhesion is part of the fabric of our society. It should neither be praised nor denounced by the legal scholar. It must be analyzed and studied.”); *See generally* Todd D. Radkoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173, 1218-25 (1983). *See* CALAMARI ET AL., CASES AND PROBLEMS ON CONTRACTS (1989) (stating that examples of everyday adhesion contracts are parking lot tickets, theater tickets, package receipts, credit card slips, and gas station credit card slips).

³⁰ *See, e.g.*, 3 JOSEPH M. PERILLO, CORBIN ON CONTRACTS, § 559A(B) (rev. ed. Supp. 1994) (noting the trend in courts accepting adhesion contracts); JOHN D. CALAMARI & JOSEPH M. PERILLO, THE LAW OF CONTRACTS § 9-44 (3d ed. 1987) (same); 1 E.A. FARNSWORTH, FARNSWORTH ON CONTRACTS §§ 4.26-4.27 (1990) (same). Adhesion contracts help a mass market economy by simplifying transactions and reducing costs through simplifications. *See* 1 PERILLO, *supra* note 29, § 1.4. We could hardly function as a fast-paced, industrialized nation if every term in every agreement had to be negotiated. *See* 1 *id.*

³¹ In determining whether to enforce an adhesion contract, courts generally balance the “fairness” to the consumer with the commercial justification for presentation of the agreement as an adhesion contract. *See* 3 PERILLO, *supra* note 30, § 559A(B) (stating that courts should review adhesion contracts for fairness, “and refuse to enforce those adhesion terms which are demonstrably unfair to the stuck party”); Ryan, *supra* note 2, at 2119, 2123-25, 2127-35; *Bank of Indiana, N.A. v. Holyfield*, 476 F. Supp. 104, 109 (S.D. Miss. 1979) (refusing to enforce an adhesion choice of law clause for Kentucky law to control because “it is far more reasonable for Mississippi law to control this lawsuit”); *Shields v. Sta-Fit, Inc.*, 903 P.2d 525, 530-31 (Wash. Ct. App. 1995) (upholding exculpatory clause in a contract of adhesion).

EULAs should be enforced because, even though they are adhesion contracts, software publishers do a good job making them “fair.” EULAs are “fair” because: (1) use of EULAs is a well-known practice in software transactions, so an end user is not surprised by use of this form of contract; (2) software publishers use reasonable efforts to bring the EULA to the user’s attention, and will be able to do an even better job as technology allows; (3) software publishers seek some manifestation of assent to the terms of the EULA; (4) software publishers allow users to return the product if they disagree with the terms; (5) negotiated licenses are uneconomical for mass market distribution; and (6) software publishers compete on the basis of the often varying license terms. *See* discussion *infra* part III.C. In other words, software publishers actually do a good job of making EULAs “fair” by bringing them to the user’s attention, getting the user to give some indication that he or she had a chance to review the terms and agree to them, and giving the user recourse if the user decides to “leave it” rather than “take it.” *See* 3 PERILLO, *supra* note 30, § 559A; 1 FARNSWORTH, *supra* note 30, § 4.26.

³² *See* Goetz & Scott, *supra* note 22, at 294; *supra* notes 6-8 and accompanying text.

³³ *See* Alfred C. Yen, *The Legacy of Feist: Consequences of the Weak Connection Between Copyright and the Economics of Public Goods*, 52 OHIO ST. L.J. 1343, 1371 n.131 (1991) (discussing the difference between shrinkwrap licenses and agreements reached in face-to-face negotiations); *supra* notes 6-8 and accompanying text.

prefer to retain the costs software publishers can save by licensing software under standard license agreements, instead of actually trying to bargain with the publisher for a lower price or different license terms.³⁴

Rather than relying on their own negotiating skills or knowledge of the relevant law, most users are better served by relying on the contract doctrine of unconscionability,³⁵ the contract principle that agreements should be construed against the drafter,³⁶ the copyright doctrine of misuse,³⁷ consumer protection laws,³⁸ and the intense competition within the software market to obtain advantageous terms in acquiring software.³⁹ The personal computer software market has been particularly unforgiving of companies that try to license software on unreasonable terms.⁴⁰ The information superhighway magnifies the negative public relations consequences for software publishers who are perceived as behaving badly;⁴¹ criticism on the Internet and on computer bulletin boards is swift, blunt, caustic, and spreads quickly.⁴² Software end users have even formed associations to monitor and influence the license terms offered by software publishers.⁴³ As one user association official explained, “[l]icensing issues cannot be a barrier to accepting new technologies. If so, it’s only the vendors who will suffer.”⁴⁴

³⁴ See Alan Schwartz, *A Reexamination of Nonsubstantive Unconscionability*, 63 VA. L. REV. 1053, 1064-65 (1977); cf. W. David Slawson, *The New Meaning of Contract. The Transformation of Contract Law by Standard Terms*, 46 PITT. L. REV. 21, 24-26 (1984) (arguing that standardization actually increases consumer understanding of contract terms by reducing the number of new terms).

³⁵ See 1 FARNSWORTH, *supra* note 30, § 4.28 (describing the equitable concept of unconscionability in contract law that allows courts to refuse to recognize contracts or contract provisions if they are found to be unconscionable); Lemley, *supra* note 2, at 1254-55 (examining the doctrine of unconscionability as applied to shrinkwrap agreements); see also BENDER, *supra* note 3, § 4A.02[4] (noting that U.C.C. § 2-301 raises questions regarding the unconscionability of shrinkwrap agreements).

³⁶ The RESTATEMENT (SECOND) OF CONTRACTS provides: “[i]n choosing among the reasonable means of a promise or agreement or a term thereof, that meaning is generally preferred which operates against the party who supplies the words or from whom a writing otherwise proceeds.” *Id.* § 206 (1981); see also 1 FARNSWORTH, *supra* note 30, § 4.24 (discussing the concept of interpreting contracts in favor of the non-drafting party).

³⁷ See *Lasercomb Am. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990) (holding that misuse of a copyright is a valid defense in copyright infringement actions involving computer software).

³⁸ See DAVID F. SIMON, *COMPUTER LAW HANDBOOK: SOFTWARE PROTECTION CONTRACTS LITIGATION FORMS* § 8.03 (1990) (noting that consumer protection laws may thwart enforceability of licensing agreements).

³⁹ See Maureen A. O’Rourke, *Copyright Liability of Bulletin Board Operators for Infringement by Subscribers*, 1 B.U.J. SCI. & TECH. 6 (1996) (“In a competitive market form contract terms may simply reflect the terms the parties would have agreed to had they expressly negotiated a contract.”). See generally 1 FARNSWORTH, *supra* note 30, § 4.26 (discussing the advantages of standardized agreements).

⁴⁰ See Lauren Gibbons Paul, *Tug-of-War— User Groups Leverage Clout to Influence Agreements*, PC WK., Nov 7, 1994, at 21, 24 (reporting how user groups of large end users force “more enlightened licensing agreements”); Carol Hildebrand, *Rigid Licensing Draws WordPerfect Users’ Ire*, COMPUTERWORLD, Aug 5, 1991, at 29 (discussing the adverse effects of WordPerfect Corporation’s strict licensing upon the customer); Carol Hildebrand, *Users Warm to Changes in WordPerfect’s Fees*, COMPUTERWORLD, Nov. 4, 1991, at 6 (reporting how WordPerfect Corporation changed its licensing policy in response to market pressures); Greguras & Wong, *supra* note 2, at 15 (stating that “[t]he U.S. software industry is moving toward licensing practices that are more flexible and pricing methods that reflect the value of software to individual users”).

⁴¹ See, e.g., BILL GATES, *THE ROAD AHEAD* 161-163, 211-12, 271-72 (1995).

⁴² See Anne Wells Branscomb, *Anonymity, Autonomy, and Accountability: Challenges to the First Amendment in Cyberspaces*, 104 YALE L.J. 1639, 1656-64 (1995) (detailing examples of quick and harsh self-regulation of aberrant behavior by members of the on-line community).

⁴³ See, e.g., Paul, *supra* note 40, at 21 (identifying two user groups who monitor software licensing terms for their members).

⁴⁴ Carol Hildebrand, *White Paper Urges More Liberal Software Licenses*, COMPUTERWORLD, Oct. 7, 1991, at 4 (quoting Jeffrey Knepper, director of tax technology at Deloitte & Touche). Ms. Hildebrand further reported that:

Personal computer managers . . . sent a loud, clear message to the vendor community: More liberal software licensing is the direction of the future, and those refusing to comply do so at their own risk. “It’s pretty simple— if you don’t like the licensing, don’t buy the software . . . It will have an effect on the company’s sales.”

Id. (quoting Jeffrey Knepper, director of tax technology at Deloitte & Touche).

B. EULAs Are Informative

EULAs place valuable information in the hands of end users. This attribute is overlooked by some critics of EULAs, who assert that EULAs are essentially a “waste of paper.”⁴⁵ According to this criticism, copyright, patent, and trade secret laws already adequately define end users’ rights to software products, and provide ample protection for software publishers.⁴⁶ EULA critics, therefore, suggest that software publishers should stop using EULAs and rely solely on general intellectual property laws.⁴⁷ This position ignores the basic educational and informative benefits of using EULAs in the mass market.⁴⁸

Proponents of not using EULAs fail to recognize that most purchasers of mass market software have little knowledge of their rights under copyright law. Most of these customers have probably never heard of the doctrine of first sale,⁴⁹ the doctrine of fair use,⁵⁰ or section 117 of the Copyright Act.⁵¹ Without a document from the software publisher explaining their rights, the typical user would lack the knowledge required to take advantage of the range of rights which the software user, in theory, has under copyright law.⁵²

⁴⁵ See Hamilton & Hood, *supra* note 2, at 22 (“[T]he restrictions imposed by shrink-wrap licenses are . . . unnecessary when viewed in light of the protection provided by federal copyright laws . . .”).

⁴⁶ See, e.g., *id.* (concluding that existing law provides sufficient protection for software publishers). This criticism was arguable bolstered by the 1990 Rental Amendments to the Copyright Act. *Id.* One of the gaps in copyright law that initially led software publishers to employ EULAs was an end user’s right to rent or lease the software under the “doctrine of first sale.” Computer Software Rentals Amendment Act of 1990, Pub. L. No. 101-650, 104 Stat. 5134, (codified as amended in 17 U.S.C. §§ 101 note, 109, 109 note, 205 note).

Software rental was—and still is—often a front for software piracy. See Judith Klerman Smith, *The Computer Software Rental Act: Amending the “First Sale Doctrine” to Protect Computer Software Copyright*, 20 Loy. L.A. L. REV. 1613, 1615 (1987). With a wink and a nod, software rental establishments encourage their clients to make illegal copies of the rented software, often providing the computers and diskettes on site for doing so. See Neal Chatterjee, *Symposium: First Amendment and the Media: Regulating Interactive Communications on the Information Superhighway*, 5 FORDHAM INTELL. PROP. & MEDIA ENT. L.J. 383, 402 (1995); Smith, *supra*, at 1615 (“The great demand for software programs coupled with their high cost makes software copying an attractive alternative to purchasing the programs. The availability of computer software which can be rented at a fraction of its purchase price facilitates software copying.”).

A 1990 amendment to the Copyright Act, however, prohibits the owner or possessor of a copy of a computer program from renting, leasing, or lending the copy for commercial advantage without the express authority of the copyright owner. 17 U.S.C. § 109(b). Some argue that this eliminates the primary reason for software publishers needing to license copies of their products rather than sell them. Hamilton & Hood, *supra* note 2, at 18.

In fact, the software rental legislation makes EULAs *more* valuable because the software publisher may use EULAs to permit certain forms of rental. Moreover, EULAs are an important means of informing customers that rental is *not* permitted. See *infra* notes 56-58 and accompanying text.

⁴⁷ See Hamilton & Hood, *supra* note 2, at 22 (“The availability of . . . protections is clear and enough questions as to their scope and coverage have been answered to indicate that the restrictions included in a typical shrink-wrap agreement are no longer desirable.”).

⁴⁸ See O’Rourke, *supra* note 9, at 487-90 (explaining the need to inform software end users of their rights, in contrast to purchasers of traditional hard copy printed materials.)

⁴⁹ See *infra* note 59 and accompanying text (discussing the doctrine of first sale).

⁵⁰ See *infra* note 54 and accompanying text (defining the fair use doctrine).

⁵¹ For example, section 117 of the Copyright Act authorizes persons who acquire copies of software programs to make certain “essential step” copies and adaptations, and further to create and store archival copies of the software. 17 U.S.C. § 117(1) (1994). Section 117 further requires, however, that such copies be transferred only in conjunction with all other rights in the program. *Id.*

⁵² The foregoing comments might lead one to conclude that software publishers should dispense with the contractual aspect of EULAs and instead simply include detailed notices of proprietary rights in their software products. Although this model is workable for some software products, EULAs provide benefits for many software products. See O’Rourke, *supra* note 9, at 487-88 (explaining why software publishers license software in contrast to publishers of traditional printed material); *infra* part III.C. Moreover, understanding the copyrights associated with software such as multimedia products is complicated—even for lawyers practicing in the field—and the exact scope of a purchaser’s rights may depend upon

Unsophisticated end users also lack information describing what copyright law does *not* allow them to do with software. For example, most software purchasers could not differentiate between an impermissible public and a permissible private performance or display,⁵³ or distinguish a “fair use” from an infringing use.⁵⁴ Many end users do not know whether they may rent the software which they have acquired.⁵⁵

Moreover, EULAs play an important role in curbing software piracy.⁵⁶ Despite the attempts of software industry groups to teach the public that copying a software program onto a second computer is equivalent to stealing a second copy of the program, many people still confuse the ease with which one can copy with a right to copy.⁵⁷ EULAs inform end users that making extra copies is not permitted (except for backup purposes) and that the software publisher is serious enough about enforcing this point to provide a written notice.⁵⁸

how the work is characterized (i.e., as a film or a book). Lawyers, therefore, often debate the question of “what is” the essence of a given work under copyright law. Employing a EULA essentially eliminates the need for this debate by explaining to the end user which rights are available for use.

⁵³ See 17 U.S.C. § 106 (1994) (outlining exclusive rights possessed by copyright owners for various public performances or displays).

⁵⁴ See 17 U.S.C. § 107 (1994). Section 107 states, in relevant part, that:

[T]he fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by [17 U.S.C. §§ 106 and 106A], for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

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

Id.; See also *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 433 (1984) (“[A]nyone who is authorized by the copyright owner to use the copyrighted work in a way specified in [17 U.S.C. § 106] or who makes a fair use of the work is not an infringer of the copyright with respect to such use.”); *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1171 (1994) (noting that the more “transformative” – or altered – the work is, the more likely fair use will be found); D.C. Toedt, *Oh Pretty Woman: Muddying Software Copyright Even Further with “Transformative Fair Use,”* COMPUTER LAW., June, 1994, at 15.

⁵⁵ See, e.g., *Central Point Software, Inc., v. Global Software & Accessories, Inc.*, 880 F. Supp. 957, 963-67 (E.D.N.Y. 1995) (analyzing a software agreement under the Computer Software Rental Amendments Act of 1990 and finding that a rental company’s deferred billing plan under which customers made small down payments and were charged if they did not return the software within five days was rental of software in violation of 17 U.S.C. § 109).

⁵⁶ See Einhorn, *Box-Top Licenses*, *supra* note 2, at 402 (describing the use of box-top licenses (EULAs) as a means of discouraging piracy and unauthorized rentals of software); See also Otis Port, *Copyright’s New Digital Guardian*, BUS. WK., May 6, 1996, at 62 (describing how encrypted contracts will be a tool used to curb software piracy on the Internet); *supra* note 46 and accompanying text.

⁵⁷ See Einhorn, *Box-Top Licenses*, *supra* note 2, at 402 (“According to current estimates by the Software Publishers Association, there exists one unauthorized copy for every legally-purchased software package in the United States.”). According to the Business Software Alliance, software publishers lost \$15.2 billion in revenue in 1994 because of software piracy. See THE IMPACT OF SOFTWARE PIRACY ON THE INTERNATIONAL MARKETPLACE (Business Software Alliance Annual Survey 1995).

⁵⁸ See Einhorn, *Box-Top Licenses*, *supra* note 2, at 402. Mr. Einhorn wrote that:

In an attempt to discourage unauthorized copying, software publishers typically include in their box-top agreements terms which grant end-users only a nonexclusive, nonassignable, and nontransferable right to operate the program on a single computer system and which prohibit any copying of the computer program for any reason without the written authorization of the software publisher.

Id.

EULAs often grant rights that the user would not receive as a purchaser of a copy of the software under copyright law's doctrine of first sale.⁵⁹ In some cases, these rights may seem obvious— the rights to reproduce and to print “clip art” provide examples in which, arguably, end users could proceed under an implied license theory.⁶⁰ Describing license terms in a written record, however, informs end users of their “extra” rights more clearly than does an implied license.⁶¹ A written EULA also explains licensing arrangements that are more complex than those for which the user simply loads the software into a computer and uses it. For more complex licensing arrangements, such as those required to operate networking software, a written explanation of rights is essential to understanding the relationship between the parties and the range of rights available to each party.⁶²

The utility of written agreements is far from a novel idea. Contract law reflects a deep-rooted policy favoring written agreements because they are informative and they help record the contract terms. Although the Uniform Commercial Code has “gap filling” provisions that operate in the absence of written terms,⁶³ the preferred mode of contracting for the sale or lease of goods is by written agreement.⁶⁴ Under the statute of frauds, for example, whether a contract exists at all may depend on the existence of a written record.⁶⁵ Where items of value are at stake, the law often *requires* a written instrument.⁶⁶ Additionally, in copyright law, an assignment of a copyright,⁶⁷ an

⁵⁹ See 17 U.S.C. § 109(a) (1994) (outlining the effect of a transfer of copyrighted material); see also *Parfums Givenchy, Inc. v. Drug Emporium, Inc.*, 38 F.3d 477, 480 (9th Cir. 1994) (giving a thorough analysis of the first sale doctrine as a defense to copyright infringement), *cert. denied*, 115 S. Ct. 1315 (1995); *BMG Music v. Perez*, 952 F.2d 318, 319-20 (9th Cir. 1991) (same), *cert. denied*, 505 U.S. 1206 (1992); *infra* note 74 and accompanying text.

⁶⁰ See, e.g., *Effects Assoc. v. Cohen*, 908 F.2d 555, 556-668 (9th Cir. 1990) (finding an implied license to incorporate footage into a movie).

⁶¹ Relying on an implied license is problematic for both licensees and licensors. See, e.g., *MacLean Assoc. v. Wm. M. Mercer-Meindinger-Hansen, Inc.*, 952 F.2d 769, 778-79 (3d Cir. 1991) (reversing the district court's directed verdict that defendant had an implied license in the computer software). The scope of an implied license is often in doubt. See, e.g., *I.A.E., Inc. v. Shaver*, 74 F.3d 768 (7th Cir. 1996) (deciding whether a dispute over an implied license to an architect's design drawings allowed use of the drawings after the architect was removed from project). Even worse, the very existence of a license may become subject to dispute. See *Effects Assoc.*, 908 F.2d at 556-58 (recognizing the existence of an implied license as applied to a special effects film footage); *Apple Computer, Inc. v. Microsoft Corp.*, 821 F. Supp. 616, 626 (N.D. Cal. 1993) (analyzing whether Microsoft had granted an implied license to Hewlett Packard of visual displays from Windows 1.0). As Judge Kozinski noted in the *Effects Associates* opinion, “[c]ommon sense tells us that agreements should routinely be put in writing Rather than look at the court every time they disagree as to whether a particular use of the work violates their mutual understanding, parties need only look to the writing” *Effects Assoc.*, 908 F.2d at 557.

⁶² Although we argue that EULAs are valuable for many software transactions, each software product should be evaluated on its own merits. Undoubtedly, cases will exist in which selling the software product under the doctrine of first sale is, on balance, the best business model.

⁶³ See, e.g., Mark E. Roszkowski & John D. Wladis, *Revised U.C.C. Section 2-207: Analysis and Recommendations*, BUS. LAW., May 1994, at 1065, 1067-70 (extolling the merits of gap-fillers for U.C.C. § 2-207).

⁶⁴ See *Effects Assoc.*, 908 F.2d at 557 (9th Cir. 1990) (“Common sense tells us that agreements should routinely be put in writing”); cf. Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 97, 101-06 (1989) (advocating penalizing interpretations of contracts to encourage parties to write all terms into their contracts).

⁶⁵ See, e.g., U.C.C. § 2-201(1) (1995) (requiring a contract for the sale of goods with a price of \$500 or more to be in writing); U.C.C. § 2A-201 (1) (requiring a lease contract with total payments to be made in excess of \$1000 to be in writing).

⁶⁶ For example, a writing is required for many real estate transactions. See ARIZ. REV. STAT. ANN. § 32-2195.04(A)(2)(b) (West 1992); CAL. CIV. CODE § 1624(c) (West 1985); *In re Estate of Kirk*, 907 P.2d 794, 801 (Idaho 1995); *Luloff v. Blackburn*, 906 P.2d 189, 191 (Mont. 1995).

⁶⁷ See 17 U.S.C. § 204(a) (requiring written transfers of copyright); *Konigsberg Int'l, Inc. v. Rice*, 16 F.3d 355, 356 (9th Cir. 1994) (requiring a transfer of the rights associated with a copyright to be in writing even though the parties had entered a joint venture).

exclusive copyright license,⁶⁸ and an agreement reversing the presumptions under the “work for hire” doctrine⁶⁹ must all be in writing to be valid.

Moreover, EULAs actually inform the end user of the terms and conditions of the transaction better than many other consumer contracts today⁷⁰ and have the potential to do so even better in the future. Software publishers generally strive to bring the EULA to the user’s attention in a meaningful fashion, because they want to define the parameters of the rights being granted.⁷¹

C. *EULAs Allow Software Publishers to Offer a Rich Variety of Rights*

Software publishers use EULAs to provide a certain desirable package of rights to customers at the lowest possible price.⁷² Standardized software terms also allow publishers to withhold rights which may be of marginal value to most end users, but which are particularly costly or risky to the software publisher if granted.⁷³ Selling software under the doctrine of first sale— similar to a newspaper publisher selling a newspaper— simply does not allow for the required flexibility of contract terms. The doctrine of first sale is, in effect, a one-size-fits-all transaction model.⁷⁴ Copyright, patent, and trade secret statutes alone do not allow for enough specificity and

⁶⁸ *Konigsberg*, 16 F.3d at 357 (holding that letters from an author to movie producers were not sufficient to meet the writing requirement to be considered an exclusive writing pursuant to 17 U.S.C. § 204(a)).

⁶⁹ See 17 U.S.C. § 101 (defining a work made for hire as “(1) a work prepared by an employee within the scope of his or her employment; or (2) a work specially ordered or commissioned for use as a contribution to a collective work”); *Id.* § 201(b) (stating that, unless otherwise agreed to in a written, signed agreement, “the employer or other person for whom the work was prepared is considered the author . . . and . . . owns all of the rights comprised in the copyright”); *Community For Creative Non-Violence v. Reid*, 490 U.S. 730, 745 (1989) (noting that Congress clearly intended “work for hire” agreements to be in writing).

⁷⁰ See Michael I. Meyerson, *The Efficient Consumer Form Contract: Law and Economics Meets the Real World*, 24 GA. L. REV. 583, 595 (1990) (noting that consumer form contracts are often drafted with the knowledge and intent that they will not be read).

⁷¹ Moreover, two of the central purposes of the EULA are to inform the end user of what rights he or she does *not* have under copyright and to deter unauthorized use of the software. See *supra* notes 46, 56-68 and accompanying text. These purposes are defeated if the EULA is hidden from the end user. If the EULA is to prevent unauthorized uses and copying of the software, it is in the best interest of the software publisher to notify the end user of the conduct which is unauthorized. Broad deterrence of unauthorized use is critical because the licensor could recover little from each individual licensee’s breach or infringement. See Page M. Kaufman, Note, *The Enforceability of State “Shrink Wrap” License Statutes in Light of Vault Corp. v. Quaid Software, Ltd.*, 74 CORNELL L. REV. 222, 234 n.88 (1988) (stating that manufacturers rely on “shrink-wrap” license agreements to protect their property rights in copyrighted software, and thus avoid the difficulty of proving copyright infringement on a case by case basis): see also Marenberg & Brown, *supra* note 2, at 8 (describing a licensor’s contract remedies).

⁷² See 1 FARNSWORTH, *supra* note 30, § 4.26 (stating that “[s]ince standard forms can be tailored to fit office routines and mechanical equipment, they simplify operations and reduce costs”).

⁷³ See O’Rourke, *supra* note 9, at 516 (“[I]t is questionable whether the end user wishes to purchase anything more than the functionality that is obtained by running the object code.”); see also ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS*, 25-26 (1988) (explaining that the optimum point of production is where the marginal cost of production equals the marginal benefit derived from production). The consumer market forces the creator to make a product which is useful to consumers because consumers will not purchase a product which is of no utility to them. See COOTER & ULEN, *supra*, at 25-26. Consumers make a similar judgment for each additional benefit or right offered by the producer. See *id.* Therefore, if the cost of an extra right (the marginal cost of production) exceeds the benefit to the consumer (the marginal benefit), then including the extra right is inefficient for both the consumer and the producer because the consumer would be asked— and may possibly refuse— to pay a higher price for a product that he or she does not value any more highly. See *id.*

⁷⁴ See *supra* note 59 and accompanying text (describing the doctrine of first sale). In this context, the doctrine of first sale is both underinclusive and overinclusive for the end user. See *supra* note 73 (discussing marginal cost and marginal benefit). For example, the first sale doctrine may be underinclusive because it would not allow rights to copy and distribute clip art provided by some software publishers. See *infra* note 79. At the same time, the first sale doctrine is overinclusive because it provides some rights which are unnecessary to the customer, such as the right to decompile the product. See *infra* note 91 and accompanying text.

variability in end users' rights and accompanying obligations to suit the diversity of software products and use patterns that customers desire.⁷⁵

1. EULAs Are Often Rights-Expanding

EULAs often provide users with more rights than the users would be entitled to if they simply purchased a copy of the software. For example, some software publishers permit end users to make and use a second copy of a licensed program on the user's home or laptop computer.⁷⁶ Many desktop publishing and word processing products include licenses to copy and distribute fonts, and to copy and make derivative works using clip art and other images provided as part of the product.⁷⁷

EULAs for software development kits (such as Microsoft's *Win32 SDK*), database products (such as Borland's *dBASE* and *Paradox*, and Microsoft's *FoxPro* and *Access*), and languages products (such as Borland's *Turbo C/C++* and Microsoft's *Visual Basic*) often grant the user rights to copy and distribute certain binary files, and to make, copy, and distribute derivative works developed from certain sample source code.⁷⁸ Publishers of Internet browser software typically permit users to freely copy and distribute such software.⁷⁹ Some software publishers grant users the right to put an extra copy of the software on a server that is used to install the software on computers over a local area network.⁸⁰ Licensors of networking products often grant broad rights which allow the copying of client software which works with their server software.⁸¹

EULAs are also an efficient mechanism for providing multiple copies of software to end users. Publishers often employ "license packs," in which an end user can acquire one copy of a software program along with a license card authorizing reproduction of a given number of additional copies.⁸² This innovation enables small businesses and others to acquire, for example, ten copies of a word processing program in an off-the-

⁷⁵ See Marenberg & Brown, *supra* note 2, at 9 ("Both users and vendors have reason to move away from antiquated types of licensing toward software licenses that reduce administrative burdens, permit flexibility in use, and assure both vendor and user of a fair bargain."); David P. Chernicoff, *NT Client Licensing: Flexibility and Gotchas*, PC WK., May 15, 1995, at N18 (noting that the per-server licensing model allows a license to be assigned to either the clients or the servers); see also Paul, *supra* note 40, at 24 ("Flexibility is perhaps the most important characteristic in software-licensing agreements today.").

⁷⁶ See William H. Neukum & Robert W. Gomulkiewicz, *Licensing Rights to Computer Software*, TECHNOLOGY LICENSING AND LITIGATION, 775, 778 (Practicing Law Institute 1993); the current EULA for *Symantec* and the current EULA for *Adobe Systems*. End users normally are confined to making only "essential step" copies and copies for archival purposes. See 17 U.S.C. § 117(1); *supra* note 51 and accompanying text.

⁷⁷ See, e.g., the EULA for Microsoft's *Video for Windows*; the EULA for *ART à la Carte*; the EULA for *ClipPix* ("copies of images, in digital form (but not printed form), may be incorporated into up to 10,000 individual product copies made by you . . . and may be distributed as part of your Products.").

⁷⁸ See Carroll, *supra* note 23, at 1345 (anticipating increasingly complex standard user licenses for development tool products).

⁷⁹ See the EULA for *Netscape Navigator* and the EULA for Microsoft's *Internet Explorer*; see also Angela Hickman, *Explore Anywhere*, PC MAG., Mar. 12, 1996, at 118 (noting that the test version of the software program *Explore Anywhere* is available free of charge); Gary W. Kaplow, *On-Line Clip Art*, PC MAG., Feb 26, 1991, at 50 (reviewing software which allows end users to incorporate the contents into their own works); Joel Shurkin, *Jim Clark's Netscape Play*, INTERACTIVE AGE, Dec. 12, 1994, at 55 (describing the free distribution of *Netscape Navigator*).

⁸⁰ See The EULA for Microsoft's *Windows 95*; see also, e.g., *Quarterdeck's CleanSweeps Window Uninstaller*, NEWSBYTES NEW NETWORK, Oct. 19, 1994, available in WESTLAW, PCNEWS database ("CleanSweep includes a network uninstall module free with each copy of the program. This module allows uninstall to operate on both the server and the workstations.").

⁸¹ See the Server License for Microsoft's *Server Software*; the EULA for Novell's *NetWare 4.X*.

⁸² See the EULA for Microsoft's *Windows 95* ("If you have acquired this EULA in a Microsoft License Pak, you may make the number of additional copies of the software portion of the SOFTWARE PRODUCT authorized on the printed copy of this EULA....").

shelf transaction without being burdened with or required to pay for ten sets of packaging and manuals which would add unnecessary costs to the transaction.

2. Varied Uses and Intellectual Property Protection for Software Products

Traditional copyrighted works— such as books— have relatively specific, limited uses. Software programs, however, can be put to a variety of uses. In many cases, software is more akin to a tool than a book or videotape. For example, software can be used to sort data, draw, paint, perform calculations, create documents, and develop other software programs. Contracting by EULA can take account of this complexity.

Copyright law is the sole protection for most traditional works of authorship. Software, in contrast, is protected by copyright, patent, trade secret, and trademark law.⁸³ Use of a single software program may require a copyright license, a patent license, a trade secret license (for source code), and a trademark license.⁸⁴

Software's versatility and legal complexity distinguishes it from traditional copyrighted materials. Software, therefore, requires the flexibility of the EULA to allow for the full range of customer uses.

3. Contract Variety: For Better, Not For Worse

Some critics of EULAs argue against the ability to offer a package of license rights rather than the statutory "first sale" rights because, they claim, EULAs permit software publishers to take valuable rights away from end users.⁸⁵ A common criticism of software publishers is that their EULAs prohibit reverse engineering,⁸⁶ decompilation,⁸⁷ and disassembly⁸⁸ of their software.⁸⁹ Software publishers typically restrict these

⁸³ *Id.* at 251.

⁸⁴ See, e.g., Einhorn, *Box-Top Licenses*, *supra* note 2, at 403 (noting that EULAs often contain provisions precluding the buyer from using the software for any purpose other than operating the program).

⁸⁵ See *id.* at 404-06 (examining three possible contract interpretations of EULAs).

⁸⁶ Reverse engineering is:

A method of analyzing a product in which the finished item is studied to determine its makeup or component parts, typically for the purpose of creating a copy of a competitive product— for example, studying a completed ROM chip to determine its programming or studying a new computer system to learn about its design.

COMPUTER DICTIONARY 340 (2d ed. 1994) [hereinafter COMPUTER DICTIONARY]; see also Julie E. Cohen, *Reverse Engineering and the Rise of Electronic Vigilantism: Intellectual Property Implications of "Lock-Out" Programs*, 68 S. CAL. L. REV. 1091, 1094-95 (1995) (discussing the use of lock-out programs to prevent reverse engineering of software).

⁸⁷ A "decompiler" is defined as "[a] program that takes assembly language code or machine code and attempts to generate high-level source code from it— a difficult task because it is possible to write assembly code for which there is no corresponding high-level source code." COMPUTER DICTIONARY, *supra* note 86, at 114.

⁸⁸ A "disassembler" is defined as "[a] program that converts machine code to assembly language source code. Most debuggers have some kind of built-in dissembler, allowing the programmer to view an executable program in terms of human-readable assembly language." *Id.* at 124-25. "Disassembly" or "decompilation" is a method which parses software in binary object code form to discover the higher-level, human readable commands. Cohen, *supra* note 86, at 1094-95.

⁸⁹ Others have criticized EULAs for purportedly eliminating software users' fair use rights. See generally Lemley, *supra* note 2, at 1274-83. It is doubtful that the mere presence of a EULA constrains fair use rights generally, as opposed to a particular, enumerated use mentioned in a EULA, such as reverse engineering. See discussion *infra* notes 93-107 and accompanying text (stating why limiting the most commonly mentioned potential fair use in the context of software— reverse engineering— is reasonable). To our knowledge, no EULA contains a provision that flatly prohibits all copyright fair uses.

Commentators have also criticized EULAs for preventing the user from transferring to another party the copy of the software that the user has licensed. Most modern EULAs specifically permit such transfers. See, e.g. the current EULAs for Microsoft's *Windows 95*, *Visual Basic*, *Office*, and *BackOffice*; IBM's *OS/2*; Lotus' *SmartSuite*, Borland's *Turbo C/C++* and *dBASE*; and Apple's *Macintosh System 7*. Compare Lemley, *supra* note 2, at 1268 (citing a 1980's vintage EULA from Vault Corp. v. Quaid Software, Ltd., 847 F.2d 255 (5th Cir. 1988), in support of his critique), with Hemnes, *supra* note 2, at 586 n.61

activities because they risk exposing, and hence losing, to the public domain, the publisher's crown jewel— the secrets contained in the software's source code.⁹⁰ Most purchasers of off-the-shelf software, however, care little, if at all, about the right to reverse engineer, and they certainly are not interested in paying more money to acquire this right.⁹¹ The entities that are most interested in acquiring this right are competitors of the software developer.⁹² A competitor should not be permitted to acquire the right to examine a company's trade secrets for the low price that the typical end user pays for the software.

In the view of some commentators, however, reverse engineering is an inalienable right. From this perspective, they argue that reverse engineering rights should not be impaired by contract, including through EULAs.⁹³ Such a debate is complex, and a detailed response is beyond the scope of this Article.⁹⁴ The position of these critics assumes that the information generated by reverse engineering would never be available but for legislative intervention in the end user licensing process.⁹⁵ Industry

("There is a trend toward provisions allowing transfer of the licenses of "off the shelf software."). *But see* Oracle Corporation's End User Program License. If a EULA does constrain transferability in some way, however, "giving up" this right often permits the software publisher to charge a lower price for the software or provide some other rights which may actually be more valuable to the user. For example, many software companies offer low-priced academic editions of their products, which are licensed for use only by qualified academic users. *See supra* note 76-81 and accompanying text.

⁹⁰ *See generally* Ronald L. Johnston & Allen R. Grogan, *Trade Secret Protection for Mass Distributed Software*, COMPUTER LAW., Nov. 1994, at 1 (discussing the protection of source code under trade secret law); O'Rourke, *supra* note 9, at 497, 509, 524.

⁹¹ *See* O'Rourke, *supra* note 9, at 516 (stating that the average user is not interested in anything more than running the software); *cf.* Lemley, *supra* note 2, at 1294 n.103 (opining that, while most purchasers do not intend to engage in reverse engineering, it is an "open question" as to whether they expect to have that option when they purchase the program). The marginal benefit of conferring the right to reverse engineer the software to end user is not worth the additional cost to grant such a benefit. *See supra* note 73 and accompanying text (discussing marginal cost and marginal benefit).

⁹² Though software publishers diligently guard access to the secrets inherent in their source code, gaining such access has not, historically, been integral for competitors to achieve success in the personal computer software market. Success has been achieved by advancing the state of the art, by offering a next-generation product, not simply by replicating or slightly improving the current product offerings. For example, Microsoft's *Excel* and *Word* were able to surpass Lotus' *Lotus 1-2-3* and *WordPerfect's WordPerfect* in spreadsheets and word processing, respectively, by moving the software paradigm from character-based to graphical user interface. *See, e.g.,* Hailey Lynne McKeefry, *1995 Readers' Choice Awards*, WINDOWS MAG., Sept. 1, 1995, at 178. *Windows NT Server* is challenging *NetWare*, the long-time leader in networking software, primarily because *Windows NT Server* operates more effectively as an application server, while also providing the file and print capabilities *NetWare* has traditionally provided. Michael Surkan, *NetWare SMP Can't Keep Up*, PC WK., Apr. 1, 1996, at 88-89; *see also* George Gilder, *The Coming Software Shift*, FORBES, Aug. 28, 1995, at 147, 162 (discussing the progress of various software products and the advent of *Netscape's Navigator* in particular); Stephanie Lapolla & Norvin Leach, *Managers Lean Toward NT in Mapping Enterprise Plans*, PC WK., May 13, 1996, at 1 (noting that *Windows NT* rise in popularity is due, in large part, to the addition of improved fault tolerances and scalability).

⁹³ *See* Andrew Johnson-Laird, *Reverse Engineering of Software: Separating Legal Mythology from Actual Technology*, 5 SOFTWARE L.J. 331, 333 (1992) (arguing that a reverse engineer makes use only of ideas and processes contained within a program— acts which are always permissible under copyright law).

⁹⁴ For discussions of this topic, *see generally* Anthony L. Clapes, *Confessions of an Amicus Curiae: Technophobia, Law, and Creativity in Digital Arts*, 19 U. DAYTON L. REV. 903 (1994); Andrew Johnson-Laird, *Software Reverse Engineering in the Real World*, 19 U. DAYTON L. REV. 843 (1994); Johnson-Laird, *supra* note 93; Dennis S. Karjala, *Copyright Protection of Computer Documents, Reverse Engineering and Professor Miller*, 19 U. DAYTON L. REV. 975 (1994); Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works*, 106 HARV. L. REV. 977 (1993); O'Rourke, *supra* note 9; David A. Rice, *Public Goods, Private Contract and Public Policy: Federal Preemption of Software License Prohibitions Against Reverse Engineering*, 53 U. PITT. L. REV. 543 (1992); 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); Gary R. Ignatin, Comment, *Let the Hackers Hack: Allowing the Reverse Engineering for Copyrighted Computer Programs to Achieve Compatibility*, 140 U. PA. L. REV. 1999 (1992); Timothy S. Teter, Note, *Merger and the Machines: An Analysis of the Pro-Compatibility Trend in Computer Software Cases*, 45 STAN. L. REV. 1061 (1993).

⁹⁵ *See generally* Johnson-Laird, *supra* note 94.

practice is to the contrary.⁹⁶ EULAs are *not* the final word on achieving access to source code or other important proprietary information.⁹⁷

Most personal computer software publishers offer source code licenses, but not pursuant to the limited terms or at the low prices of off-the-shelf software.⁹⁸ Source code licenses are far more detailed than the ordinary EULA because these licenses pertain to sensitive information that may represent a company's most valuable business asset.⁹⁹ Source code licensees typically receive not only the software source code, but also programmers' comments, other documentation, various tools such as debuggers and build tools, and technical support from the licensor.¹⁰⁰ Source code licenses usually contain a very specific scope of license, describe confidentiality obligations in detail, and offer a different pricing structure than that for off-the-shelf software.¹⁰¹ Software publishers license source code for many commercial purposes for a flat fee or under various royalty structures.¹⁰² Additionally, many software publishers offer low or no cost source code licenses to universities for educational and research purposes or to third parties for achieving interoperability or performing software maintenance.¹⁰³

Most significantly, publishers of personal computer system software usually provide functional access to their products at no charge through application programming interfaces ("APIs"), so that no source code licensing is necessary.¹⁰⁴ Microsoft's *Windows* and *Windows NT*, Apple's *Macintosh*, and IBM's *OS/2* operating systems all follow this model; as do other system software platform products such as

⁹⁶ See *infra* notes 98-107 and accompanying text.

⁹⁷ In fact, decompiled code may be of limited utility. See Johnson-Laird, *supra* note 94, at 843 n.4, 899 (stating that "reverse engineering cannot tell whether a given feature is required for current or future compatibility" and that decompiled code lacks valuable source code comments and other information); Pamela Samuelson et al., *Symposium: A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2336 n.90 (1994) (stating that reverse engineering does not allow for the recreation of mnemonic names for variables and procedures chosen by the programmer, which often make it clear what each piece of the code is doing).

It is also important to know the information that people seek through reverse engineering or decompilation. Most often, people seek information regarding programming techniques, information necessary for debugging or customizing the program, and information that could be used to create an interoperable or a competing product. Charles R. McManis, *Intellectual Property in the United States and the European Community*, 8 HIGH TECH. L.J. 25, 30-31 (1993); see also Cohen, *supra* note 86, at 1093-95; O'Rourke, *supra* note 9, at 498 (stressing that access may be required to "understand underlying ideas, to produce a compatible product, or to fix bugs"). Bearing these purposes in mind, important proprietary information is readily available for all these purposes, see discussion *infra* notes 99-104, with the likely exception of information specifically disclosed to enable a competitor to create a clone of the underlying software product, see *supra* notes 91-92.

⁹⁸ See O'Rourke, *supra* note 9, at 493-94, 494 n.57 (listing various examples of how source code can be obtained).

⁹⁹ See *supra* note 90 and accompanying text (discussing the value of the software's source code).

¹⁰⁰ See Johnson-Laird, *supra* note 94, at 843 n.4 (pointing out that decompiled code lacks valuable source code comments and other information); Samuelson, *supra* note 97, at 2336 n.90 (noting that decompiled code lacks mnemonic names chosen by programmers for variables and procedures).

¹⁰¹ See O'Rourke, *supra* note 9, at 494 ("[I]n some circumstances, software providers also license the source code to customers, usually for maintenance purposes and under strict confidentiality terms.").

¹⁰² See *id.* at 494 n.57 (describing a variety of pricing arrangements for obtaining source code); Softel, Inc., v. Dragon Medical & Scientific Communications, Inc., 891 F. Supp. 935, 938 (S.D.N.Y. 1995) (illustrating that source code licenses can cost more than \$17,000).

¹⁰³ See generally O'Rourke, *supra* note 9, at 493-500.

¹⁰⁴ In addition, many software publishers do business in Europe and therefore must comply with the European Software Directive which permits, in many cases, reverse engineering to achieve interoperability. COUNCIL DIRECTIVE 91/250/EEC ON THE LEGAL PROTECTION OF SOFTWARE PROGRAMS, ARTICLE 6 (May 14, 1991). The Directive does not permit software publishers to opt out of the Directive by contract. *Id.*; See the EULA for Microsoft's *Windows 95* ("You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.").

Lotus' *Notes* and Novell's *NetWare*.¹⁰⁵ The publishers of these products not only distribute the APIs, but they also publish development kits and employ "technical evangelists" to make it easy for applications developers to write for their platforms. Obtaining the support of these applications developers is critical to the success of a personal computer operating system product,¹⁰⁶ and support of these developers is achieved by readily providing tools and information about how to interoperate with the system software.¹⁰⁷

The most important point, though, is that most end users would not be willing to spend additional money for the right to reverse engineer. The law should not force mass market software publishers to burden the price of their software by requiring publishers to offer rights which most users are not interested in acquiring.

IV. EULAs: EVEN MORE IMPORTANT FOR THE FUTURE

As described above, licensing is a beneficial way to provide software to the mass market today. The importance of licensing will be even more pronounced for the information products of the future.

A. *Information Products on the World Wide Web*

The Internet and World Wide Web are making the publication of information and distribution of software easier than at any time in the past.¹⁰⁸ The costs and barriers to entry are becoming lower every day for entrepreneurs who would like to make a business of providing information or distributing software via the "information superhighway."¹⁰⁹ Many observers are predicting that the day will soon arrive when customers will license compact software applications (often called "applets") designed to perform discrete tasks, rather than acquiring multi-feature, general purpose software applications.¹¹⁰ These applets will be developed by scores of small software developers who have the ability to reach the mass market by means of the World Wide Web.¹¹¹

¹⁰⁵ Software publishers also offer compatibility logos (such as the *Designed For Windows 95* logo, the *Yes It Runs With NetWare* logo, the *Notes Ready* logo, and the *Microsoft Office Compatible* logo) which may be licensed by independent software vendors for use on the vendor's products to tout their compatibility with the given software platform.

¹⁰⁶ See Ben Rothke, *OS/2 is Dead— Long Live Reigning Microsoft Windows*, LAN TIMES, Nov. 6, 1995, at 82 ("The dearth of applications designed for OS/2 is primarily what contributed to its downfall."); Julie Pitta, *Major Changes Ordered in IBM's Organization*, L.A. TIMES, Jan. 10, 1995, at 1 (stating that the lack of developer support damaged OS/2's marketability); Norvin Leach, *Novell Touts Services for Developers*, PC WK., Apr. 5, 1993 at 147 (stating that "Novell's goal is to make it as easy as possible for developers to write applications to squeeze the most value of NetWare"); Sean Silverthorne, *Baby, Come Back*, PC WK., Oct. 2, 1995, at A1.

¹⁰⁷ See Helen Custer, *INSIDE WINDOWS NT* (1991) (explaining the architecture of *Windows NT*); Adrian King, *INSIDE WINDOWS 95* (1995) (explaining the architecture of *Windows 95*). In addition, most of the important "wire protocols" which are used by personal computer-based networking products, such as *TCP/IP*, *NetBeui*, and *IPX/SPX*, are publicly documented so that software publishers can achieve interoperability among networks.

¹⁰⁸ See Lance Rose, *The Emperor's Clothes Still Fit Just Fine*, WIRED, Feb. 1995, at 103 (describing the challenges of distributing copyrighted works on the web).

¹⁰⁹ See GATES, *supra* note 41, at 157-83.

¹¹⁰ See Amy Cortese & John Verity, *The Software Revolution*, BUS. WK., Dec. 4, 1995, at 78, 78-90 (noting that the Java language has popularized "object technology," which enables smaller programs to perform discrete tasks).

¹¹¹ See Gilder, *supra* note 92, at 147-62; Cortese & Verity, *supra* note 110, at 82. *But see* Gordon Bell, *George Gilder and His Critics*, FORBES, Oct. 9, 1995, at 165, 181 (presenting a variety of evaluations by leaders of the software industry of Mr. Gilder's assertions, with varying conclusions).

Similarly, the “friction free” distribution potential of the World Wide Web will permit authors of all types of works to publish and distribute their works to a wide audience.¹¹²

This explosion in the variety of information products which publishers can distribute via the World Wide Web will significantly increase the need for contract flexibility. The low cost of distribution on the World Wide Web will allow publishers to experiment with many packages of user rights and prices. For example, the author of a game program may license the game for use in hourly increments, and vary pricing depending on the level of difficulty which the user chooses, perhaps making the lowest skill level free and charging the most for the expert skill level. The author of a multimedia program may license the program to individual students and home users free of charge, but might charge a fee to an educational institution or corporation. That same author may be willing to license a “text and still picture only” version of the product at one price and a version with video and audio fully enabled for another price. Copyright law’s doctrine of first sale will be too blunt an instrument for these authors to use for “selling” their works.¹¹³ License agreements are the form of contract that can provide the flexibility that will be required for doing business on the information superhighway.¹¹⁴

B. *Client– Server Computing*

Other developments are also elevating the importance of licensing. In many instances, personal computer software has become powerful enough to replace mainframe and mini computer software. Presently, powerful server software running on a personal computer or a group of personal computers can often provide the same computing power and functionality as a mainframe computer at a fraction of the cost.¹¹⁵ The developers of personal computer-based server software are using mass market distribution channels to distribute this software, even though the rights being granted to users of server software are more complex than those granted for the typical desktop application product.¹¹⁶ Without the EULA, a publisher of personal computer-based server software would not be able to explain the varied rights and limitations appropriate for client-server computing, while at the same time making use of mass market distribution.¹¹⁷

For example, Microsoft Corporation licenses a suite of server applications known as the *BackOffice Suite*.¹¹⁸ This product contains the *Windows NT Server* operating system, the *SQL Server* database “back end”, the *SNA Server* gateway to IBM mainframe computers, the *Systems Management Server* network management tool, and the *Exchange*

¹¹² See Gilder, *supra* note 92, at 147-62.

¹¹³ See *supra* notes 59-60 and accompanying text (describing the first sale doctrine and its applicability to software).

¹¹⁴ See John B. Kennedy & Shoshana R. Davids, *Web-Site Agreements Do Not Wrap Up IP Rights*, NAT’L L.J., Oct. 23, 1995, at C3 (describing use of EULAs on World Wide Web sites).

¹¹⁵ See generally G.P. ZACHARY, SHOW STOPPER! THE BREAKNECK RACE TO CREATE WINDOWS NT AND THE NEXT GENERATION AT MICROSOFT (1994).

¹¹⁶ Compare the EULA for *Microsoft Server Products* with the EULA for Microsoft’s *Office Suite*.

¹¹⁷ See Ted Smalley Bowen, *Making Sure the Price is Right: Developers Work on Software Licensing Models to Address Usage in Distributed Environments*, PC WK., Nov. 7, 1994, at 22 (discussing the advantages of a two-tiered licensing system); Greguras & Wong, *supra* note 2, at 17 (discussing the necessity for EULAs in mass marketed software).

¹¹⁸ See generally Christine Burns, *Museum Makes an Art of Using Windows NT*, NETWORK WORLD, Mar. 7, 1994, at L1 (describing the various server applications licensed by Microsoft).

Server messaging platform.¹¹⁹ The EULA for the *BackOffice Suite* permits the end user to copy the accompanying client software onto all workstations in the user's enterprise.¹²⁰ The same EULA permits the user to choose from two models for utilizing the server software: the user may acquire an "access license" for each workstation that will utilize the server software,¹²¹ or the user may instead acquire "access licenses" based on the maximum number of simultaneous connections the user anticipates it will make to the server software.¹²² Without the EULA, it would be difficult and costly to offer these customer-driven choices in the mass market.

C. *The Boom of Multimedia Products*

The proliferation of multimedia software has also made licensing more important to software publishers and users.¹²³ Multimedia software products contain various works of authorship, which the user can often copy, modify, and redistribute as part of the user's work.¹²⁴ The works in a multimedia product may have been acquired by the software developer from third-party sources. However, the rights the software publisher may be able to acquire or choose to grant for the various works within its product often vary from work to work.¹²⁵ For example, a software product that allows the user to create movies may contain sample video clips, scripts, music, pictures, and other items for the user to work with as a starting point for making a movie. The software publisher may be able to secure only limited rights from the copyright owners of the musical composition and of the sound recording.¹²⁶ The software publisher would have to limit the use of the music accordingly, and the best way to inform the user of such limitations is with a EULA.

To make things even more complex, some multimedia products are now distributing on CD-ROMs that can link to related information located on the Internet or other on-line networks.¹²⁷ As a result, the end user receives almost seamless access to content from two different distribution channels— CD-ROM and on-line— although the materials found in the on-line component may or may not originate with the CD-ROM's publisher.¹²⁸ License terms must spell out the varying rights the end user receives to the components of a "virtual product".

¹¹⁹ See the Server License for *Microsoft Server Products*.

¹²⁰ See *id.*

¹²¹ See *id.*

¹²² See Client Access License for *Microsoft Server Products*.

¹²³ See MICHAEL D. SCOTT, MULTIMEDIA: LAW & PRACTICE § 1.02 (1993); Allen R. Grogan, *Acquiring Consent for New Media Works*, COMPUTER LAW., Jan. 1991, at 2 (discussing the development of the multimedia market and various issues it has created).

¹²⁴ See generally Grogan, *supra* note 123.

¹²⁵ See *id.* For examples of various multimedia systems and their capabilities, see generally Henry Forsko-Weiss, *Mighty Multimedia Machines; Seven Multimedia Microcomputers*, COMPUTER SHOPPER, Aug. 1993, at 158.

¹²⁶ See the EULA for *ClickART Famous Magazine Cartoons* (containing a complex grant of rights to artwork owned by Sandhill Arts and its licensing artists). See generally SCOTT, *supra* note 123 (surveying multimedia licensing issues for the developing market).

¹²⁷ See Denise Caruso, *Microsoft Morphs Into a Media Company*, WIRED, June 1992, at 126, 192 (noting that Microsoft's *Encarta*, *Cinemania*, and *Music Central* are licensed so that they can be updated via the *Microsoft Network*, Microsoft's on-line network).

¹²⁸ For example, users of Microsoft's *Encarta* CD-ROM encyclopedia may access current events information published on the *Microsoft Network* on-line service. The product could also contain links to on-line newspapers published by third parties or various World Wide Web sites which contain pertinent information on a range of topics. The *Microsoft Complete Baseball* CD-ROM product provides access to on-line daily baseball scores and statistics provided by a third party.

These are just a few examples of today's software technologies. New technologies that we can now barely imagine will be developed in the future. License agreements, with their inherent flexibility and power to inform, provide the best means for facilitating this commerce of the future.

V. WORK TO BE DONE

While EULAs are valuable tools, the challenge for software lawyers is to make them even more beneficial. The increasing ability to present EULAs on computer screens presents an excellent opportunity to improve the readability of EULAs and access to licensing information.¹²⁹ Neither software publishers nor end users, however, will be well served if licensing lawyers simply convert their existing paper EULAs to electronic EULAs.

Using simple, clear, and concise language is an ongoing challenge for software lawyers. Contract terms expressed in dense legalese make it difficult for the EULA to provide useful information to the end user and to provide effective warnings against piracy. While technology cannot correct poor writing (although some software can identify it), license agreements presented "on screen" can use color, a rich variety of typefaces and fonts, interactive user interfaces, and other presentation techniques to make EULAs more readable and "alive." Software publishers using electronic licenses can also provide links to "help files," World Wide Web sites, or video presentations that could elaborate on the terms set out in the EULA or provide answers to frequently asked questions. Automated software "wizards" could even help end users assemble a license to fit their desired purposes,¹³⁰ and calculate the corresponding license fee. Many other possibilities exist for the creative presentation of EULAs. Lawyers simply need to recognize that they are no longer limited to squeezing the EULA onto a small license card or one page in a user's manual.

VI. CONCLUSION

EULAs are a valuable contracting tool because they provide vital information and rights to software users, and because they permit the contracting flexibility that is essential for today's software products. The importance of EULAs will only increase over time as information products proliferate and more people join the "on-line" world. Rather than abandon EULAs, software lawyers should apply their creativity and use technology to improve EULAs to suit the information age.

¹²⁹ See *supra* note 18 and accompanying text.

¹³⁰ For example, details could be addressed such as whether the user wants to distribute parts of a "run-time" software product, or to install and use the software on a computer network with multiple users.