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## THE PROTECTION OF COMPUTER SOFTWARE THROUGH SHRINK-WRAP LICENSE AGREEMENTS

The protection of computer software<sup>1</sup> from piracy is a primary concern

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1. See 17 U.S.C. § 101 (1982) (defining computer program). The 1980 Amendments to the Copyright Act of 1976 define a computer program as a set of instructions used in a computer to bring about a certain result. *Id.*; see *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979) (computer program is set of instructions that tells computer how to solve problem), *aff'd*, 628 F.2d 1038 (1980). In the computer industry the term computer program is synonymous with computer software. See *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 n.1 (N.D. Ill. 1979) (in industry computer programs are known as software), *aff'd*, 628 F.2d 1038 (1980). Hardware consists of the core computer and related equipment, while software is the programming that runs the hardware. See *Triangle Underwriters, Inc. v. Honeywell, Inc.*, 604 F.2d 737, 739 (2d Cir. 1979) (defining hardware and software); J. SOMA, *COMPUTER TECHNOLOGY AND THE LAW* 22 (1983) (describing components of computer system). A computer program can exist in a number of different forms, including the algorithm, the source program, and the object program, and can be represented on various media. See Bender, *Licensing and Protecting Computer Software via Patents and Trade Secrets in I SOFTWARE PROTECTION AND MARKETING: COMPUTER PROGRAMS AND DATA BASES; VIDEO GAMES AND MOTION PICTURES* 619, 625-27 (Practising Law Institute, 1983) (describing various forms of computer program). Essentially, the computer program is an intangible set of instructions embodied on a tangible tape or disk. Bender, *supra*, at 627.

A computer program consists of several stages of development. See *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979) (discussing phases in development of computer program), *aff'd*, 628 F.2d 1038 (1980); see also *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983) (describing computer operations), *cert. dismissed*, 104 S. Ct. 690 (1984). The first stage consists of the algorithm, which is a flow chart setting forth the logical steps involved in a program. See *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979) (flow chart sets forth logical steps involved in solving problem), *aff'd*, 628 F.2d 1038 (1980); Bender, *supra*, at 625-26 (algorithm is flow chart of program). The second stage, the source program, is a translation of the flow chart into a programming language that the programmer can read and understand. See *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979) (source program is translation of flow chart into programming language), *aff'd*, 628 F.2d 1038 (1980); P. HOFFMAN, *THE SOFTWARE LEGAL BOOK* 1.3-1 (1985) (program written in programming language is written in English-like source code). The last stage, the object program, is a translation of the programming language into machine language that the computer understands directly and which enables the computer to execute the program. See *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979) (last stage is development of object program), *aff'd*, 628 F.2d 1038 (1980); P. HOFFMAN, *supra*, at 1.3-1 (object code program consists of machine language instructions that cause computer to do useful work); J. HUME & R. HOLT, *UCSD PASCAL: A BEGINNER'S GUIDE TO PROGRAMMING MICROCOMPUTERS I* (1982) (computer can execute instructions in machine language that computer understands directly). The computer must translate the source program into the object program before it can execute the program. See J. HUME & R. HOLT, *supra*, at 1 (computer must translate instructions written in programming language and compile a program in machine language from the source program to execute instructions).

There are basically two types of software. See *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983) (computer programs function as either application programs or operating system programs), *cert. dismissed*, 104 S. Ct. 690 (1984); S. MANDELL, *COMPUTERS, DATA PROCESSING AND THE LAW* 5 (1984) (discussing functions that various types

of the microcomputer software industry.<sup>2</sup> Legal protection of software is necessary to encourage the innovative development of software.<sup>3</sup> Traditional means of protection through copyright, trade secret and patent laws have

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of software perform). Application software performs a specific task, such as word processing. See *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983) (application programs perform specific task for user, such as word processing), *cert. dismissed*, 104 S. Ct. 690 (1984); *Digidyne Corp. v. Data Gen. Corp.*, 734 F.2d 1336, 1342 (9th Cir. 1984) (application software allows system to accomplish particular task). Operating system software manages the internal functions of the computer or facilitates the use of application software. See *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983) (describing functions of application programs and operating system programs), *cert. dismissed*, 104 S. Ct. 690 (1984).

2. See *Thou Shalt Not Dupe*, *Computerworld*, Jan. 28, 1985, at ID/1-ID/2 (discussing microcomputer software industry's severe copying problem) [hereinafter cited as *Thou Shalt Not Dupe*]; The Association of Data Processing Service Organizations' (ADAPSO) Software Protection Program (1984) (addressing critical problem of unauthorized copying of microcomputer software) (available in Washington and Lee Law Review Office) [hereinafter cited as Software Protection Program]; Brooks, *Computer Programs and Data Bases—Acquisition of Rights by Vendors from Independent Developers and Users from Custom Designers* in 2 SOFTWARE PROTECTION AND MARKETING: COMPUTER PROGRAMS AND DATA BASES; VIDEO GAMES AND MOTION PICTURES 7, 18 (Practising Law Institute, 1983) (software misappropriation is major computer industry problem, especially in personal and small business computer market). The microcomputer software industry is attempting to reduce the problem of illegal copying. See *Thou Shalt Not Dupe*, *supra*, at ID/1. For example, the Association of Data Processing Service Organizations (ADAPSO), a trade association representing the computer software and service industry, has embarked on a software protection program involving hardware-based protection devices, a public awareness campaign, and strict enforcement of software rights through lawsuits. See Software Protection Program, *supra*, at 1 (describing campaign against software piracy).

The unauthorized use of software presents real dangers for the microcomputer industry. See ADAPSO Software Protection Committee, Software Authorization Overview 3 (Dec. 21, 1984) (exposure draft—for review and discussion purposes only) (discussing effects of illegal copying on industry) (available in Washington and Lee University Law Review Office) [hereinafter cited as Software Overview]. A recent survey by Future Computing, Inc., a leading information services firm, indicates that the problem of illegal software copying is severe. See Future Computing, Inc., News Release (Jan. 17, 1985) (survey on piracy of business software for personal computers) (available in Washington and Lee University Law Review Office) [hereinafter cited as Future Computing]. The Future Computing survey indicated that approximately 50% of existing software in the personal computer marketplace is pirated. *Id.* at 1. Furthermore, the survey estimated that piracy cost the business software industry \$1.3 billion in lost revenues between 1981 and 1984. *Id.* at 2.

3. See 5 N. HENRY, COPYRIGHT, CONGRESS AND TECHNOLOGY: THE PUBLIC RECORD 19 (1980) (legal as well as physical protection of information is necessary incentive to creation and dissemination of information); J. SOMA, *supra* note 1, at 21 (providing viable method for protection of software will foster commercial development of software); Brooks, *supra* note 2, at 56 (software needs protection to foster goals of innovation and widespread availability). Lost revenues from software piracy decrease the incentive to invest in software development and, therefore, deter software vendors from developing new products. See Software Overview, *supra* note 2, at 4. As a result, legitimate users pay for illegal copying through higher prices, decreased service support and a lack of new and improved software products. See *id.* Software piracy thus harms users as well as the microcomputer software industry.

failed to provide sufficient protection of proprietary interests in software.<sup>4</sup> Software developers, consequently, rely on the use of contracts, in the form of license agreements, as a means to protect software from unauthorized use and copying.<sup>5</sup> By granting a license to the purchaser to use the software, rather than selling the program outright, the software developer is able to retain ownership and control over his product.<sup>6</sup> Through license agreements the software developer limits the user's rights to copy, transfer, modify and

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In 1974 Congress created the National Commission on New Technological Uses of Copyrights Works (CONTU) to develop a national policy for protecting the rights of copyright owners to software and assuring public access to computer programs. *See* Pub. L. No. 93-573, 88 Stat. 1873-75 (1974) (creating the National Commission on New Technological Uses of Copyrighted Works); *see also* N. HENRY, *supra*, at 4 (purpose of CONTU was to assist President and Congress in developing national policy for protecting rights of copyright owners and assuring public access to copyrighted works when used in computer systems). A major problem in protecting computer programs is that users can readily and inexpensively copy programs. *See* Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1254 (3d Cir. 1983) (cost of developing computer programs is far greater than cost of duplication), *cert. dismissed*, 104 S. Ct. 690 (1984); Brooks, *supra* note 2, at 9-10 (users can appropriate computer programs readily and inexpensively). The cost differential between buying a legitimate copy of a software product and making an illegal copy often is hundreds of dollars. *See* *Thou Shalt Not Dupe*, *supra* note 2, at ID/2 (discussing problem of software piracy). In determining the proper amount of protection for software, one must balance the interest in providing adequate compensation to insure the development of software with the interest in the free exchange of ideas in the marketplace. *See* J. SOMA, *supra* note 1, at 24 (discussing need for adequate compensation for investment as well as need for free exchange of ideas).

4. *See* J. SOMA, *supra* note 1, at 24 (traditional means of protecting software are inadequate); Davidson, "Box-Top" Software Licenses, 41 BENCH & BAR OF MINNESOTA 9, 9 (1984) (existing bodies of law do not protect software publishers' interests adequately). The legal system has not kept pace with technological developments in software. *See* J. SOMA, *supra* note 1, at 21 (discussing need to adapt traditional law to computer technology). No definitive legal principles have emerged concerning the protection of software. *See id.* (discussing need for legal mechanism to provide viable method of protecting software). Consequently, uncertainty exists concerning the appropriate legal mechanism for protecting the proprietary interests of software developers. *See* S. MANDELL, *supra* note 1, at 124-36 (discussing appropriateness of alternative means of protection for software); *infra* notes 16-50 and accompanying text (discussing inadequacies and uncertainties surrounding copyright, trade secret and patent protection of software). Future Computing, Inc.'s recent survey on software piracy evidences the failure of traditional means of protection. *See* Future Computing, *supra* note 2 (discussing survey on piracy of business software for personal computers).

5. *See* S. MANDELL, *supra* note 1, at 6 (software developers usually license copy of program to user to protect proprietary rights and to prevent unauthorized use or copying); J. SOMA, *supra* note 1, at 91 (software vendors commonly use license agreements in mass market to protect software); Bender, *supra* note 1, at 633 (licensing is most common vehicle for acquiring rights in software).

6. *See* S. MANDELL, *supra* note 1, at 7-8 (license allows use of program with strict restrictions on number of copies user may make and use). The purpose of a license agreement is to prevent the unauthorized exploitation of the product. *See* S&H Computer Sys. v. SAS Inst., Inc., 568 F. Supp. 416, 421 (M.D. Tenn. 1983) (examining underlying policies of license agreements); S. MANDELL, *supra* note 1, at 131 (licensing provisions strictly control scope of use by licensee).

use the software,<sup>7</sup> and thereby gains greater protection than traditional methods of legal protection provide.<sup>8</sup>

In the microcomputer industry, software developers commonly distribute software pursuant to shrink-wrap license agreements.<sup>9</sup> The shrink-wrap license provides that a user who breaks the seal of the software's cellophane package or uses the program is bound by the terms and conditions of the license agreement included in the package with the software.<sup>10</sup> Under a shrink-wrap license arrangement, therefore, the user's act of opening the software package allegedly constitutes the user's acceptance of the terms of the license.<sup>11</sup> The courts generally have upheld software license agreements as legally effective means of protecting a program developer's intellectual property rights in software.<sup>12</sup> To date, however, the courts have not addressed

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7. See *S&H Computer Sys. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421 (M.D. Tenn. 1983) (express terms of license agreement govern access to product); *infra* notes 63-72 and accompanying text (discussing terms of license agreements); see also appendix attached (standard license agreement).

8. See *infra* notes 16-50 and accompanying text (discussing shortcomings of traditional means of software protection). Compare *infra* notes 16-50 and accompanying text (discussing inadequacies of traditional protections) with *infra* notes 51-58 and accompanying text (discussing protection provided by use of license agreements).

9. See Davidson, *supra* note 4, at 9 (most sales of packaged software involve use of shrink-wrap license agreements); Brooks, *Shrink-Wrapped License Agreements: Do They Prevent the Existence of a "First Sale"?*, 1 THE COMPUTER LAWYER No. 3, at 17 (April, 1984) (shrink-wrap program licenses are common in the computer industry) [hereinafter cited as *First Sale*]. Other names for the shrink-wrap license include "tear me open" license, "box-top" license, "self-executing" license and "blister-pack" license. See Davidson, *supra* note 4, at 9 (most sales of packaged software now include "box-top" or "tear me open" license agreements); Raysman & Brown, *'Shrink-Wrap' License Agreements*, N.Y.L.J., Oct. 10, 1984, at 1, col. 1 (other descriptive phrases for shrink-wrap license include "tear-open license" and "blister-pack license"); Reynolds, *The Self-Executing License: A Legal Fiction*, 2 COMPUTER LAW REPORTER No. 4, at 549 (1984) (software vendors include "self-executing" or "tear-open" license in software packaging). Under current practice, each software package contains a computer program on a diskette together with a license agreement. See Raysman & Brown, *supra*, at 2 (discussing current practice of distributing software pursuant to shrink-wrap license agreements). In microcomputer markets, disks containing computer programs along with documentation are available over the counter and generally come in box-like shrink-wrapped (cellophane) packages. *First Sale*, *supra*, at 18. Documentation includes written explanations of the construction of the program, what the program does, and how to use the program. See P. HOFFMAN, *supra* note 1, at 1.4-1 (describing documentation for computer programs).

10. See *First Sale*, *supra* note 9, at 18-19 (discussing use of shrink-wrap licenses in microcomputer industry); Raysman & Brown, *supra* note 9, at 2 (discussing current practice of distributing software pursuant to shrink-wrap license agreements); Reynolds, *supra* note 9, at 549 (analyzing nature of shrink-wrap license agreement); see also attached appendix (standard shrink-wrap license agreement); *infra* notes 63-72 and accompanying text (discussing terms of shrink-wrap licenses).

11. See *First Sale*, *supra* note 9, at 19 (discussing unilateral nature of most microcomputer software licenses); Raysman & Brown, *supra* note 9, at 2 (discussing concept of acceptance by user's action); Reynolds, *supra* note 9, at 549 (analyzing user's act of opening software package as acceptance); see also *infra* notes 12-16 and accompanying text (analyzing validity of shrink-wrap license as contract).

12. See *Allen v. Kaiser Aluminum & Chem. Corp.*, 585 F. Supp. 154, 158, 161 (E.D.

the issue of whether the shrink-wrap license agreement creates a valid contract that binds the user to the license terms.<sup>13</sup> In determining the validity of the shrink-wrap license agreement, the courts must balance the software proprietor's interest in protecting the intellectual property rights in software with

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Mo. 1984) (upholding limitation of liability clause in software license agreement); *D'Antuono v. CCH Computax Sys., Inc.*, 570 F. Supp. 708, 712 (D.R.I. 1983) (enforcing forum selection clause in program license agreement); *S&H Computer Sys. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421, 423-24 (M.D. Tenn. 1983) (granting partial summary judgment for breach of contract claims pursuant to software license agreement); *Samuel Black Co. v. Burroughs Corp.*, No. 78-3077-F, slip op. at \_\_\_\_ (D. Mass. Dec. 18, 1981) (available on LEXIS, Genfed library, Cases file) (upholding warranty disclaimer provisions in software agreement); *Hi Neighbor Enter., Inc. v. Burroughs Corp.*, 492 F. Supp. 823, 827 (N.D. Fla. 1980) (holding that provisions of software license agreement were enforceable).

13. See M. SCOTT, *COMPUTER LAW* § 6.31, at 6-28 (1984) (no reported cases exist to date on legal enforceability of shrink-wrap licenses); Raysman & Brown, *supra* note 9, at 2 (there are apparently no reported judicial decisions evaluating the legal effectiveness of shrink-wrap licenses). In 1983, in *Micropro Int'l Corp. v. United Computer Corp.*, Micropro International Corp. (Micropro) brought suit against United Computer Corp. (United) in the United States District Court for the Northern District of California for breach of a shrink-wrap license agreement. Complaint for Micropro Int'l Corp. v. United Computer Corp., printed in *COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS* 377 (Practising Law Institute, 1984). The complaint in *Micropro* alleged copyright infringement, breach of copyright license, and unfair competition. *Id.* at 383-89. Micropro marketed computer programs for use on personal computers and distributed all of its software products to end users pursuant to shrink-wrap license agreements. *Id.* at 379-80. Micropro alleged that United had been acquiring Micropro's software products, removing the licenses from within the shrink-wrap packages, repackaging the software without the licenses, and renting the repackaged software in violation of the license agreements. *Id.* at 381. The parties settled, however, before the *Micropro* case came to trial. See Schmidt, *Validity of Shrink-Wrap License Agreements*, at 1 (Micropro and United settled case) (unpublished article) (available in Washington and Lee Law Review Office).

On January 17, 1985 Micropro and The Association of Data Processing Service Organizations (ADAPSO), a software trade organization, co-filed a 20 count complaint in the United States District Court for the Northern District of Illinois against American Brands, Inc. (American) and Wilson Jones Co. (Wilson Jones), a subsidiary of American, for breach of a shrink-wrap license agreement. See *Computerworld*, Jan. 21, 1985, at 1. The complaint charged the defendants with copyright and trademark infringement, unfair competition and breach of the license agreement for the unauthorized reproduction and distribution of Micropro's Wordstar, Mailmerger and Spellstar programs. *Id.* at 6. The defendants filed an answer denying all charges of software piracy alleged by plaintiffs. See *Computerworld*, March 11, 1985, at 2 (discussing American's and Wilson Jones' challenge to practice of shrink-wrap licensing). The defendants challenged the software industry's practice of shrink-wrap licensing on the grounds that the defendants had not agreed to the license agreements, that the license agreements were unenforceable because the defendants were the owners of the computer programs, and that the license agreements were null and void as contrary to public policy. *Id.* (discussing defendants' challenge to shrink-wrap licensing). To date the Northern District of Illinois has not ruled in the Illinois case and ADAPSO has indicated that negotiations for settlement have begun. *Id.*

Although no court has addressed the issue of the enforceability of shrink-wrap licenses yet, Louisiana has enacted a Software License Enforcement Act. See *Software License Enforcement Act*, 1984 La. Acts, No. 744, § 1 (codified in LA. REV. STAT. ANN. §§ 51:1961-:1966 (West Supp. 1985)). The Louisiana Act binds a user to the terms of a shrink-wrap license agreement

the user's right to get what he bargains for.<sup>14</sup> Furthermore, in assessing the proper amount of protection for intellectual property, the courts must consider the public's interest in promoting wide availability of ideas.<sup>15</sup>

The limitations of the copyright, trade secret and patent laws render reliance on these methods alone insufficient to protect computer software fully from piracy.<sup>16</sup> Copyright laws protect only the expression of an idea, and not the idea itself.<sup>17</sup> The expression adopted by the programmer, the

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if the license contains a conspicuous and reasonably comprehensible notice warning the user that using the program or opening the software package constitutes acceptance of the terms of the license agreement, and allows the user to return the unopened package for a refund. *Id.* Additionally, the software proprietor under the Act must package the license agreement in such a manner that the user readily may examine the license before the act that constitutes acceptance occurs. *Id.* Enforceable terms under the Louisiana Act include the proprietor's retention of title to the copy of the program, prohibitions on copying, modification and further transfer if the proprietor retains title to the copy of the program, and automatic termination of the license upon breach of the license. *Id.*

14. See Davidson, *Basic Contract Questions With Respect to "Box-Top" Software Licenses* in *COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS* 329, 342 (1984) (ultimately courts must strike balance between interest of vendor and interest of user); *supra* notes 1-4 and accompanying text (discussion of need for legal protection of software).

15. See Brooks, *supra* note 2, at 22 (public concerns include maximizing incentives for creation of new ideas as well as encouraging free availability of ideas). The Copyright Act reflects the balanced Congressional purposes of ensuring an adequate reward for creative work as well as promoting broad public availability of works. See *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156, 163-64 (1975) (discussing purposes of copyright law); *Universal City Studios, Inc. v. Sony Corp. of Am.*, 480 F. Supp. 429, 432 (C.D. Cal. 1979) (Copyright Act requires balancing need for wide availability of creative works against need for monetary reward to authors to assure creation of works) (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1974)), *modified*, 659 F.2d 963 (9th Cir. 1981), *aff'd*, 104 S. Ct. 774 (1984); see also *infra* note 55 (discussing role of copyright law to encourage production and dissemination of creative works).

16. See *infra* notes 17-50 and accompanying text (discussing insufficiency of copyright, trade secret and patent protection for computer software); see also *supra* notes 2-4 and accompanying text (discussing problem of software piracy).

17. *E.g.*, *Mazer v. Stein*, 347 U.S. 201, 217 (1954); *Baker v. Selden*, 101 U.S. 99, 101 (1879); *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1252 (3d Cir. 1983), *cert. dismissed*, 104 S. Ct. 690 (1984); *Atari, Inc. v. North American Philips Consumer Elec. Corp.*, 672 F.2d 607, 615 (7th Cir.), *cert. denied*, 459 U.S. 880 (1982).

The 1980 Amendments to the Copyright Act clarified the availability of copyright protection for computer programs. See 17 U.S.C. § 101 (1982) (defining computer program); *id.* § 117 (entitling owner of copy of computer program to make backup copy). Courts generally have recognized the copyrightability of the computer program in all of its forms, including programs fixed in object code form and embodied in Read Only Memory (ROM). See *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 522-24 (9th Cir. 1984) (computer programs embodied in ROMs are copyrightable); *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1249 (3d Cir. 1983) (reaffirming copyright protection for computer program in object code embodied on ROM), *cert. dismissed*, 104 S. Ct. 690 (1984); *Williams Elec., Inc. v. Arctic Int'l, Inc.*, 685 F.2d 870, 876-77 (3d Cir. 1982) (holding that copyright protection is available for ROMs); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 175 (N.D. Cal. 1981) (unauthorized duplication of ROM is within reach of federal copyright laws). *But*

particular set of instructions, therefore, is copyrightable, but the actual processes or methods underlying the expression are not within the scope of copyright protection.<sup>18</sup> The always ambiguous line between copying an idea and borrowing the expression is especially uncertain in the context of computer software.<sup>19</sup> In copyright infringement actions the courts focus on the similarities in protectible expression.<sup>20</sup> Substantial similarity of expression constitutes copyright infringement.<sup>21</sup> When the idea is only capable of expression in one form, however, copyright protects only against identical copying.<sup>22</sup> When a program can be expressed in numerous ways, programmers simply can read the lawfully obtained copy of the copyrighted program and use the ideas embodied in the program in preparing their own work.<sup>23</sup>

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see *Data Cash Sys., Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063, 1069 (N.D. Ill. 1979) (copying of ROM is not actionable under copyright law), *aff'd*, 628 F.2d 1038 (1980).

18. See *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 525 (9th Cir. 1984) (one cannot copyright underlying computer process, only particular set of instructions); *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1252-53 (3d Cir. 1983) (expression adopted by programmer is copyrightable element in computer program, and actual processes or methods embodied in program are not within scope of copyright law) (quoting H. R. REP. NO. 1476, 94th Cong., 2d Sess. 54, at 57, *reprinted in* 1976 U.S. CODE CONG. & AD. NEWS 5659, 5670), *cert. dismissed*, 104 S. Ct. 690 (1984).

19. See *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 615 (7th Cir.) (no litmus paper test exists by which to apply idea-expression distinction), *cert. denied*, 459 U.S. 880 (1982); *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1253 (3d Cir. 1983) (many courts have found difficulty in articulating distinction between idea and expression), *cert. dismissed*, 104 S. Ct. 690 (1984). In distinguishing between an idea and an expression, courts must consider the need to preserve the balance between competition and protection reflected in the copyright and patent laws. *Franklin*, 714 F.2d at 1253.

20. See *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 619 (7th Cir.) (focus in copyright infringement action is on similarities in protectible expression), *cert. denied*, 459 U.S. 880 (1982); *Williams Elec., Inc. v. Bally Mfg. Corp.*, 568 F. Supp. 1274, 1282 (N.D. Ill. 1983) (finding no copyright infringement where no substantial similarity existed in copyrightable portions of games).

21. See *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 614 (7th Cir.) (enunciating substantial similarity test), *cert. denied*, 459 U.S. 880 (1982); *Williams Elec., Inc. v. Bally Mfg. Corp.*, 568 F. Supp. 1274, 1281 (N.D. Ill. 1983) (applying substantial similarity test in finding copyright infringement). Because of the unavailability of direct evidence of copying, courts may infer copying where the defendant had access to the copyrighted work and the defendant's work is substantially similar to the copyrighted work. See *Atari*, 672 F.2d at 614.

22. See *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 616 (7th Cir.) (where idea and expression are indistinguishable, copyright protects against only identical copying), *cert. denied*, 459 U.S. 880 (1982). When an idea and its expression are inseparable, protecting the expression would confer a monopoly of the idea on the copyright owner and would interfere with patent law. See *id.* (quoting *Herbert Rosenthal Jewelry Corp. v. Kulpakian*, 446 F.2d 738, 742 (9th Cir. 1971)) (no bar exists on copying expression when idea and expression are inseparable because protecting expression would confer monopoly of idea free of patent law limitations).

23. See *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 525 (9th Cir. 1984) (when other language is available to accomplish given task, programmers are free to read copyrighted programs and use ideas embodied in programs) (citing National Commission on



Moreover, when only one way to express a given set of instructions exists, copyright at most protects only against actual copying.<sup>24</sup> The protection afforded to computer programs by copyright law, therefore, is limited.<sup>25</sup> Furthermore, there is some question as to the level in the development of a computer program at which copyright protection first attaches.<sup>26</sup>

Limitations on the rights of copyright owners under the Copyright Act further reduce the effectiveness of copyright as a means of protecting proprietary rights in computer programs. Although the Copyright Act grants the owner of a copyright exclusive rights to reproduce, transfer and adapt works, these rights are subject to limitations.<sup>27</sup> One such limitation, the "first sale doctrine" codified in section 109 of the Copyright Act, limits the proprietor's right to vend his work by entitling the owner of a particular copy to sell or transfer possession of that copy.<sup>28</sup> The courts consistently have construed the first sale doctrine as requiring a transfer of title or ownership rather than mere rightful possession before a first sale occurs and terminates the proprietor's right to control the disposition of the copy.<sup>29</sup>

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New Technological Uses of Copyrighted Works, *Final Report*, at 20 (1979)); see also P. HOFFMAN, *supra* note 1, at 2.2-2 (programmer may study ideas, methods and technologies used in source program and develop program using those ideas without infringing copyright).

24. See *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 525 (9th Cir. 1984) (when specific instructions are only method of accomplishing given task, another's use of those instructions does not infringe copyright); *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 616 (7th Cir.) (similarity of expression is not actionable when idea is only capable of expression in one form), *cert. denied*, 459 U.S. 880 (1982).

25. See *supra* notes 17-24 and accompanying text (discussing limitations of copyright protection for computer programs).

26. See N. HENRY, *supra* note 3, at 44 (distinction between copyrightable element of expression in computer program and process underlying program is difficult to make because of various ways in which one can make copies of computer program); see also *supra* note 1 (discussing various stages of development of computer program). The various ways in which one can copy a program include copying the programmer's coding sheets, using a tape that embodies the program to produce a printed version of the program, copying the tape and using the copy to produce a printed version of the program, and copying the program into the memory of a computer and producing a readable version. See N. HENRY, *supra* note 3, at 44-45 (describing various ways in which one can misappropriate computer program). The point at which one appropriates the process rather than the expression is uncertain. See *id.* at 45 (various ways in which one uses programs make distinction between expression and process unclear).

27. See 17 U.S.C. § 106 (1982) (granting exclusive rights to owner of copyright); *id.* §§ 107-18 (limitations on exclusive rights of copyright owner).

28. See *id.* § 109 (granting right to sell or otherwise dispose of particular copy to owner of such copy); see also *United States v. Moore*, 604 F.2d 1228, 1232 (9th Cir. 1979) (first sale doctrine provides that parting of title to particular copy of copyrighted work divests copyright owner of right to vend that copy); *United States v. Drebin*, 557 F.2d 1316, 1330 (9th Cir. 1977) (analyzing first sale doctrine in context of criminal prosecution for copyright infringement), *cert. denied*, 436 U.S. 904 (1978); *United States v. Wise*, 550 F.2d 1180, 1187 (9th Cir.) (copyright proprietor's right to vend his work under copyright laws is not absolute, but is subject to first sale doctrine), *cert. denied*, 434 U.S. 929 (1977). Section 109(c) of the Copyright Act provides that the privilege to transfer a particular copy does not extend to persons who have acquired possession without acquiring ownership of the copy. 17 U.S.C. § 109(c) (1982).

29. See *United States v. Drebin*, 557 F.2d 1316, 1330 (9th Cir. 1977) (cases consistently

Under a restrictive license agreement that effectively reserves title to the copy of the program in the proprietor, therefore, no first sale occurs and the proprietor may restrict even subsequent sales or transfers of the copy.<sup>30</sup> In certain circumstances, however, courts have interpreted license agreements as transferring title to the copy.<sup>31</sup> Section 107 of the Copyright Act further limits the exclusive rights of the copyright owner through provisions governing the fair use of a copyrighted work.<sup>32</sup> Section 107 enumerates the factors courts must consider in determining whether a particular unauthorized use is a fair use and, therefore, not an infringement of the copyright.<sup>33</sup> Additionally, section 117 of the Copyright Act entitles an owner of a copy of a

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have construed first sale doctrine as requiring transfer of title or ownership, rather than mere transfer of possession), *cert. denied*, 436 U.S. 904 (1978); *United States v. Wise*, 550 F.2d 1180, 1187 (9th Cir.) (judicial gloss on copyright statute requires transfer of title before first sale can occur), *cert. denied*, 434 U.S. 929 (1977); *see also* 2 M. NIMMER, NIMMER ON COPYRIGHT (Bender) § 8.12[B][1], at 8-120 (1984 ed.) (transfer of title triggers first sale doctrine).

30. *See United States v. Wise*, 550 F.2d 1180, 1190 (9th Cir.) (finding that license agreements did not constitute sales), *cert. denied*, 434 U.S. 929 (1977); *cf. S&H Computer Sys., Inc. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421-22 (M.D. Tenn. 1983) (upholding restrictive license agreement that prohibited redistribution of software contingent upon finding of valid copyright). In *United States v. Wise*, the Ninth Circuit considered whether certain license agreements for the exhibition of films in reality were sales of the films. 550 F.2d at 1190. The motion picture studios that produced the films had obtained valid copyrights and had distributed each film pursuant to a license agreement. *Id.* at 1184. The *Wise* court noted that the designation of the contracts as licenses, the transfer of limited rights for a limited purpose and time period, the reservation of title to the film prints, and the requirement of return at the expiration of the contract term were relevant considerations. *Id.* at 1190. The Ninth Circuit found the language reserving title in the distributor to be particularly indicative of a license arrangement and concluded that the agreements at issue did not constitute first sales. *Id.* at 1191. Since no first sale had occurred, the Ninth Circuit affirmed the defendant's conviction of copyright infringement for illegally selling the motion pictures. *Id.* at 1195.

31. *See United States v. Wells*, 176 F. Supp. 630, 634 (S.D. Tex. 1959) (construing license as sale where proprietor did not reserve title in copies); *see also United States v. Wise*, 550 F.2d 1180, 1191, 1192 (9th Cir. 1977) (finding certain license agreements constituted first sales); *infra* notes 119-123 and accompanying text (discussing when transfer pursuant to license agreement results in first sale). In *United States v. Wells*, the United States District Court for the Southern District of Texas considered whether a first sale had occurred for purposes of a criminal prosecution for copyright infringement. *Id.* at 633-34. The government prosecuted the defendant in *Wells* for the unauthorized sale of copies of aerial survey maps licensed to him. *Id.* at 632. The license granted to the defendant restricted the defendant's rights to sell or transfer the maps. *Id.* The *Wells* court analyzed the relationship between the copyright proprietor and the licensee and concluded that since the proprietor had failed to reserve title to the copies, title to the copies belonged to the licensee. *Id.* at 634. The *Wells* court held that under the license at issue the transfer of copies by the defendant did not constitute copyright infringement and the court, therefore, acquitted the defendant. *Id.* The *Wells* court did suggest, however, that the copyright proprietor might have a breach of contract action against the licensee to enforce the license restrictions on the transfer of copies. *Id.*

32. 17 U.S.C. § 107 (1982).

33. *See id.* Section 107 of the Copyright Act provides that courts shall consider the purpose and character of the use, the nature of the copyrighted work, the amount and substantiality of the portion used, and the economic effect of the use in determining whether the use in a particular case is a fair use. *Id.*; *see Universal City Studios, Inc. v. Sony Corp. of*

computer program to make a backup copy without infringing the copyright.<sup>34</sup> Since the scope of protection afforded to computer software by copyright is uncertain and limited in several respects, reliance on copyright alone is ineffective to prevent software piracy.<sup>35</sup>

Trade secret laws afford an alternative means of protection for computer software. Most states have adopted the definition of trade secret set forth in the Restatement of Torts.<sup>36</sup> The Restatement definition requires that to constitute a trade secret, an idea must satisfy the conditions of novelty, secrecy and economic value.<sup>37</sup> Matters of general knowledge in the industry cannot constitute trade secrets.<sup>38</sup> Furthermore, the proprietor must protect the secrecy of a trade secret in order to maintain the trade secret.<sup>39</sup> Although trade secret law protects a proprietor against the unauthorized use or disclosure of a trade secret by any person in a confidential relationship,<sup>40</sup>

Am., 480 F. Supp. 429, 448-54 (C.D. Cal. 1979) (applying factors codified in § 107 to determine whether use is fair use), *modified*, 659 F.2d 963 (9th Cir. 1981), *aff'd*, 104 S. Ct. 774 (1984).

34. 17 U.S.C. § 117 (1982).

35. See *supra* notes 16-34 and accompanying text (discussing uncertainties and limitations of copyright protection afforded to software).

36. See RESTATEMENT OF TORTS § 757 comment b (1939) (defining trade secret); see also *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 474-75 (1974) (adopting widely recognized definition of trade secret in Restatement of Torts); *Burten v. Milton Bradley Co.*, 592 F. Supp. 1021, 1028-29 (D.R.I. 1984) (court's adoption of Restatement definition of trade secret corresponds with majority of courts). Under the Restatement of Torts, a trade secret is any formula, pattern, device or compilation of information used in one's business which gives him an advantage over competitors. RESTATEMENT OF TORTS § 757, comment b (1939).

37. RESTATEMENT OF TORTS § 757, comment b (1939); see *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475, 476 (1974) (subject of trade secret must be secret and not matter of public knowledge; some novelty required for trade secret); *SI Handling Sys., Inc. v. Michael E. Heisley Heico, Inc.*, No. 84-1155, slip op. at \_\_\_\_ (3d Cir. Feb. 4, 1985) (requirements of trade secret include secrecy, economic value and novelty) (available on LEXIS, Genfed Library, Cases file); *J. SOMA*, *supra* note 1, at 52-54 (four requirements of trade secret are appropriate subject matter, secrecy, novelty and economic value).

38. *E.g.*, *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475 (1974); *SI Handling Sys., Inc. v. Michael E. Heisley Heico, Inc.*, No. 84-1155, slip op. at \_\_\_\_ (3d Cir. Feb. 4, 1985) (available on LEXIS, Genfed Library, Cases file); *University Computing Co. v. Lykes-Youngstown Corp.*, 504 F.2d 518, 535 n.25 (5th Cir. 1974). Trade secrecy requires minimal novelty, to the extent necessary to show that the secret is not a matter of public knowledge. *SI Handling Sys.*, No. 84-1155, slip op. at \_\_\_\_; see *Kewanee*, 416 U.S. at 476 (secrecy implies at least minimal novelty).

39. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475 (1974) (subject of trade secret must be secret); *University Computing Co. v. Lykes-Youngstown Corp.*, 504 F.2d 518, 535 (5th Cir. 1974) (proprietor's use of caution in preserving confidentiality of system was relevant to finding that system was trade secret within meaning of RESTATEMENT OF TORTS § 757). Although a proprietor must preserve the secrecy of a trade secret, the necessary element of secrecy is not lost if the holder reveals the trade secret in confidence. *Kewanee*, 416 U.S. at 475.

40. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475 (1974) (trade secret protects against disclosure or unauthorized use of trade secret by those to whom proprietor confided trade secret under restriction of nondisclosure or use); *University Computing Co. v. Lykes-Youngstown Corp.*, 504 F.2d 518, 534 (5th Cir. 1974) (person who discloses or uses another's trade secret in breach of confidence is liable for misappropriation).

and also protects against the disclosure or use of knowledge that the disclosing party obtained by improper means,<sup>41</sup> trade secret law does not protect against independent invention or reverse engineering.<sup>42</sup> Trade secret protection, therefore, does not extend to proprietary information that does not meet the requisites of a trade secret, nor to information legally acquired.<sup>43</sup> Trade secret protection, consequently, is limited in scope and generally unavailable for mass-marketed software products.<sup>44</sup>

Patent laws provide protection against independent creation as well as copying if an invention meets the rigorous statutory requirements for the issuance of a patent.<sup>45</sup> The subject matter of a patent, however, extends only to inventions that meet the conditions of novelty, utility and nonobviousness.<sup>46</sup> Although an algorithm or mathematical formula cannot be the subject of a patent,<sup>47</sup> a process is not unpatentable merely because it uses a mathematical formula or algorithm.<sup>48</sup> The statutory requirements of novelty and nonobviousness, however, limit the patentability of computer pro-

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41. See *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 475-76 (1974) (trade secret law protects against disclosure or use of knowledge that one gained by improper means) (citing RESTATEMENT OF TORTS § 757(a) (1939)); *University Computing Co. v. Lykes-Youngstown Corp.*, 504 F.2d 518, 534 (5th Cir. 1974) (person who discloses or uses another's trade secret discovered by improper means is liable in tort).

42. See *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 476 (1974) (trade secret law does not protect against discovery by fair and honest means, such as by independent invention or by reverse engineering); *University Computing Co. v. Lykes-Youngstown Corp.*, 504 F.2d 518, 534 (5th Cir. 1974) (limited protection afforded by trade secret law lasts only as long as competitors fail to duplicate trade secret by legitimate, independent research). Reverse engineering is the process of starting with a known product and working backward to discover the process underlying the development of the product. See *Kewanee*, 416 U.S. at 476 (describing process of reverse engineering).

43. See *supra* notes 36-42 and accompanying text (discussing limitations of trade secret protection).

44. See P. HOFFMAN, *supra* note 1, at 2.3-1-2 (at some point maintaining secrecy becomes difficult or impossible); J. SOMA, *supra* note 1, at 68 (proprietors generally cannot use trade secret protection for mass-marketed software products because of difficulty in maintaining secrecy).

45. See 35 U.S.C. §§ 101-103 (1982) (governing patentability of invention); see also *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 477-78 (1974) (patent protection extends not only to copying but also to independent creation).

46. See 35 U.S.C. §§ 101-103 (1982) (enumerating conditions for patentability); *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 476-77 (1974) (subject matter of patent must fulfill conditions of novelty, utility and non-obviousness).

47. See *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (algorithm or mathematical formula is like law of nature, which cannot be subject of patent); *Parker v. Flook*, 437 U.S. 584, 585 (1978) (discovery of mathematical formula is not patentable); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (mathematical formula is not patentable). The fact that a mathematical formula is not a patentable invention rests on the rule that a mere idea is not patentable. *Benson*, 409 U.S. at 67.

48. See *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (subject matter otherwise within statutory subject matter under patent law does not become nonstatutory simply because it uses computer program); *Parker v. Flook*, 437 U.S. 584, 590 (1978) (process is not unpatentable simply because it uses mathematical algorithm).

grams.<sup>49</sup> Although patent protection is comprehensive in scope, a patent for a computer program is difficult to obtain.<sup>50</sup>

A software developer can use a license agreement in conjunction with either copyright or trade secret protection to obtain comprehensive protection of his proprietary rights in the software.<sup>51</sup> The express terms of the license agreement govern the user's rights to the product and supplement the limited protection afforded by copyright and trade secret laws.<sup>52</sup> Software developers commonly use license agreements to protect software,<sup>53</sup> and courts generally have upheld the use of license agreements in the software industry and in other industries to protect a proprietor's copyright and trade secret rights.<sup>54</sup> Of primary importance to copyright law is the need to allow the proprietor

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49. See *Parker v. Flook*, 437 U.S. 584, 594 (1978) (finding computer program ineligible for patent because processes involved were well known and contained no inventive concept); *Gottschalk v. Benson*, 409 U.S. 63, 70, 71 (1972) (rejecting patent for computer program that failed to meet requirements of novelty and usefulness). *But see* *Diamond v. Diehr*, 450 U.S. 175, 191-93 (1981) (process for molding of rubber products employing programmed digital computer was subject matter eligible for patent protection). In *Parker v. Flook*, the Supreme Court noted that difficult policy questions surround the availability of patent protection for computer programs and suggested that Congress could best address the issue through legislation. 437 U.S. at 595.

50. See *supra* notes 45-49 and accompanying text (discussing availability of patent protection for computer programs).

51. See *infra* notes 52-58 and accompanying text (discussing protection provided by license agreement).

52. See *S&H Computer Sys. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421 (M.D. Tenn. 1983) (express terms of license agreement govern access to product); *supra* notes 16-50 and accompanying text (discussing limited protection afforded by copyright, trade secret and patent laws). In *S&H Computer Sys. v. SAS Inst., Inc.*, the United States District Court for the Middle District of Tennessee considered a software distributor's motion for summary judgment on its claims of copyright infringement and breach of license agreement. 568 F. Supp. at 417, 418. In *S&H*, SAS Institute, Inc. (SAS) had distributed statistical software to S&H Computer Systems (S&H) pursuant to a license agreement that granted S&H the right to use the software. *Id.* On June 3, 1982, SAS terminated its license agreement with S&H because S&H allegedly had violated the agreement. *Id.* at 418. SAS sued S&H for breach of contract, alleging that S&H had used the program on nondesignated computers and had created unauthorized copies of the program in violation of the license agreement. *Id.* at 420. The S&H court analyzed the license agreement in light of the policies of limiting access and preventing unauthorized exploitation of the product. *Id.* at 421. The district court found that S&H had breached the license agreement by using the programs on nondesignated computers and making unauthorized copies of the program and the court, therefore, granted SAS's motion for summary judgment for breach of contract. *Id.* The S&H court, however, noted that the finding of a breach of contract remained contingent upon a finding that SAS had a valid copyright in the software, an issue reserved for trial. *Id.* The S&H court also granted SAS' motion for summary judgment for S&H's copyright infringement, contingent upon a finding of a valid copyright in the software. *Id.* at 422.

53. See *supra* note 5 and accompanying text (discussing software industry's use of license agreements).

54. See *Textron, Inc. v. Teleoperator Sys. Corp.*, 554 F. Supp. 315, 325-27 (E.D.N.Y. 1983) (enjoining defendant from appropriating technology in violation of license agreement); see also *supra* note 12 (discussion of cases upholding software license agreements); cf. *United States v. Wise*, 550 F.2d 1180, 1190 (9th Cir.) (recognizing and upholding motion picture

to control his work through restrictive licenses.<sup>55</sup> A licensee infringes the copyright by any use of the work exceeding the rights that the proprietor granted to him in the license.<sup>56</sup> Even if a licensee has not infringed the copyright, he may have breached the license agreement.<sup>57</sup> Through a license agreement the proprietor also can protect information, knowledge or technology that would not qualify as a trade secret.<sup>58</sup> Through license agreements, therefore, a software developer can impose restrictions on the use of his product and gain greater protection of the software than he could obtain by the use of copyright or trade secret protection alone.

Although the mainframe software industry's usage of license agreements is well established, the microcomputer software industry faces special difficulties in licensing software. The mainframe industry traditionally has involved costly, service-supported software distributed to commercial users

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industry's practice of licensing use of films), *cert. denied*, 434 U.S. 929 (1977); *Gilliam v. American Broadcasting Co., Inc.*, 538 F.2d 14, 19-20 (2d Cir. 1976) (license granted for use of underlying script governed use of derivative recorded television program); *George Simon, Inc. v. Spatz*, 492 F. Supp. 836, 838 (W.D. Wis. 1980) (power to license public performance of musical works on stipulated terms is incidental to property right of copyright owner).

55. See *Gilliam v. American Broadcasting Co., Inc.*, 538 F.2d 14, 21 (2d Cir. 1976) (ability of copyright holder to control his work remains paramount in copyright law); *S&H Computer Sys., Inc. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421 (M.D. Tenn. 1983) (fundamental purpose of license agreement is to prevent unauthorized exploitation of product). Allowing the copyright holder to control his work through restrictive licenses reinforces the role of copyright law in encouraging the production and dissemination of artistic works by providing adequate legal protection for one who submits his work to the public. *Gilliam*, 538 F.2d at 21, 23. The premise of American copyright law is to provide an economic incentive for artistic and intellectual creation. See *Goldstein v. California*, 412 U.S. 546, 555 (1973) (purpose of copyright clause in federal Constitution is to promote progress of science and arts, and Congress may accomplish purpose by encouraging intellectual and artistic creation through reward in form of author's control over his work); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) (economic philosophy behind copyright clause is to encourage individual effort in science and arts by ensuring personal gain); *Gilliam*, 538 F.2d at 24 (economic incentive for artistic and intellectual creation is foundation of American copyright law).

56. See, e.g., *Gilliam v. American Broadcasting Co., Inc.*, 538 F.2d 14, 21 (2d Cir. 1976) (any use of work that exceeds license granted by proprietor of copyright constitutes infringement of copyright in work); *S&H Computer Sys., Inc. v. SAS Inst., Inc.*, 568 F. Supp. 416, 422 (M.D. Tenn. 1983) (courts long have noted that licensee infringes copyright by exceeding license); *National Bank of Commerce v. Shaklee Corp.*, 503 F. Supp. 533, 544 (W.D. Tex. 1980) (licensee infringes copyright by exceeding his license) (citing *Gilliam v. American Broadcasting Co., Inc.*, 538 F.2d 14, 21 (2d Cir. 1976)).

57. See *Fantastic Fakes, Inc. v. Pickwick Int'l, Inc.*, 661 F.2d 479, 483-84 (5th Cir. 1981) (mere breach of covenant may support breach of contract claim but will not constitute copyright infringement); *United States v. Wise*, 550 F.2d 1180, 1187 (9th Cir.) (vendee may be liable for breach of agreement although he is not guilty of copyright infringement), *cert. denied*, 434 U.S. 929 (1977); *Independent News Co. v. Williams*, 293 F.2d 510, 516 (3d Cir. 1961) (purchaser may be liable for violation of agreement although he is not guilty of copyright infringement).

58. See *Structural Dynamics Research Corp. v. Engineering Mechanics Research Corp.*, 401 F. Supp. 1102, 1114 (E.D. Mich. 1975) (defendants were liable for breach of contract for disclosing confidential information even if information was not trade secret).

pursuant to direct transactions that include a mutually signed license agreement.<sup>59</sup> In the microcomputer industry, however, proprietors typically mass-market low-priced, prepackaged software through a distributor to an end user.<sup>60</sup> The software proprietor sought methods to preserve his market and protect software through the use of license restrictions in the microcomputer industry.<sup>61</sup> The shrink-wrap license became a popular method of licensing software in the microcomputer industry because of the impracticality of obtaining the signature of every end user on a license agreement.<sup>62</sup>

Shrink-wrap license agreements contain terms similar to traditional software license agreements, but differ from traditional software agreements in

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59. See Raysman & Brown, *supra* note 9, at 2 (in mainframe industry, most software vendors distribute software pursuant to direct transactions that include mutually signed license agreement); Reynolds, *supra* note 9, at 550 (software packages developed for use on mainframes are complex and costly to develop, and buyers of such software packages are generally sophisticated in commercial market place).

60. See Gammon, *Manufacturer-User Disputes Involving Microprocessors and Personal Computers* in *COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS* 433, 435 (Practising Law Institute, 1984) (outlining typical software distribution in microcomputer industry); Raysman & Brown, *Mass Distributed Software-Royalties*, N.Y.L.J., March 8, 1983, reprinted in 2 *SOFTWARE PROTECTION AND MARKETING: COMPUTER PROGRAMS AND DATA BASES; VIDEO GAMES AND MOTION PICTURES* 393, 393 (Practising Law Institute, 1983) (discussing mass-distribution of software) [hereinafter cited as *Software Royalties*]; J. SOMA, *supra* note 1, at 74 (describing software mass-market); Westemeier, *User Vendor Microcomputer Disputes* in *COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS* 443, 447 (Practising Law Institute, 1984) (discussing characteristics of microcomputer market). The recent growth of inexpensive microcomputers for personal and small business applications has created a need for mass-marketed software. See *Software Royalties, supra*, at 393 (discussing growth of computer software mass-market). The software industry emerged with the unbundling of computer hardware and software (the separation of hardware and software sales) in 1969, and the resulting commercial availability of application software separate from hardware. See *id.* (discussing reasons for growth of software mass-market); see also Brooks, *supra* note 2, at 24-25 (describing software markets). A new segment of the software industry developed with distribution on a mass market basis. See *Software Royalties, supra*, at 393 (discussing growth of software mass-market). Increasingly, software vendors are mass-marketing software through retail stores, bookstores and the mail. See M. SCOTT, *supra* note 13, § 6.31, at 6-28 (more software vendors are mass-marketing software). Since packaged software prices are too low for software vendors to provide advice and training to users, well-documented and reliable software is necessary in the mass-market. See J. SOMA, *supra* note 1, at 89 (discussing contracts for mass-marketing software).

61. See M. SCOTT, *supra* note 13, § 6.31, at 6-28 (vendors seek to preserve market through use of license restrictions in mass-market).

62. See Raysman & Brown, *supra* note 9, at 2 (mass-marketers of microcomputer software have abandoned bilateral contracts for marketing and practical reasons); Reynolds, *supra* note 9, at 550 (with microcomputer and mass distribution of software, formal licensing is not cost justified); M. SCOTT, *supra* note 13, § 6.31, at 6-28 (because it is not feasible to obtain individually-signed license agreement in mass-market, software vendors have resorted to shrink-wrap licenses in attempt to protect software); see also *supra* note 9 and accompanying text (discussing use of shrink-wrap licenses in microcomputer industry). The mass-marketing of software through distributors precludes any direct relationship between the software user and the software developer. See J. SOMA, *supra* note 1, at 89-94 (discussing contracts in mass

the manner of execution. Software proprietors typically use copyright protection in conjunction with the shrink-wrap license agreement.<sup>63</sup> Most license agreements contain provisions restricting the user's rights to copy, use, transfer and modify the software.<sup>64</sup> Although some licenses allow limited copying, transfer and modification rights, others allow none of these rights whatsoever, or none of these rights without the proprietor's prior written consent.<sup>65</sup> Frequently, licenses limit the use of the software to a single computer, allowing the user to make only one back-up copy, and to modify the program only for purposes of use on the single computer.<sup>66</sup> If the license permits the user to transfer rights in the program, such authorization is generally on the express condition that if the user transfers the program, he must transfer the program along with all copies and must secure the agreement of the party receiving the program and copies to adhere to the license terms.<sup>67</sup> Although some licenses provide that the software developer retains ownership of the licensed program and all intellectual and proprietary rights to the program,<sup>68</sup> many licenses do not address the issue of ownership rights in the software.<sup>69</sup> Even if the proprietor retains ownership of the intellectual property, most shrink-wrap licenses do not explicitly retain ownership of the particular copy of the program in the proprietor.<sup>70</sup> Provisions limiting remedies and disclaiming warranties are also standard.<sup>71</sup> The

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marketing of computer software). Software developers, therefore, generally communicate with users only by means of notices printed on the software packaging. See Raysman, *Problems in Mass Distribution of Software* in 2 SOFTWARE PROTECTION AND MARKETING: COMPUTER PROGRAMS AND DATA BASES; VIDEO GAMES AND MOTION PICTURES 363, 365 (Practising Law Institute, 1983) (discussing difficulty of obtaining user's signature on license agreement).

63. See Laurie, *Software Rental: The Publisher's Perspective* in COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS 351, 393-406 app. (1984) (sample license agreements); appendix attached (IBM shrink-wrap license agreement).

64. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); appendix attached (IBM shrink-wrap license agreement).

65. See Laurie, *supra* note 63, at 393-406 app. (sample license agreement); appendix attached (IBM shrink-wrap license agreement).

66. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); appendix attached (IBM shrink-wrap license agreement); see also Stern & Todd, *Enforceability of Specific Provisions Contained in Box-Top Licenses* in COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS 343, 347-49 (Practising Law Institute, 1984) (discussing typical provisions in shrink-wrap software license).

67. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); appendix attached (IBM shrink-wrap license agreement); see also Stern & Todd, *supra* note 66, at 347-48 (discussing limited scope of software license).

68. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); appendix attached (IBM shrink-wrap license); see also Stern & Todd, *supra* note 66, at 348 (discussing provisions of software license).

69. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements).

70. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); *First Sale*, *supra* note 9, at 20 (many licenses fail to distinguish title to copies from title to copyrights and are ambiguous in their expression of vendors' intentions to retain title to copies).

71. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); attached



agreements almost invariably provide that automatic termination of the user's rights occurs upon any breach of the license agreement.<sup>72</sup>

Some question exists whether the shrink-wrap license creates a binding contract that the software developer can enforce.<sup>73</sup> The validity of the shrink-wrap license may depend upon the manner in which the software developer packages the software. Some software proprietors package computer programs and documentation in a box-like package that contains a license agreement on the back of the box, visible through the transparent cellophane wrapping. Other developers, however, do not provide the license agreement on the back of the software package, but instead include the agreement inside the package with the software and documentation. Although the user may not have an opportunity to read the license agreement before purchasing the software, the user always has an opportunity to read the agreement before opening the separate diskette package or using the software. Some shrink-wrap licenses request the user's signature on a registration card that the user must return to obtain any warranty protections, and that acknowledges the user's acceptance of the terms of the license agreement.<sup>74</sup> Shrink-wrap licenses are fixed in form and do not contemplate any bargaining between the developer and purchaser over terms.<sup>75</sup> Through the use of shrink-wrap licenses, therefore, the software developer normally subjects the user to whatever restrictions the software developer places on the software.<sup>76</sup> If

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appendix (IBM shrink-wrap license agreement); *see also* Raysman & Brown, *supra* note 9, at 2 (shrink-wrap licenses almost always contain clauses disclaiming warranties and limiting liability); Stern & Todd, *supra* note 66, at 349 (discussing warranty and limitation of liability provisions in licenses). The limitation of liability is a key provision for the economic survival of the software developer since consequential damages from program malfunctions can be very expensive. *See* Raysman, *supra* note 62, at 368 (limiting liability for damages is key to economic survival of software developer).

72. *See* Laurie, *supra* note 63, at 393-406 app. (sample license agreements); attached appendix (IBM shrink-wrap license). The term of the license usually lasts until breach of the license agreement or other termination pursuant to the termination clause. *See* Stern & Todd, *supra* note 66, at 348 (discussing duration of license). Upon termination, the license often requires the return of the program or the destruction of the program and all copies. *Id.*; *see* Laurie, *supra* note 63, at 393-406 app. (sample license agreements); attached appendix (IBM shrink-wrap license).

73. *See* Raysman & Brown, *supra* note 9, at 2 (questioning whether and to what degree shrink-wrap license is enforceable); Reynolds, *supra* note 9, at 549 (questioning validity of shrink-wrap license arrangement).

74. *See* First Sale, *supra* note 9, at 19 (separate warranty registration cards sometimes accompany licenses); Raysman & Brown, *supra* note 9, at 2 (some licenses require end user's signature on registration card); *see also* Laurie, *supra* note 63, at 393-406 app. (sample software licenses and warranty registration cards). Some license forms offer inducements such as upgraded products, warranty protection, or service and maintenance support in order to secure the user's signature on the warranty card. *See* First Sale, *supra* note 9, at 19 (some program proprietors offer incentives to obtain signatures and executed bilateral license forms from users). The warranty registration cards on which the developer secures the user's signature are similar to those accompanying purchases of many consumer products. *See id.*

75. *See* First Sale, *supra* note 9, at 19 (few licenses contemplate bargaining for terms).

76. *See* Immel, *The Software Rental Brouhaha*, 3 POPULAR COMPUTING No. 5, 51, 52

the user does not agree to be bound by the license terms, the user may return the unopened software package or separate diskette package for a refund of the purchase price.<sup>77</sup>

Because of the inherent problems in defining the nature of software, it is unclear what law applies to licensed software. For example, the courts have not yet determined whether the Uniform Commercial Code (UCC) or the Common Law of Contracts applies to licensed software.<sup>78</sup> Article 2 of the UCC applies only to sales transactions in goods, and defines goods as all things that are movable at the time of identification to the contract for sale.<sup>79</sup> It is unclear whether the transfer of licensed software from a vendor to a user constitutes the sale of a good within the meaning of the UCC.<sup>80</sup> Although no court has considered whether packaged software is a good within the UCC definition, several courts have applied the UCC to combined sales of hardware and software.<sup>81</sup>

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(1984) (license subjects software user to whatever restrictions manufacturer imposes on licensed programs); *see also supra* notes 51-58 and accompanying text (discussing proprietor's attempted control of product through license agreements).

77. *See Laurie, supra* note 63, at 393-406 app. (sample software licenses); attached appendix (IBM shrink-wrap license).

78. *See infra* notes 79-124 (analyzing applicability of Uniform Commercial Code to software licenses). The Uniform Commercial Code (UCC) differs from the Common Law of contract in a number of ways. Under the UCC a modification of an existing contract needs no consideration to be binding, whereas the common law of contracts requires consideration for a modification. *See U.C.C. § 2-209* (1978) (no requirement of consideration for modification); S. MANDELL, *supra* note 1, at 12 (additional consideration necessary to modify common law contract). Additionally, no warranties, right of rejection, right of revocation or remedies exist under common law unless the contract specifies such, whereas the UCC provides such rights unless the parties agree otherwise. *See S. MANDELL, supra* note 1, at 38 (common law rule of caveat emptor provides no warranties, right of rejection, right of revocation or remedies); U.C.C. § 2-313 (1978) (seller creates express warranties by affirmation of fact, description of goods and sample or model); *id.* § 2-314 (contract for sale of goods implies warranty of merchantability if seller is merchant of goods in kind); *id.* § 2-315 (implied warranty of fitness for particular purpose arises where seller has reason to know of particular purpose for which buyer needs goods and that buyer is relying on seller's judgment to select suitable goods); *id.* § 2-601 (buyer may reject nonconforming goods); *id.* § 2-608 (buyer may revoke acceptance of goods whose non-conformity substantially impairs value in limited circumstances); *id.* §§ 2-701 - 2-718 (governing remedies).

79. *See U.C.C. § 2-102* (1978) (Article 2 applies to transactions in goods); *id.* § 2-105(1) (goods means all things movable at time of identification to contract for sale).

80. *See id.* § 2-106(1) (sale consists in passing of title from seller to buyer for price); *infra* notes 110-123 and accompanying text (analyzing whether license of software constitutes sale).

81. *See Chatlos Sys., Inc. v. National Cash Register Corp.*, 479 F. Supp. 738, 742 (D.N.J. 1979) (Article 2 of UCC is applicable law for leasing arrangement of computer hardware and software), *modified*, 635 F.2d 1081 (3d Cir. 1980), *cert. dismissed*, 457 U.S. 1112 (1982); *Triangle Underwriters, Inc. v. Honeywell, Inc.*, 457 F. Supp. 765, 769 (E.D.N.Y. 1978) (contract for sale of package consisting of hardware and software constitutes contract for sale of goods under UCC), *modified*, 604 F.2d 737 (2d Cir. 1979); *Carl Beasley Ford, Inc. v. Burroughs Corp.*, 361 F. Supp. 325, 330 (E.D. Pa. 1973) (applying UCC to bundled sale of computer equipment and programs), *aff'd*, 493 F.2d 1400 (3d Cir. 1974). A "bundled" sale is a sale of computer hardware for the same price with or without the related programming. *Burroughs*,

In *Triangle Underwriters, Inc. v. Honeywell, Inc.*,<sup>82</sup> for example, the United States District Court for the Eastern District of New York considered whether the UCC applied to the sale of a computer system including both hardware and software components.<sup>83</sup> In *Triangle*, Triangle Underwriters, Inc. (Triangle) brought suit against Honeywell, Inc. (Honeywell) alleging that Honeywell had breached its contract and its warranties with Triangle by failing to supply a fully operational software system to fulfill Triangle's data processing needs and by failing to correct the deficiencies.<sup>84</sup> Honeywell argued, on a motion for summary judgment, that the UCC's four year statute of limitations barred the action.<sup>85</sup> Triangle contended that the computer system did not consist solely of goods within the meaning of the UCC, and that what Honeywell sold predominantly constituted services.<sup>86</sup> The New York district court recognized that if the system essentially involved the provision of services, the UCC would not apply, and instead, the longer six year statute of limitations applicable to contracts actions under the New York Code would apply.<sup>87</sup> The *Triangle* court analyzed the nature of the sale and concluded that the computer system did not consist principally of services.<sup>88</sup> The New York district court reasoned that Triangle was purchasing the product of the ideas or concepts involved in the software, and found that although the product required efforts to produce, and was intangible, it was a product more readily characterized as goods than services.<sup>89</sup> Because the design, installation, and maintenance services that Honeywell provided

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361 F. Supp. at 334. The bundling of software with hardware, therefore, virtually forces the customer to accept the software. See *id.* The practice of bundling computer sales in some instances constitutes an illegal tying arrangement in violation of the Federal Antitrust laws. See *Digidyne Corp. v. Data Gen. Corp.*, 734 F.2d 1336, 1338-39 (9th Cir. 1984) (defendant's practice of bundling software with hardware is per se illegal); see also *Fortner Enter., Inc. v. United States Steel Corp.*, 394 U.S. 495, 498-500 (1969) (tying arrangement is illegal if it unreasonably restrains competition).

82. 457 F. Supp. 765 (E.D.N.Y. 1978).

83. *Id.* at 769.

84. *Id.* at 767. In *Triangle Underwriters, Inc. v. Honeywell, Inc.*, Triangle Underwriters, Inc. (Triangle) alleged that various programs it had purchased from Honeywell, Inc. contained errors and did not function as Honeywell had represented and that Honeywell had been unsuccessful in its attempts to correct the deficiencies. *Id.*

85. *Id.* at 768; see N.Y. U.C.C. § 2-725(1) (Consol. 1964) (party must bring action for breach of contract for sale within four years after cause of action has accrued).

86. *Id.* at 767. Under the contract in *Triangle*, Honeywell was to install the system and train Triangle employees to use the system before Triangle would assume supervision of the system. *Id.* The proposal did not require Honeywell to update or amend the software. *Id.*

87. *Id.* at 769. See N.Y. CIV. PRAC. LAW § 213(2) (McKinney 1972) (party must commence contract action within six years of date on which cause of action accrues). If applicable in the *Triangle* case, the four year statute of limitations under the UCC would have barred the action. 457 F. Supp. at 768. The alleged breach occurred in January, 1971, the date of installation, and Triangle brought suit in August, 1975. *Id.*

88. 457 F. Supp. at 769. The *Triangle* district court noted that the agreement at issue contemplated delivery of a completed and operational system. *Id.* After the installation and training period, Honeywell's only obligation was to maintain the system. *Id.*

89. *Id.*

were incidental to the sale, the *Triangle* court held that the sale was subject to the UCC statute of limitations, and granted Honeywell's motion for summary judgment.<sup>90</sup>

On appeal, the Second Circuit in *Triangle* applied the rule that a contract is for service rather than sale when service predominates and the sale is merely incidental to the contract.<sup>91</sup> The Second Circuit reasoned that the Honeywell contract was a contract for sale because the services Honeywell supplied were merely incidental to the sale of the computer system.<sup>92</sup> The Second Circuit concluded that the limitation of compensation to the purchase price of the hardware, with no billing for services, was indicative of a contract for the sale of goods and not for the rendition of professional services.<sup>93</sup> The Second Circuit, therefore, affirmed the district court's holding concerning the applicability of the UCC to the sale, but did not adopt the lower court's classification of software itself as a good.<sup>94</sup>

Although courts have found the UCC applicable to combined sales of hardware and software, the *Triangle* court's incidental services analysis does not apply to separately sold, prepackaged software.<sup>95</sup> The nature of software makes its classification as either a good or a service difficult because the essence of the computer program is the intangible information contained on the tangible diskette.<sup>96</sup> The entire value of the program lies in the intangible intellectual property recorded on the diskette.<sup>97</sup> Furthermore, the creation of software involves substantial services and is a labor-intensive production process.<sup>98</sup> The UCC does not apply to contracts in which the supply of goods

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90. *Id.*

91. 604 F.2d 737, 742 (2d Cir. 1979).

92. *Id.* at 743.

93. *Id.*

94. *Id.* at 741. In *Chatlos Sys. v. National Cash Register Corp.*, the United States District Court for the District of New Jersey considered whether a leasing arrangement of computer hardware and software constituted a sale of goods. 479 F. Supp. 738, 742 (D.N.J. 1979). After acquiring the computer system from National Cash Register Corp. (NCR), Chatlos Sys., Inc. (Chatlos) discovered that the programs were not fully operational and that the computer did not perform as NCR had represented. *Id.* at 742. Accordingly, Chatlos sued NCR for breach of contract, breach of warranties, and fraudulent misrepresentation. *Id.* at 740. In considering Chatlos' claims, the *Chatlos* court held that the leasing arrangement constituted a sale of goods, notwithstanding the incidental service aspects of the transaction. *Id.* at 742. The *Chatlos* court thus concluded that Article 2 of the UCC was the law applicable to Chatlos' claims. *Id.*

95. See Brooks, *supra* note 2, at 64 (one cannot readily characterize software as mere incident to hardware). Since developers frequently sell software separately from hardware, one must characterize the software in its own right and not merely as part of a bundled sale of hardware and software. See *id.*, at 64-65 (discussing characterization of software as good or service).

96. See *supra* note 1 (describing computer software).

97. See Brooks, *supra* note 2, at 9 (value of computer program lies in investment, know-how, design, unique logic, and coherence of program rather than in value of blank diskette).

98. See *id.* at 65 (processes of defining, creating, and installing software may involve substantial services); P. HOFFMAN, *supra* note 1, at 3.2-1 (software is intangible with strong service element); Note, *Computer Programs as Goods Under the U.C.C.*, 77 MICH. L. REV.

is merely incidental to services provided.<sup>99</sup> In the case of packaged software sales, the cost of the goods and the seller supplies, the diskette, is incidental to the cost of the services the seller provides, the recorded information.<sup>100</sup> The product in its entirety, however, consists of the diskette embodying the program, which is movable.<sup>101</sup> The question whether packaged software is a good, therefore, turns on whether the transaction is essentially a sale of the tangible embodiment of the program or the transfer of intangible information.<sup>102</sup>

In *Triangle*, the district court adopted the approach that *Triangle* was purchasing the product of the concepts involved in custom designed software, and characterized the product as goods even though the product required substantial effort to produce.<sup>103</sup> Under this analysis, packaged software is analogous to record albums, books and movies, which the courts consistently have held to be goods under the UCC.<sup>104</sup> The programmer's ideas become embodied in the program diskette, just as a composer's music becomes embodied in a record, an author's ideas become embodied in a book and a

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1149, 1151 (1979) (noting that computer program involves labor-intensive production process); see also *Samuel Black Co. v. Burroughs Corp.*, No. 78-3077-F, slip op. at \_\_\_\_ (D. Mass. Dec. 18, 1981) (available on LEXIS, Genfed library, Cases file) (sale of hardware and software system is complex transaction that involves both sales of goods and delivery of services and does not fit neatly within language of UCC § 2-102).

99. See *Triangle Underwriters, Inc. v. Honeywell, Inc.*, 604 F.2d 737, 742 (2d Cir. 1979) (contract is for service rather than sale when service predominates, and UCC does not apply to contract); *Wivagg v. Duquesne Light Co.*, 20 U.C.C. REP. SERV. (CALLAGHAN) 597, 598 (1975) (majority of jurisdictions distinguish between sale and service on basis of whether service is merely incidental to materials supplied to determine whether UCC warranties apply to transaction); *St. Luke's Hospital v. Schmaltz*, 17 U.C.C. REP. SERV. (CALLAGHAN) 65, 68 (1975) (adopting rationale that supplying blood by hospital for transfusion is only incidental to providing medical services and, therefore, UCC warranties do not apply to transaction); *Gross Valentino Printing Co. v. Clarke*, 37 U.C.C. REP. SERV. (CALLAGHAN) 1460, 1464 (1983) (applying UCC to contract for printing of magazine where services were merely incidental to delivery of final product).

100. See S. MANDELL, *supra* note 1, at 9-10 (cost of good supplied, which is diskette, is incidental to cost of services rendered); cf. *Brooks*, *supra* note 2, at 9 (value of computer program lies in information supplied on diskette rather than in value of blank diskette).

101. See S. MANDELL, *supra* note 1, at 10 (one could characterize transaction as sale of physical embodiment of program); P. HOFFMAN, *supra* note 1, at 3.2-1 (software vendors usually sell software product as deliverables).

102. See S. MANDELL, *supra* note 1, at 9-10 (one could characterize transaction as sale of physical embodiment of program, which is tangible, or as transfer of pure information, which is intangible).

103. 457 F. Supp. at 769. See generally Note, *supra* note 98 (contracts for computer programs are transactions in goods governed by Article 2 of UCC). The intellectual property of the computer program is distinguishable from the tangible copy of those instructions which the user purchases. See Note, *supra* note 98, at 1151 (distinguishing between buying intellectual property of program and buying particular copy). The transaction essentially is a sale of a physical copy of the program's instructions with retention of intellectual property rights in the proprietor. *Id.* n.11.

104. See Note, *supra* note 98, at 1151 (analogy of software to record or book); see also

screen writer's ideas become embodied in a movie.<sup>105</sup> Records, books and movies also require substantial services and effort to produce. In these analogous fields, the Copyright Act recognizes an essential distinction between the copies an author sells and the underlying intellectual property communicated in the copy.<sup>106</sup> The separation of the intellectual property in a record, book or movie from the ultimate movable product is consistent with the treatment of packaged software as a good. Furthermore, the parties' treatment of packaged software affects the characterization of the software as either goods or services.<sup>107</sup> In the microcomputer industry, software vendors generally mass-distribute prepackaged software over the counter with no modifications or further services involved.<sup>108</sup> In *Triangle*, the Second Circuit found the parties' contemplation of delivery of a completed system with few services afterwards critical to the characterization of the system as goods.<sup>109</sup> Packaged software, therefore, probably constitutes a good within the scope of the UCC.

Although courts are likely to treat packaged software as a good, the licensing of software may not constitute a sales transaction governed by

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Gross Valentino Printing Co. v. Clarke, 37 U.C.C. REP. SERV. (CALLAGHAN) 1460, 1464 (1983) (UCC governs contract for printed magazines); Goshen Litho, Inc. v. Kohls, 582 F. Supp. 1561, 1564 (S.D.N.Y. 1983) (contract for printed magazines is within UCC); Carpel v. Saget Studios, Inc., 326 F. Supp. 1331, 1333 (E.D. Pa. 1971) (contract for photography is contract for sale of goods within UCC).

105. See Brooks, *supra* note 2, at 71 (programmer's ideas become embodied in tape and can become goods for sale).

106. 17 U.S.C. § 202 (1982); see *Nika Corp. v. City of Kansas City, Mo.*, 582 F. Supp. 343, 367 (W.D. Mo. 1984) (under Copyright Act, ownership of physical object embodying copywritten work is distinct from ownership of copyright); Brooks, *supra* note 2, at 71 (distinguishing ownership of intellectual property from ownership of copy of work). A copyright owner can transfer ownership of a physical copy of his creation without transferring ownership of his copyright. *Nika*, 582 F. Supp. at 367.

107. See Brooks, *supra* note 2, at 72 (UCC recognizes parties' treatment of subject of contract as relevant to characterization of goods). If the parties treat the subject of a sales contract as a good, the UCC will recognize the product as a good. See U.C.C. § 2-105(1) (1978). For example, the UCC recognizes that money, which is excluded from the definition of goods, is a good when the parties to the transaction treat it as a commodity. *Id.* § 2-105, comment 1.

108. See *supra* note 9 and accompanying text (describing method of distributing software in microcomputer industry). Although a user must buy software that is compatible with his computer, the competitive software market generally allows a user to choose between several comparable software products. In *Gross Valentino Printing Co. v. Clarke*, the Illinois Appellate Court concluded that the subject of a magazine printing contract was tangible printed magazines and not printing services because the buyer had shopped for printers based on the lowest price estimate. 37 U.C.C. REP. SERV. (CALLAGHAN) 1460, 1463 (1983). The *Clarke* court also relied on the fact that printing services were largely interchangeable and merely incidental to delivery of the final product. *Id.* at 1464. The *Clarke* court, therefore, concluded that the contract for printed magazines was a contract for goods governed by the UCC. *Id.* By analogy, prepackaged software products should constitute goods within the meaning of the UCC because the user shops for the end product and chooses between comparable software products.

109. 604 F.2d at 743.

Article 2 of the UCC. Article 2 generally applies only to sales of goods.<sup>110</sup> Under UCC section 2-106, a sale involves the passing of title for a price.<sup>111</sup> Through the shrink-wrap license agreement, the software developer does not sell the software outright, but rather retains title and grants a restrictive license to use the software.<sup>112</sup> The licensing of programs in shrink-wrapped packages, however, may be an outright sale and not a true license arrangement.<sup>113</sup> If the real economic effect of a transaction is a direct sale, courts often will treat the transaction as a sale and apply the UCC, despite what the transaction purports to be.<sup>114</sup> For example, when a party has an option to purchase a leased product at a nominal price at the end of the lease term and the lease term extends over the entire useful life of the product, courts

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110. See *Manes Org. v. Standard Dyeing & Finishing Co.*, 472 F. Supp. 687, 690 n3. (S.D.N.Y. 1979) (Article 2 of UCC governs transactions in goods in sale context); *Computer Servicers, Inc. v. Beacon Mfg. Co.*, 328 F. Supp. 653, 655 (D.S.C. 1970) (Article 2 of UCC concerns contract for sale), *aff'd*, 443 F.2d 906 (4th Cir. 1971); *cf.* *William B. Tanner, Co., Inc. v. Wioo, Inc.*, 18 U.C.C. REP. SERV. (CALLAGHAN) 106, 112 n.5 (1975) (contract for advertising services is not transaction in goods within meaning of Article 2 of UCC); *see also* *Brooks*, *supra* note 2, at 74 (most of Article 2 of UCC expressly addresses sales); *First Sale*, *supra* note 9, at 19 (Article 2 deals principally with sales).

111. U.C.C. § 2-106(1) (1978).

112. See *supra* notes 5-7 and accompanying text (discussing use of license agreements to retain proprietary rights in software).

113. See *Immel*, *supra* note 76, at 52 (noting that it is questionable whether shrink-wrap license is in fact license); *First Sale*, *supra* note 9, at 20 (concluding that transfer pursuant to shrink-wrap license constitutes sale under UCC).

114. See *Earman Oil Co., Inc. v. Burroughs Corp.*, 625 F.2d 1291, 1297 (5th Cir. 1980) (lease of computer system constituted sale); *National Equip. Rental, Ltd. v. Priority Elec. Corp.*, 435 F. Supp. 236, 239 (E.D.N.Y. 1977) (finding that lease actually constituted conditional sale); *cf.* 1 A. SQUILLANTE & J. FONSECA, *WILLISTON ON SALES* § 2.2, at 18 (4th ed. 1973) (courts will look at intent of parties, substance rather than form, and spirit rather than letter of transaction in determining true nature of transaction). In *Earman Oil Co., Inc. v. Burroughs Corp.*, the United States Court of Appeals for the Fifth Circuit found that the real economic effect of a transaction involving the lease of a computer system was a direct sale rather than a financing arrangement for a true lease. 625 F.2d at 1297. The court, therefore, treated the transaction as a sale. *Id.*

Similarly, in *Redfern Meats, Inc. v. Hertz Corp.*, the Georgia Court of Appeals considered whether Article 2 of the UCC applied to transactions that are analogous to sales, although denominated as nonsale transactions. 17 U.C.C. REP. SERV. (CALLAGHAN) 82, 88 (1975). In *Redfern*, the plaintiff, *Redfern Meats, Inc.* (*Redfern*) had entered into a lease agreement with *Hertz Corp.* (*Hertz*) for the rental of several tractors and trailers. *Id.* at 84. *Redfern* subsequently brought suit against *Hertz* for breach of warranties. *Id.* Although the lease agreement disclaimed *Hertz*' express warranties, the clause did not adequately disclaim implied warranties. *Id.* at 86. The *Redfern* court, therefore, analyzed the transaction to determine whether the implied warranties of the UCC applied. *Id.* The court adopted the approach that the warranty provisions of the UCC apply to chattel leases when the transactions are analogous to sales. *Id.* at 89. The *Redfern* court reasoned that merchants should not be able to avoid UCC obligations and deprive consumers of UCC protections by selling goods under the guise of a lease. *Id.* at 91. The court noted that courts will look to the purpose of a contract rather than the name the parties give the contract to determine the real character of the contract. *Id.* The *Redfern* court concluded that, although the transaction at issue was not a sale, the transaction was analogous to a sale and the implied warranties under the UCC were applicable. *Id.* at 93.

often treat the lease as the substantial equivalent of a sale.<sup>115</sup> Although under a shrink-wrap license the software proprietor retains title to the intellectual property, the software user pays one royalty fee for the licensed software and the license lasts for the life of the product.<sup>116</sup> Furthermore, most shrink-wrap licensors do not retain title to the particular copy of the program even when the licensors expressly retain title to the intellectual property recorded on the copy.<sup>117</sup> Many license agreements are ambiguous in their terms, referring both to a "license" and a "sale" or "purchase" of the software. Courts generally will construe such ambiguities against the drafter of the agreement and, therefore, likely will categorize these software transactions as sales.<sup>118</sup>

Although no court has determined whether a first sale occurs under a shrink-wrap license, courts have analyzed license agreements in other industries to determine whether a first sale has occurred.<sup>119</sup> For example, courts have held that a transfer of possession of a film print without a time limitation, in conjunction with the payment of consideration and a failure to expressly retain title constitutes a first sale.<sup>120</sup> Additionally, courts have

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115. See *National Equip. Rental v. Priority Elec. Corp.*, 435 F. Supp. 236, 238-39 (E.D.N.Y. 1977) (in determining whether agreement is lease or sale, courts compare purchase option price to total rentals, total rental payments to selling price, and purchase option to fair market value); *Leasing Serv. Corp. v. American Nat'l Bank & Trust Co.*, 19 U.C.C. REP. SERV. (CALLAGHAN) 252, 259 (1976) (relying on fact that total rental payments exceeded value of equipment in concluding that leases actually were conditional sales); *Brooks*, *supra* note 2, at 75 (determination of whether transaction is economic equivalent of sale depends on whether lease includes option to purchase at nominal price at end of lease term, long lease term lasting for useful life of property, and renewal options extending over useful life of property).

116. See *Brooks*, *supra* note 2, at 76 (software licenses usually have initial term for entire useful life of software, have one time fees, and charge added fees for updates); *First Sale*, *supra* note 9, at 18-19 (for one-time fees users receive licenses to use programs as many times and over as many years as the users like).

117. See *First Sale*, *supra* note 9, at 19 (shrink-wrap licenses sometimes reserve title to programs, but generally do not mention title to copies); *Laurie*, *supra* note 63, at 393-406 app. (sample license agreements).

118. See *First Sale*, *supra* note 9, at 20, 22 (interpretive maxims construe ambiguities against drafter).

119. See *United States v. Atherton*, 561 F.2d 747, 750 (9th Cir. 1977) (considering whether licensing of films constituted first sales); *United States v. Drebin*, 557 F.2d 1316, 1326 (9th Cir. 1977) (analyzing license agreements to determine whether motion picture films had been subject of first sale), *cert. denied*, 436 U.S. 904 (1978); *U.S. v. Wise*, 550 F.2d 1180, 1190 (9th Cir.) (analyzing license agreements to determine whether agreements constituted first sales of motion picture films), *cert. denied*, 434 U.S. 929 (1977); *Independent News Co. v. Williams*, 293 F.2d 510, 516 (3d Cir. 1961) (considering whether sale of comics for waste paper purposes only resulted in first sale); *Hampton v. Paramount Pictures Corp.*, 279 F.2d 100, 103 (9th Cir. 1960) (considering whether license for film amounted to assignment). Both a "sale" under the UCC and a "first sale" under § 109 of the Copyright Act rely on the transfer of title, so the concepts are analogous. See *supra* note 29 and accompanying text (first sale doctrine requires transfer of title); U.C.C. § 2-106(1) (1978) (sale consists in passing of title from seller to buyer for price).

120. See *U.S. v. Atherton*, 561 F.2d 747, 750 (9th Cir. 1977) (consideration for transfer



found that payment for the cost of a print or receipt of a just reward for the use of an object is particularly indicative of a first sale.<sup>121</sup> The software proprietor receives a royalty fee for the licensed software that constitutes a just reward for the lifetime use of the software, so that a first sale of the copy probably has occurred.<sup>122</sup> The user arguably is purchasing the particular copy of the program but not the intellectual property in the copy.<sup>123</sup> The shrink-wrap licensing of software, therefore, probably constitutes a sale within the UCC. Even if the licensing of software does not constitute a sale within the UCC, the UCC should apply by analogy. For example, some courts have applied Article 2 to analogous commercial transactions even in the clear absence of a sales transaction.<sup>124</sup>

In analyzing the validity of shrink-wrap licenses, courts should apply the UCC. Many of the shrink-wrap licenses that software proprietors presently use probably do not become part of the sales contract binding on the user under UCC principles and supplementary contract law.<sup>125</sup> UCC section 2-204 provides that parties to a contract for the sale of goods may form the contract in any manner showing agreement, including conduct.<sup>126</sup> The parties do not form a contract under section 2-204, however, unless their conduct

of copy, surrender of possession of copy, and failure to specifically retain title together constitute first sale); *see also* 2 M. NIMMER, *NIMMER ON COPYRIGHT* (Bender) § 8.12[B][1], at 8-121 (1984 ed.) (courts have held that transfer of possession of film print without time limitation constitutes first sale if accompanied by payment of consideration and failure to expressly retain title).

121. *See* U.S. v. Wise, 550 F.2d 1180, 1192 (9th Cir.) (payment for cost of film when agreement fails to expressly reserve title reveals sale transaction), *cert. denied*, 434 U.S. 929 (1977); Platt & Munk Co. v. Republic Graphics, Inc., 315 F.2d 847, 854 (2d Cir. 1963) (transfer equals first sale if proprietor has received just reward for use of product); *see generally* M. NIMMER, *supra* note 120, § 8.12[A] (discussing policy behind distribution right).

122. *See supra* note 116 and accompanying text (user pays one royalty fee for use of software); *see generally* *Software Royalties, supra* note 60 (discussing royalties in software industry).

123. *See First Sale, supra* note 9, at 22 (concluding that users have purchased copies of programs through shrink-wrap licenses).

124. *See* William B. Tanner Co., Inc. v. Mesa Broadcasting Co., 575 F. Supp. 1501, 1502 (D. Colo. 1983) (applying UCC provisions to contract for advertising services although transaction was not sale of goods); Samuel Black Co. v. Burroughs Corp., No. 78-3077-F, slip op. at \_\_\_\_ (D. Mass. 1981) (available on LEXIS, Genfed library, Cases file) (UCC's provisions are helpful and persuasive by analogy in contract cases when UCC does not control); Wivagg v. Duquesne Light Co., 20 U.C.C. REP. SERV. (CALLAGHAN) 597, 601 (1975) (acknowledging that courts can imply warranties in nonsales transactions by analogy to UCC). *But see* William B. Tanner, Co., Inc., v. Wioo, Inc., 18 U.C.C. REP. SERV. (CALLAGHAN) 106, 112 n.5 (1975) (UCC does not govern contract for advertising services that is not transaction in goods within Article 2 of UCC).

125. *See* U.C.C. § 1-103 (1978) (principles of law and equity supplement UCC).

126. *Id.* § 2-204(1). *See* Manes Org. v. Standard Dyeing & Finishing Co., 472 F. Supp. 687, 690 n.4 (S.D.N.Y. 1979) (offeror may suggest and authorize acceptance in one or more particular modes) (quoting 1 A. CORBIN, *CORBIN ON CONTRACTS* § 77, at 329 (1963)). The comment to UCC § 2-204 states that appropriate conduct may be sufficient to establish an agreement even in the absence of an express verbal understanding. U.C.C. § 2-204(1), comment (1978); *see* Data Gen. Corp. v. Citizens Nat'l Bank, 502 F. Supp. 776, 784 (D. Conn. 1980) (any words or acts that indicate assent may constitute acceptance).

shows a mutual manifestation of assent.<sup>127</sup> Two essential elements of a binding contract are consideration and mutuality of agreement.<sup>128</sup> An offer and acceptance indicate that parties have reached an agreement and formed a contract.<sup>129</sup> A basic tenet of contract law is that the offeror is the master of his offer and he may stipulate any conditions or terms as prerequisites to the creation of a contract, including the method of acceptance.<sup>130</sup> Unless the offeror clearly specifies the manner of acceptance, however, courts will construe an offer as inviting acceptance in any manner and by any medium reasonable under the circumstances.<sup>131</sup> Shrink-wrap licenses provide that the user's act of tearing open the shrink-wrap package containing the software constitutes acceptance of the terms of the license agreement.<sup>132</sup> The user's act of opening the package, however, may not constitute a sufficient manifestation of assent to the shrink-wrap license agreement.<sup>133</sup> The shrink-wrap license agreement, therefore, may not become part of the contract binding on the user.

When the user has an opportunity to read the license agreement before purchasing the software, the shrink-wrap license terms probably are binding

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127. See *Slocomb Indus., Inc. v. Chelsea Indus.*, 36 U.C.C. REP. SERV. (CALLAGHAN) 1543, 1546 (1983) (conduct must show mutual manifestation of assent to form contract under UCC § 2-204); *Bradford v. Plains Cotton Coop. Ass'n*, 539 F.2d 1249, 1253 (10th Cir. 1976) (conduct established mutuality of assent to contracts), *cert. denied*, 429 U.S. 1042 (1979).

128. See *Interstate Indus., Inc. v. Barclay Indus., Inc.*, 540 F.2d 868, 870 (7th Cir. 1976) (agreement or meeting of minds is necessary to form contract); *Textron, Inc. v. Teleoperator Sys. Corp.*, 554 F. Supp. 315, 326 (E.D.N.Y. 1983) (finding no mutually agreed upon arrangement with respect to rights to technology developed prior to project); *Kansas Power & Light Co. v. Burlington N.R.R. Co.*, 544 F. Supp. 1336, 1347 (D. Kan. 1982) (in order for parties to form binding contract, there must be meeting of minds), *rev'd*, 740 F.2d 780 (10th Cir. 1984); *Universal Computer Sys., Inc. v. Medical Serv. Ass'n of Pa.*, 474 F. Supp. 472, 477 (M.D. Pa. 1979) (consideration is essential ingredient of contract), *modified*, 628 F.2d 820 (3d Cir. 1980). Although there is no privity of contract between the software proprietor and the user, the software proprietor receives part of the royalty fee that the user pays to the distributor. See *Software Royalties*, *supra* note 60, at 393 (discussing mass distribution of software in microcomputer market); *supra* notes 60-62 and accompanying text (discussing distribution of software in microcomputer market).

129. See W. HAWKLAND, 2 HAWKLAND U.C.C. SERIES (CALLAGHAN) (1982) § 2-206:02, at 87 (offer and acceptance are relevant in determining whether parties reached agreement).

130. See *Great W. Sugar Co. v. Lone Star Donut Co.*, 567 F. Supp. 340, 343 (N.D. Tex.) (offeror is master of his offer and may require conditions or terms as prerequisite to formation of contract), *aff'd*, 721 F.2d 510 (5th Cir. 1983); 1 A. CORBIN, CORBIN ON CONTRACTS § 94, at 389 (1963) (offeror has control of terms of offer and mode of acceptance); W. HAWKLAND, *supra* note 129, § 2-206:02, at 88 (offeror can require any act or promise as means of acceptance).

131. U.C.C. § 2-206(1)(a) (1978). Comment 1 to UCC § 2-206 provides that any reasonable manner of acceptance is available unless the offeror has made clear that a particular mode will not be acceptable. *Id.* comment 1.

132. See *Laurie*, *supra* note 63, at 393-406 app. (sample license agreements); appendix attached (IBM shrink-wrap license).

133. See *Reynolds*, *supra* note 9, at 549 (doubting whether opening software package coupled with notice meets criteria for acceptance of license contract); see also *infra* notes 134-164 and accompanying text (analysis of validity of shrink-wrap license).

on the user. The software vendor's offer conditions acceptance of the software on acceptance of the terms of the license.<sup>134</sup> The visible shrink-wrap license expressly states that the user's act of opening the package indicates the user's acceptance of the terms and conditions of the license agreement.<sup>135</sup> Until the user opens the shrink-wrap package, the user may reject the offer for sale and return the software package unopened for a refund of the purchase price.<sup>136</sup> Courts consistently have concluded that contracts in analogous situations are binding on the parties.<sup>137</sup> For example, courts have held that a tag attached to a bag of seeds, a notice printed on a film package, and a label on a can of herbicide, each of which contained the conditions of sale, became part of the sale contracts and were binding on the parties.<sup>138</sup> Similarly, a license agreement containing the conditions of sale and printed on the shrink-wrapped package becomes part of the sales contract and is binding on the parties.

When the user does not have an opportunity to read the license agreement before purchasing the software, however, the validity of the shrink-wrap license is more questionable. The software vendor's failure to provide the buyer with access to the license agreement before purchase is an attempt to impose the terms of the license on the user after the sale. The contract of sale is complete and binding when the user pays for and takes possession of the software package.<sup>139</sup> The user indicates acceptance of the offer to sell by

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134. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements). Courts have held that language contained on a product tag or label inviting the buyer to return the product unopened for a refund if he does not accept the terms, makes acceptance of the product conditional on acceptance of the terms. See Hill v. BASF Wyandotte Corp., 35 U.C.C. REP. SERV. (CALLAGHAN) 91, 97 (1982) (provision on label inviting buyer to repudiate if unwilling to accept terms makes terms express condition of sale); Bickett v. W.R. Grace & Co., 12 U.C.C. REP. SERV. (CALLAGHAN) 629, 636 (1972) (language on tag attached to seed bag expressly made acceptance of seed conditional on acceptance of disclaimer of warranty provisions).

135. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); attached appendix (IBM shrink-wrap license).

136. See Laurie, *supra* note 63, at 393-406 app. (sample license agreements); attached appendix (IBM shrink-wrap license).

137. See *infra* note 138 (discussing cases upholding terms and conditions of sale printed on product tags and labels).

138. See Monsanto Agricultural Products Co. v. Edenfield, 35 U.C.C. REP. SERV. (CALLAGHAN) 781, 786-87 (1983) (limitation of warranty and liability printed on label of herbicide can and on face of instruction booklet affixed to top of can became part of bargain); Hill v. BASF Wyandotte Corp., 35 U.C.C. REP. SERV. (CALLAGHAN) 91, 97 (1982) (conditions of sale printed on label of herbicide can were valid); Bickett v. W.R. Grace & Co., 12 U.C.C. REP. SERV. (CALLAGHAN) 629, 643 (1972) (courts long have recognized warranty disclaimers on tags attached to seed bags as part of sales contract); Aetna Casualty & Sur. Co. v. Eastman Kodak Co., 10 U.C.C. REP. SERV. (CALLAGHAN) 53, 56-57 (1972) (holding that disclaimer of warranty and limitation of remedy printed on Kodak film packages were valid and enforceable). The buyer cannot vary the terms and conditions of the sale contained on the product label, which exclusively control the legal relations of the parties. See Hill, 35 U.C.C. REP. SERV. (CALLAGHAN) at 96.

139. See Gillispie v. Great Atl. & Pac. Tea Co., 10 U.C.C. REP. SERV. (CALLAGHAN) 754, 757 (1972) (sale is consummated when seller completes delivery); see also U.C.C. § 2-401(2)

accepting possession and paying for the software.<sup>140</sup> The additional terms contained in the license agreement, therefore, constitute an attempt by the software developer to modify the original contract terms after the sale.<sup>141</sup> Although UCC section 2-209 does not require new consideration to modify the terms of a contract, mutual assent is necessary to subsequently modify the contract terms.<sup>142</sup> The courts consistently have refused to enforce post-contract, unilateral modifications of contract terms.<sup>143</sup> The shrink-wrap license, however, does provide the user with an opportunity to read and reject the additional terms contained in the software package before the user opens the separate diskette package. Opening the separate diskette package and using the software, therefore, may constitute the user's acceptance of the modified terms. Whether the user's act of opening the separate diskette package binds him to the modified contract terms, however, is questionable. Courts that have considered the modification of contracts in similar contexts generally have refused to allow the modifications.<sup>144</sup> For example, courts have declined to construe the buyer's use of a product after purchase as assent to subsequent modification of the terms of the sale.<sup>145</sup>

In *Horizons, Inc. v. Avco Corp.*,<sup>146</sup> the United States District Court for the District of South Dakota considered whether a seller's post contract,

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(1978) (unless otherwise explicitly agreed title passes to buyer when seller completes physical delivery of goods).

140. See *Salt River Project Agric. Improvement & Power Dist. v. Westinghouse Elec. Corp.*, 37 U.C.C. REP. SERV. (CALLAGHAN) 75, 83 (1983) (plaintiff accepted counter-offer by conduct manifested through acceptance, payment for and use of product).

141. See U.C.C. § 2-209(1) (1978) (agreement modifying contract within Article 2 needs no consideration to be binding).

142. U.C.C. § 2-209 (1978). See *Cambern v. Hubbling*, 18 U.C.C. REP. SERV. (CALLAGHAN) 653, 655-56 (1976) (although parties expressly may modify contract without new consideration, parties in fact must make agreement to modify terms). Under UCC § 2-209, contract modifications must meet the test of good faith, which may require a demonstrable reason for seeking the modification. U.C.C. § 2-209, comment 2 (1978).

143. See *Pennington Grain & Seed, Inc. v. Tuten*, 36 U.C.C. REP. SERV. (CALLAGHAN) 458, 462 (1982) (warranty disclaimer printed on tag attached to bag of seed after purchase was ineffective because it was post-contractual, unbargained for, unilateral attempt to limit obligations under contract); *Taterka v. Ford Motor Co.*, 25 U.C.C. REP. SERV. (CALLAGHAN) 680, 685-86 (1978) (disclaimer of warranty given to purchaser subsequent to sales transaction was ineffective); *Chrysler Corp. v. Wilson Plumbing Co., Inc.*, 15 U.C.C. REP. SERV. (CALLAGHAN) 78, 83 (1974) (refusing to enforce manufacturer's warranty disclaimer delivered after completion of sales contract); *Woodward v. Naylor Motor Sales*, 14 U.C.C. REP. SERV. (CALLAGHAN) 1269, 1273-74 (1974) (when seller gives disclaimer only subsequent to sale upon delivery of product, such disclaimer is ineffective to modify warranty).

144. See *supra* note 143 (discussing cases refusing to enforce subsequent unilateral modifications of contract terms).

145. See *Woodward v. Naylor Motor Sales*, 14 U.C.C. REP. SERV. (CALLAGHAN) 1269, 1274 (1974) (acceptance and use of automobile did not indicate express acceptance of modified terms).

146. 551 F. Supp. 771 (D.S.D. 1982). In *Horizons, Inc. v. Avco Corp.*, *Horizons, Inc.* (Horizons) ordered an engine remanufactured by Avco Corp. (Avco), a manufacturer of engines

unilateral modification of contract terms was binding on the buyer.<sup>147</sup> In *Horizons*, Avco Corporation (Avco), a seller of aircraft engines, unilaterally injected a limited standard warranty into a sales transaction after the purchase agreement was binding on Horizons, Inc. (Horizons), the buyer.<sup>148</sup> Since Avco had not disclosed the terms of the warranty to Horizons prior to the purchase agreement, and because the parties had not bargained for the additional terms as part of the contract, the South Dakota district court found that the limited warranty was not a part of the bargain.<sup>149</sup> The *Horizons* court concluded that a warranty limitation and disclaimer stated in printed matter given to the buyer only after the sale is not binding.<sup>150</sup> The *Horizons* court further concluded that Horizons' return of the warranty registration card standing alone could not constitute a modification of the contract.<sup>151</sup> The court refused to find that Horizons' conduct constituted an indication of Horizons' assent to the terms of the limited warranty for which the parties had not previously bargained.<sup>152</sup> In reaching its decision, however, the *Horizons* court partially relied on the fact that the warranty registration card was not in evidence to determine Horizons' understanding of the limited warranty.<sup>153</sup> The *Horizons* court also relied on a decision by the United States Court of Appeals for the Fifth Circuit reaching the same result in a similar case when the warranty registration card did not contain the warranty disclaimer or incorporate the disclaimer by reference and did not include the

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for utility aircraft, through a dealer. *Id.* at 773. When Horizons negotiated for the purchase of the engine, the parties did not discuss the warranties covering the engine. *Id.* When Horizons received the engine, however, Avco's limited standard warranty was included in a packet of materials attached to the engine at the time of delivery. *Id.* A Horizons employee filled out and mailed to Avco a warranty registration card which also was included in the packet. *Id.* at 773-74. Later, when Horizons experienced a series of mechanical breakdowns in the engine, Horizons sued Avco for breach of warranty in the United States District Court for the District of South Dakota. *Id.* at 774. In response to Horizons' complaint, Avco alleged an absence of privity of contract as a bar to the action. *Id.* at 777. The South Dakota district court, however, concluded that actions against manufacturers based upon warranty theories were actionable in South Dakota notwithstanding a lack of privity between the plaintiff and the manufacturer. *Id.* at 778. Avco also alleged that Avco's limited standard warranty excluded any liability for consequential damages. *Id.* Horizons argued that the limited warranty had not become part of the contract for the sale of the engine. *Id.* at 778-79.

147. *Id.* at 778.

148. *Id.*

149. *Id.* at 779. The *Horizons* court reasoned that the law does not favor warranty disclaimers and exclusions, and that the parties to a contract must negotiate or bargain for such terms in order to assure that the buyer is aware of the warranty limitations when the parties make the contract. *Id.*

150. *Id.*

151. *Id.* The *Horizons* court found that the Horizons' pilot who mailed the form to register the warranty did not understand the meaning of the exclusion of consequential damages at the time. *Id.* The court held, therefore, that the return of the registration form did not indicate Horizons' intent to relinquish warranties and remedies otherwise applicable by law. *Id.*

152. *Id.*

153. *Id.*

buyer's signature.<sup>154</sup> The *Horizons* court's decision suggests that a user's conduct in merely opening a diskette package and using the software probably will not constitute assent to the modified contract terms of a shrink-wrap license agreement because the user does not intend to indicate assent by his ordinary actions.<sup>155</sup>

Similarly, in *Woodward v. Naylor Motor Sales*,<sup>156</sup> the Michigan District Court for the Fifteenth Judicial District considered the effectiveness of warranty disclaimers given subsequent to the time of a sale.<sup>157</sup> In *Woodward*, the plaintiff, Woodward, had contracted with the defendant, Naylor Motor Sales (Naylor) for the sale of an automobile and had signed a purchase order that referred to warranties in Naylor's New Car Guarantee.<sup>158</sup> Naylor later had delivered the car along with a warranty booklet containing a disclaimer of the implied warranties of fitness and merchantability.<sup>159</sup> The Michigan district court refused to apply the doctrine of incorporation by reference to incorporate the catalogue into the sales contract.<sup>160</sup> The *Woodward* court held that the reference in the sales contract to Naylor's New Car Guarantee had not put the plaintiff on notice that the guarantee contained a disclaimer of warranties and the court, therefore, concluded that the clause was an insufficient disclaimer.<sup>161</sup> The *Woodward* court further held that Naylor could not disclaim the warranties after the creation of the contract unless the plaintiff expressly had agreed to accept the disclaimer as a subsequent modification of the contract.<sup>162</sup> The *Woodward* court concluded that the plaintiff's acceptance and use of the automobile did not indicate an express acceptance of the disclaimer because the buyer did not intend to give his ordinary action such a meaning.<sup>163</sup>

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154. *Id.* See *Van den Broeke v. Bellanca Aircraft Corp.*, 576 F.2d 582, 584 (5th Cir. 1978) (unless disclaimers are disclosed and agreed upon prior to creation of contract, such disclaimers are not binding). In *Van den Broeke v. Bellanca Aircraft Corp.*, the Fifth Circuit considered whether the return of a warranty card could operate as a waiver of warranty rights. 576 F.2d at 584. The *Broeke* court, however, found that the buyer did not intend to waive his rights by mailing the warranty card and concluded, therefore, that no waiver had occurred. *Id.* The Fifth Circuit held that a waiver must be a voluntary and intentional relinquishment of a known right. *Id.*

155. See *supra* notes 146-154 and accompanying text (discussing *Horizons* case). The *Horizons* case suggests that unless the parties expressly agree to modify a contract, terms injected after a sale will not be binding because they did not become part of the basis of the bargain. See *supra* notes 146-154 and accompanying text (discussing *Horizons* case). The offeror cannot give the meaning of assent to an ordinary act of the offeree when the offeree does not intend to give his acts such a meaning. See I A. CORBIN, CORBIN ON CONTRACTS § 73, at 310 (1963) (offeror has no power to cause ordinary act of offeree to operate as acceptance when offeree does not intend to give act such meaning).

156. 14 U.C.C. REP. SERV. (CALLAGHAN) 1269 (1974).

157. *Id.* at 1270, 1274.

158. *Id.* at 1270-71.

159. *Id.* at 1271.

160. *Id.* at 1272.

161. *Id.* at 1273-74.

162. *Id.*

163. *Id.* at 1274.

Applying the principles of the *Horizons* and *Woodward* decisions to the context of shrink-wrapped software sales, a user's opening of the separate diskette package and use of the software is unlikely to indicate the user's acceptance of the modified terms in the shrink-wrap license agreement because the user usually does not intend to accept the modified terms by his ordinary act of using the software.<sup>164</sup> When the software vendor does not package the software so that the license agreement is visible and readable before purchase, therefore, the terms of the license probably do not become part of the sales contract binding on the user.

UCC section 2-513 provides that the buyer has a right to inspect goods identified to a sales contract before payment or acceptance, unless the parties agree otherwise.<sup>165</sup> Under the provisions of the standard shrink-wrap license agreement, however, the user does not have an opportunity to inspect the software. The standard shrink-wrap license provides that the user may not return the software for a refund after opening the package, leaving the user with no opportunity to test the computer program.<sup>166</sup> Prepackaged application software, however, is standard in form and every user receives exactly the same program.<sup>167</sup> The user generally is able to see the software in operation at the computer store and, therefore, has an opportunity to inspect an exact copy of the software he purchases.<sup>168</sup> The user still retains the right to revoke acceptance if his copy of the software is substantially impaired.<sup>169</sup> Thus, although a user essentially waives his right to inspect his copy of the software under a shrink-wrap license agreement, the user still retains adequate assurance that he receives conforming goods.

Even if the shrink-wrap license becomes part of the sales contract, certain terms may not be effective. There is some question whether the Copyright Act preempts state law contract actions for the protection of intellectual

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164. See *supra* notes 146-63 and accompanying text (discussing *Horizons* and *Woodward* cases).

165. U.C.C. § 2-513 (1978) (unless otherwise agreed, buyer has right to inspect goods in any reasonable manner before payment or acceptance). See Laurie, *supra* note 63, at 393-406 app. (sample license agreement); attached appendix (standard shrink-wrap license). The standard shrink-wrap license provides for acceptance by opening the software package, therefore precluding the buyer from testing the software before accepting the license terms. See attached appendix (standard shrink-wrap license).

166. See attached appendix (standard shrink-wrap license).

167. See P. HOFFMAN, *supra* note 1, at 3.1-1 (users have identical copies of program when software is standard).

168. See *id.* (users are able to see software in operation at user sites).

169. See U.C.C. § 2-608 (1978) (buyer may revoke acceptance when nonconformity of goods substantially impairs value to buyer). Section 2-608(1) of the UCC makes the buyer's right to revoke acceptance conditional. *Id.* § 2-608(1) (1978). The buyer must have accepted due to his reliance that the seller would cure the nonconformity, the difficulty of discovering the nonconformity, or the seller's assurances. *Id.* Furthermore, under the UCC the buyer must revoke acceptance within a reasonable time after he discovers or should have discovered the nonconformity and before any substantial change occurs in the condition of the goods. *Id.* § 2-608(2).

property.<sup>170</sup> Section 301 of the Copyright Act, however, preempts only those state laws which create rights that are equivalent to the exclusive rights created by section 106 of the Copyright Act.<sup>171</sup> If other elements in addition to the elements of a copyright claim are necessary to constitute the state cause of action, then the state right is not equivalent to the federal rights under the Copyright Act and the Copyright Act does not preempt the right under state law.<sup>172</sup> The preemption question with respect to shrink-wrap license agreements, therefore, depends on whether the contractual limitations are merely the equivalent of copyright protection or contain elements different from copyright infringement.

Sections 109 and 117 of the Copyright Act, which limit the section 106 exclusive rights granted to a copyright owner, grant the owner of a particular copy the rights to transfer that copy and to make a copy for backup purposes.<sup>173</sup> Shrink-wrap license provisions restricting the user's rights to transfer and copy, therefore, conflict with the rights granted to the user under sections 109 and 117.<sup>174</sup> Legislative history and case law, however, suggest that such contractual provisions are valid and that the Copyright Act does not preempt breach of contract actions.<sup>175</sup> The legislative history of section 301 specifically states that nothing in the bill interferes with the rights of parties to contract with each other and to sue for breaches of contract.<sup>176</sup> Furthermore, the legislative history of section 109 states that although a violation of conditions imposed by contract on the future disposition of copies does not constitute copyright infringement, such a violation may constitute a breach of contract.<sup>177</sup> Similarly, several courts have held that

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170. See 2 M. NIMMER, *NIMMER ON COPYRIGHT* (Bender) § 16.04[C], at 16-24 (1984) (question arises whether Copyright Act preempts state law contract action for protection of idea).

171. 17 U.S.C. §§ 301, 106 (1982). The exclusive rights under section 106 of the Copyright Act include the rights of reproduction, distribution, preparation of derivative works, and public performance and display. *Id.* § 106.

172. See 1 M. NIMMER, *NIMMER ON COPYRIGHT* (Bender) § 1.01[B][1], at 1-12 (1984) (if state cause of action requires other element in addition to exclusive rights, right is not within general scope of copyright and there is no preemption). The purpose of § 301 of the Copyright Act was to adopt a uniform national copyright system and to preempt state common law of copyright. See H.R. REP. NO. 1476, 94th Cong., 2d Sess. 129-30, *reprinted in* 1976 U.S. CODE CONG. & AD. NEWS 5659 (discussing arguments for single federal system of copyright).

173. 17 U.S.C. §§ 109, 117 (1982).

174. *Id.*

175. See *infra* notes 176-79 and accompanying text (discussing legislative history of Copyright Act and case law).

176. See H.R. REP. NO. 1476, 94th Cong., 2d Sess. 132, *reprinted in* 1976 U.S. CODE CONG. & AD. NEWS 5659 (nothing in bill interferes with rights of parties to contract with each other); H.R. REP. NO. 781 (Committee on Judiciary), 98th Cong., 2d Sess. 29 n.53, *reprinted in* 1984 U.S. CODE CONG. & AD. NEWS 5750 (other examples of non-equivalent, and hence non-preempted, state rights would include breaches of contract).

177. See H.R. REP. NO. 1476, 94th Cong., 2d Sess. 79, *reprinted in* 1976 U.S. CODE CONG. & AD. NEWS 5659 (although parties cannot enforce contractual conditions on future disposition of copies by action for copyright infringement, conditions are enforceable as breach of contract).



even though an owner of a copy does not infringe the copyright by transferring the copy in breach of an agreement restricting rights to transfer, the owner of the copy may be liable for breach of contract.<sup>178</sup> An action for breach of contract does not provide rights equivalent to copyright because the plaintiff must allege another element, a promise, in addition to the violation of any of the exclusive rights.<sup>179</sup> Legislative history and case law, therefore, suggest that contractual restrictions on transfer and copying for backup purposes are effective.<sup>180</sup>

In addition to possible preemption problems, certain provisions in shrink-wrap licenses may be unconscionable and, therefore, unenforceable. Section 2-302 of the UCC allows a court to refuse to enforce contracts or clauses that were unconscionable at the time the parties entered into the contract.<sup>181</sup> Although courts will apply the unconscionability doctrine to prevent oppression and unfair surprise, courts will not invoke the doctrine to relieve a party from a bad bargain.<sup>182</sup> Courts have found unconscionability when a one-sided agreement deprives a party of all the benefits of the agreement or precludes any remedy for breach, or when the terms bear no reasonable relationship to business risks.<sup>183</sup> Courts, however, generally uphold limitations of liability that are reasonable and allow parties to allocate risks in a

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178. See *American Int'l Pictures, Inc. v. Foreman*, 576 F.2d 661, 664 and n.3 (5th Cir. 1978) (after first sale, buyer is not liable for copyright infringement but may be liable for breach of contract); *United States v. Atherton*, 561 F.2d 747, 751-52 (9th Cir. 1977) (once first sale occurs, copyright holder has only civil remedies against vendee who violated contractual restrictions on transfer); *United States v. Wise*, 550 F.2d 1180, 1187 n.10 (9th Cir.) (where first sale has occurred, licensee may be liable for breach of contract but is not guilty of copyright infringement), *cert. denied*, 434 U.S. 929 (1977); *Independent News Co. v. Williams* 293 F.2d 510, 516 (3d Cir. 1961) (buyer who acquired title to copy may be liable for violation of agreement but is not guilty of copyright infringement).

179. See 1 M. NIMMER, *NIMMER ON COPYRIGHT* (Bender) § 1.01[B][1], at 1-13 (1984) (breach of contract is not right equivalent to copyright because action involves additional element of promise to pay).

180. See *supra* note 170-79 and accompanying text (discussing whether Copyright Act preempts action for breach of license agreement).

181. See U.C.C. § 2-302 (1978) (court may refuse to enforce contract that court finds to have been unconscionable at time parties entered contract, or court may limit application of any unconscionable clause to avoid unconscionable result). *But see* *Earman Oil Co., Inc. v. Burroughs Corp.*, 625 F.2d 1291, 1299 (5th Cir. 1980) (refusing to find exculpatory provisions in contract unconscionable). An unconscionable contract is one that no reasonable man would make and no honest and fair man would accept. *York v. Georgia-Pacific Corp.*, 585 F. Supp. 1265, 1278 (N.D. Miss. 1984). There are two types of unconscionability, procedural unconscionability and substantive unconscionability. *Id.* The test of unconscionability is whether, in light of the commercial background and needs of the particular trade or case, the clause or contract is so one-sided that it is unconscionable under the circumstances existing at the time the parties made the contract. See *York*, 585 F. Supp. at 1278; see also U.C.C. § 2-302, comment 1 (1978).

182. See U.C.C. § 2-302, comment 1 (1978) (principle of unconscionability is one of prevention of oppression and unfair surprise); *Bank of Indiana, N.A. v. Holyfield*, 476 F. Supp. 104, 109 (S.D. Miss. 1979) (doctrine of unconscionability was intended to prevent oppression and unfair surprise, and not to relieve party from bad bargain).

183. See *Geldermann & Co. v. Lane Processing, Inc.*, 527 F.2d 571, 576 (8th Cir. 1975)

contract.<sup>184</sup> Furthermore, courts have upheld provisions in license agreements restricting the user's rights.<sup>185</sup> Because courts have upheld license restrictions and limitations of liability in similar situations, courts probably will uphold the provisions of shrink-wrap licenses if the shrink-wrap license becomes part of the sales contract.<sup>186</sup>

Many of the shrink-wrap license agreements that software proprietors presently use to market their software products probably do not become part of the sales contract binding on the user because the software vendor unilaterally imposes the terms of the license on the user after the sale is complete.<sup>187</sup> When the software proprietor packages the software with a license agreement on the back of the package, visible through the cellophane wrapping, however, the shrink-wrap license likely becomes part of the conditions and terms governing the sales contract.<sup>188</sup> When the license agreement is accessible to the buyer before purchase the user knows exactly what he is purchasing at the time of the sale and may either reject the bargain or accept the software subject to the terms of the offer.<sup>189</sup> Reliance on the use of license agreements in addition to copyright protection enables the software proprietor to control the use of his product and gain greater protection than he could obtain through the use of traditional methods of

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(provisions that bear no reasonable relationship to business risks are unconscionable); *Bank of Indiana, N.A. v. Holyfield*, 476 F. Supp. 104, 110 (S.D. Miss. 1979) (unconscionability is present when one-sided agreement deprives one party of all benefits of agreement or precludes remedy for breach).

184. See *Allen v. Kaiser Aluminum & Chem. Corp.*, 585 F. Supp. 154, 159 (E.D. Mo. 1984) (voluntary shift of liability does not violate public policy provided such shift is reasonable, is negotiated freely and does not absolve liability for party's sole negligence); *D'Antuono v. CCH Computax Sys., Inc.*, 570 F. Supp. 708, 713 (D.R.I. 1983) (parties to contract can negotiate rights freely); *Can-Key Indus., Inc. v. Industrial Leasing Corp.*, 26 U.C.C. REP. SERV. (CALLAGHAN) 53, 57 (1972) (if limitation of liability is reasonable courts should uphold limitation); *W. HAWKLAND*, *supra* note 129, § 2-302:01, at 156-57 (unconscionability doctrine is exception to freedom of contract and gives courts power to modify contract where free choice is absent). Courts exercise caution in analyzing printed form contracts. See *D'Antuono v. CCH Computax Sys., Inc.*, 570 F. Supp. 708, 714 (D.R.I. 1983) (boilerplate contracts should alert courts); *Bank of Indiana, N.A. v. Holyfield*, 476 F. Supp. 104, 111 (S.D. Miss. 1979) (considering factor that lease was printed form contract in finding terms of lease unconscionable).

185. See *supra* notes 12 & 54 and accompanying text (discussing general acceptance of courts of license agreements as legally effective means of protecting proprietors' rights).

186. See *supra* notes 181-85 and accompanying text (discussing unconscionability doctrine). Courts tend to uphold provisions allocating risks when the price of a product reflects such allocation. See *Aetna Casualty & Sur. Co. v. Eastman Kodak Co.*, 10 U.C.C. REP. SERV. (CALLAGHAN) 53, 56-57 (1972) (upholding limitations on liability that enabled company to reasonably price sale of film); *D'Antuono v. CCH Computax Sys., Inc.*, 570 F. Supp. 708, 715 (D.R.I. 1983) (noting that provision was factored into price and terms of agreement).

187. See *supra* notes 139-164 and accompanying text (discussing validity of shrink-wrap license agreements).

188. See *supra* notes 134-138 and accompanying text (validity of shrink-wrap license agreements analyzed).

189. See *supra* notes 134-138 and accompanying text (analyzing validity of shrink-wrap license agreements).

legal protection alone.<sup>190</sup> Upholding the validity of license agreements when the user has an opportunity to read the agreement before purchasing the software, therefore, properly balances the software proprietor's interest in protecting his intellectual property rights in software with the user's right to get what he bargains for.<sup>191</sup> Providing the software proprietor with adequate means of protecting his interests in software will encourage the innovative development of software and promote wide distribution.<sup>192</sup> If the software proprietor packages the software carefully, therefore, he can use a shrink-wrap license effectively in conjunction with copyright law to protect fully the proprietary interests in his software.

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190. *See supra* notes 51-58 and accompanying text (discussing protection afforded by use of license restrictions).

191. *See supra* notes 14-15 and accompanying text (discussing need to balance competing interests).

192. *See supra* note 3 and accompanying text (discussing need for methods to protect software).

## APPENDIX

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