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### The Computer Software Rental Act: Amending the First Sale Doctrine to Protect Computer Software Copyright

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# THE COMPUTER SOFTWARE RENTAL ACT: AMENDING THE "FIRST SALE DOCTRINE" TO PROTECT COMPUTER SOFTWARE COPYRIGHT

## I. INTRODUCTION

The spectacular growth of the computer and computer software<sup>1</sup> industries within the last several years<sup>2</sup> has created new areas of litigation<sup>3</sup> and concern for protecting the rights of computer software manufacturers, creators and consumers. Sales of both computers and software are increasing<sup>4</sup> because of their seemingly limitless applications in industry,<sup>5</sup> education,<sup>6</sup> health care,<sup>7</sup> homes, offices<sup>8</sup> and leisure activities.<sup>9</sup> As a re-

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1. The term "software" encompasses computer programs as well as data bases and documentation. Bender, *Software Protection: The 1985 Perspective*, 7 W. NEW ENG. L. REV. 405, 407 (1985). However, this Comment will use the term "software" synonymously with "computer program." A computer program is a "set of precise instructions that tells the computer how to solve a problem." *Data Cash Sys. v. JS&A Group*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979), *aff'd on other grounds*, 628 F.2d 1038 (7th Cir. 1980). The Copyright Act of 1976 (1976 Act) as amended defines a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (1982). The term "hardware" refers to the physical equipment that makes use of the software. For example, the computer itself is hardware. *Synercom Technology, Inc. v. University Computing Co.*, 462 F. Supp. 1003, 1005 (N.D. Tex. 1978).

2. Honan, *Trends*, PERS. COMPUTING, Oct. 1986, at 53.

3. See, e.g., *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521 (9th Cir. 1984) (operating systems software programs and application software programs are copyrightable); *Stern Elecs., Inc. v. Kaufman*, 669 F.2d 852 (2d Cir. 1982) (video game software audiovisual display is copyrightable); *Data Cash Sys.*, 480 F. Supp. 1063 (flow chart, source code and assembly phases of software program are copyrightable, but not in their object code phase).

4. Honan, *supra* note 2, at 53. Between 1981 and 1984 personal computer sales grew 700%. The growth declined in 1985, but projected figures for 1986 indicate that sales again will increase. InfoCorp, a California market research firm, estimates that business will use approximately 3.7 million personal computers in 1986. Analysts project sales of 1.6 million personal computers for home use in 1986. *Id.* at 55.

5. Industries now use computers for a wide variety of jobs, including everything from preparing payrolls to designing space stations. Companies such as Apple Computer promote desktop engineering in the area of computer aided design as well as desktop publishing. Desktop computer aided design programs assist in "[c]reating, editing, transmitting, and storing [design] drawings . . . completely" by computer. Freiburger & McNeill, *Desktop Engineering*, MACWORLD, Sept. 1986, at 125, 125.

6. A study conducted by the Center for Social Organization of Schools at Johns Hopkins University found that from 1983 to 1985 the number of computers used in grade schools increased nationwide from 250,000 to over 1,000,000. Spencer, *The Impact on Today's Children*, PERS. COMPUTING, Oct. 1986, at 153, 153. "From the smallest to the largest, school systems

sult, more of the public is becoming computer literate.<sup>10</sup> However, the proliferation of machines and software programming has brought with it

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nationwide have realized that computers are a lasting part of society and that students will need computing skills for tomorrow's information age." *Id.*

Computer use is also growing on the college campus. Many computer manufacturers offer discounts to college students and some schools, including Harvard Business School, West Point and the United States Naval and Air Force Academies, require students to own computers. Schwartz, *Today's Computer-Hip Generation*, PERS. COMPUTING, Oct. 1986, at 147. "Today's collegians are likely to be more fluent in Basic [a programming language] than Latin, and know more about Pascal [another programming language] than French philosopher Blaise Pascal." *Id.* at 148.

Outside of schools, educational programs for home use are also increasing. In addition to programs such as Hayden Software Co.'s SAT, developed specifically to help high school students prepare for the Scholastic Aptitude Test (SAT) College Entrance Examination, home educational software programs are now available for children ages three to eight. Some of these home software programs teach reading through alphabet games or games in which the child matches pictures with words; other games help to develop creative story writing and math skills. Nielson, *Macware Reviews*, MACWORLD, Sept. 1986, at 133, 153-54.

7. In the health care area, professionals use computers for testing and research. For example, the computerized axial tomography (CAT) scanner has revolutionized medical testing and diagnosis. The CAT scanner produces X-ray pictures of the human body in cross sections enabling radiologists to examine internal organs one slice at a time for evidence of abnormalities or tumors. SCIENCE YEAR, THE WORLD BOOK SCIENCE ANNUAL 156-67 (20th ed. 1985).

In the area of research, some biochemists, in the hope of learning why cells become cancerous, use computers to study the structure of molecules that move ions across cell membranes. Other researchers employ software programs to study the composition of DNA. McNeill & Freiburger, *The Labtop Macintosh*, MACWORLD, Oct. 1986, at 137.

8. A spokesperson for one Boston law firm which uses a computer system for inter-office communication, billing, maintaining records and other general office requirements recently enthused, "[The computer program] has been invaluable to the law firm for both communication and organization . . . . In today's go-go business and economic climate, the aggressive, emerging companies we represent rightly insist upon fast response time from us. [The computer] gives us that capability." Hartmann, *Boston Law Firm Uses Inbox*, THE MACINTOSH BUYER'S GUIDE, Summer 1986, at 36.

9. More than 10 years have passed since the computer game of Pong was introduced. Today's "computer games are light years away from Pong . . . . [G]ames and entertainment software now run the gamut from text adventures . . . to simulations of everything from hacking a high-security computer to flying a space shuttle to navigating a submarine." Caruso, *Entertainment*, PERS. COMPUTING, Oct. 1986, at 167, 167-68.

A recently developed software educational games package produced by Great Wave Software is available for children as young as age three. The program, Kidstime, includes puzzles, games and stories. It also allows the child to create melodies and write songs. Nielson, *supra* note 6, at 153. Among the adult games now available is Leather Goddesses of Phobos which "can be played in 'tame,' 'lewd' or 'suggestive' modes." Caruso, *supra*, at 169.

10. See *supra* note 6. While market research firms report that only 14% of homes throughout the United States have computers for non-business use, the home market is increasing at a rate of about 5% a year. Spencer, *Computers That Go Home*, PERS. COMPUTING, Oct. 1986, at 160-61. Some computer and software manufacturers feel the key to continued growth of computer literacy and increased non-business home use is to teach the benefits of the personal computer to potential customers. *Id.*

the problem of unauthorized software copying.<sup>11</sup>

The great demand for software programs coupled with their high cost makes software copying an attractive alternative to purchasing the programs. The availability of computer software which can be rented at a fraction of its purchase price facilitates software copying.<sup>12</sup>

Although the Copyright Act of 1976<sup>13</sup> (1976 Act) prohibits the reproduction of a program for sale,<sup>14</sup> it does allow a purchaser of a software program to alienate the copy purchased "by sale . . . , or by rental, lease, or lending."<sup>15</sup> Consequently, computer software manufacturers and computer software copyright owners assert that computer software rental results in software piracy, and therefore, current copyright protection is inadequate.<sup>16</sup>

Computers have helped usher society into an age that is technology-based. The growth of the computer industry and the resulting demand for software development has already necessitated modern interpretation<sup>17</sup> and amendment of the still young 1976 Act.<sup>18</sup> Software manufacturers and copyright owners contend that rental, with its resulting piracy, requires more than mere interpretation of the Act. They urge passage of legislation to amend the Act, specifically amending the "first sale doctrine."<sup>19</sup>

To this end, Congresswoman Patricia Schroeder is re-introducing a Computer Software Rental Act<sup>20</sup> in the 100th Congress. The proposed legislation prohibiting rental without copyright owner authorization

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11. See *infra* text accompanying notes 97-110 discussing the extent and cost of piracy to the computer software industry.

12. See *infra* note 94 and accompanying text discussing rental prices.

13. 17 U.S.C. § 101 (1982).

14. See 17 U.S.C. § 106(1). The exclusive right of reproduction belongs to the copyright owner. See *infra* text accompanying notes 84-93 discussing the copyright owner's exclusive rights.

15. 17 U.S.C. § 106(3). This concept is referred to as the "first sale" doctrine. See *infra* text accompanying notes 83-92.

16. 132 CONG. REC. E1919 (daily ed. June 3, 1986) (statement of Rep. Schroeder).

17. See *supra* note 2.

18. Section 117 of the Copyright Act of 1976 was specifically amended in 1978 to include copyright protection for computer software. See *infra* text accompanying notes 40-61 discussing the development of copyright protection for computer software.

19. See *infra* text accompanying notes 83-92 discussing the first sale doctrine; see also *supra* note 15.

20. Representative Schroeder introduced H.R. 4949 at the end of the 99th Congress. However, enough time was not available for hearings or debate on the bill. The text of H.R. 4949, which will most likely remain unchanged when the bill is reintroduced in the 100th Congress is as follows:

A Bill [t]o protect copyrighted computer programs from illegal copying.

Be it enacted by the Senate and House of Representatives of the United States of

would create a new exclusive right for software copyright owners: the right to rent software.<sup>21</sup> This Comment will examine the need for the proposed legislation by first discussing whether piracy of software is widespread and significant. Second, the author will determine whether, in light of the current practice of distribution under licensing agreements<sup>22</sup> and built-in copy protection systems,<sup>23</sup> such legislation is the appropriate solution to this problem.

## II. COMPUTER BASICS

Since computers and computer software are still a completely unfamiliar area to many, this section will provide some basic information on the general subject.

Every computer system has a central processing unit (CPU) which controls and coordinates the execution of instructions. The CPU follows instructions contained on computer programs which tell it what work to do.<sup>24</sup> Some computer programs are *operating systems* used to control and execute other programs which are *application programs*. An operating

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America in Congress assembled, . . . Section 109 of title 17 of the United States Code is amended . . . by inserting. . .

"(c) Notwithstanding the provisions of section 117 and of subsection (a) of this section, unless authorized by a copyright owner, the owner of a particular copy of a computer program may not, for purposes of direct or indirect commercial advantage, dispose of, or authorize the disposal of, the possession of the copy by rental, lease, or lending, or by any other activity or practice in the nature of rental, lease or lending."

H.R. 4949, 99th Cong., 2d Sess., 126 CONG. REC. E1919 (1986).

21. The exclusive rights in copyright works currently available to copyright owners are: (1) the reproduction right; (2) the right to prepare derivative works; (3) the distribution right; (4) the public performance right; and (5) the public display right. 17 U.S.C. § 106. The new exclusive right that the proposed amendment would create for software copyright owners would be the right to rent software. See *supra* note 20.

22. For some time now, software producers have distributed software under alleged licensing agreements in order to prevent rental, and thereby prevent piracy. If licensing agreements are valid, and not preempted by the 1976 Act, prohibition of rental already exists. For a discussion of licensing, see *infra* notes 139-51 and accompanying text.

23. Software rental firms contend that the growing complexity of computer programs make it essential to provide consumers the opportunity to "try before they buy." Effective built-in copy protection methods would allow consumers to rent software to determine if they wish to buy and simultaneously prevent piracy. Moreover, software rental firms contend that piracy is insignificant compared to the potential for lost business if users cannot rent before buying. Bunnell, *The Software Storm Ahead*, MACWORLD, Sept. 1986, at 13, 14. See *infra* text accompanying notes 152-66 for a discussion of embedded copy protection.

24. *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983), cert. dismissed, 465 U.S. 1033 (1984). The Central Processing Unit (CPU) is considered "hardware" as opposed to programs which are considered "software." Hardware is defined as the physical equipment directly involved in communications or data processing and generally includes, in addition to the CPU, such items as the disk drives, printer, keyboard and screen. MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNOLOGICAL TERMS 665 (1st ed. 1974).

system program might, for example, coordinate storing or printing of information, while an application program might perform word processing or play a game for the user.<sup>25</sup>

Programs are "written" in "languages" created specifically for computers. The United States Court of Appeals for the Third Circuit in *Apple Computer, Inc. v. Franklin Computer Corp.*<sup>26</sup> explained that:

There are three levels of computer language in which computer programs may be written. High level language . . . uses English words and symbols, and . . . [a] somewhat lower level language . . . which consists of alphanumeric labels (e.g., "ADC" means "add with carry"). Statements in [these two] language[s] . . . are referred to as written in "*source code*." The third, or lowest level computer language, is machine language, a binary language using two symbols, 0 and 1, to indicate an open or closed switch. . . . Statements in machine language are referred to as written in "*object code*."<sup>27</sup>

Thus, "[c]omputer programs are prepared by the careful fixation of words, phrases, numbers, and other symbols in various media . . . . [They] are sets of information in a form which, when passed over a magnetized head, cause minute currents to flow in such a way that desired physical work is accomplished."<sup>28</sup>

Computer programs are stored or fixed on different types of memory devices.<sup>29</sup> One such device is an internal permanent memory device, called a Read Only Memory (ROM),<sup>30</sup> which is incorporated into the circuitry of the CPU, and is used to store or fix a computer processing program. Once stored or fixed by embedding it in a ROM, the CPU can read the program. However, the program cannot be rewritten or erased.

Magnetic disks are another device used for fixing and storing programs. Computers can read and use the disks after insertion into the

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25. Wordstar, an IBM word processing program, is an example of an application program, while Disk Operating System (DOS), a program that instructs the CPU to copy a computer disk, is an operating system program.

26. 714 F.2d 1240.

27. *Id.* at 1243 (emphasis added) (footnote omitted).

28. NAT'L COMM'N ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT 10 (1978) [hereinafter CONTU REPORT]. See *infra* notes 47-63 and accompanying text for a discussion of CONTU.

29. *Apple Computer*, 714 F.2d at 1243.

30. The Read Only Memory (ROM) is a semi-conductor chip. *Id.* "'Chip' is the term used to describe an integrated circuit patterned on a base of silicon or other semiconductor material. 'Chips' are collections of transistors formed on a single ('integrated') structure which work together to perform assigned electronic functions." H.R. REP. NO. 98-781, 98th Cong., 2d Sess., at 11 (1984).

CPU or into an auxiliary disk drive. Because it is separate from the CPU, unlike a ROM embedded program, a program stored and fixed on a disk can be erased or rewritten.<sup>31</sup>

To duplicate a ROM embedded program requires copying the code onto a chip after removing the ROM from the circuitry of the CPU. However, one can duplicate a program stored on magnetic disk by inserting it into the CPU and using the copying mechanism available in the CPU.<sup>32</sup> Because this latter method is simple, fast and low in cost,<sup>33</sup> and because many computer programs are expensive,<sup>34</sup> piracy is to many an attractive alternative to buying. As The Final Report of the National Commission on New Technological Uses of Copyright<sup>35</sup> (CONTU Report) notes: "The cost of developing computer programs is far greater than the cost of their duplication."<sup>36</sup>

### III. COPYRIGHT PROTECTION OF COMPUTER SOFTWARE

#### A. Constitutional Basis

Article I of the United States Constitution authorizes copyright protection for computer software.<sup>37</sup> The framers, seeking to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries,"<sup>38</sup> enabled Congress to enact legislation establishing copyright protection for authors and their writing. Because courts have broadly interpreted the word *writing*, it has been possible to expand copy-

31. *Apple Computer*, 714 F.2d at 1243.

32. See, e.g. C. LU, *THE APPLE MACINTOSH BOOK* 129-31 (1984).

33. To copy a program disk, a blank disk is inserted into the CPU's main disk drive, while the disk to be copied is inserted in the second disk drive. The CPU is then instructed to copy the disk by one or a series of commands (generally by typing the instruction or by pressing designated keys). In a matter of a few moments the copy is made. If the computer user has only one disk drive, it takes a few minutes longer since it becomes necessary to alternately insert the blank disk and the program disk to be copied. *Id.*

To copy program disks containing embedded code protection, the process requires an additional step—that of using a code breaking disk at certain points in the copying process. *Id.* Software rental firms and advertisements in computer magazines make code breaking disks readily available. They are advertised as Copy II PC, Copy II Mac or by a similar name. See, e.g., advertisements in *MACWORLD*, Mar. 1987, at 100; *PERS. COMPUTING*, Oct. 1986, at 227; *PC WORLD*, Apr. 1986, at 232. See *infra* notes 152-66 and accompanying text discussing embedded code protection. See also *infra* note 99 discussing authorized copying for back-up purposes.

34. See *infra* note 95 and accompanying text discussing software program prices.

35. CONTU REPORT, *supra* note 28; see *infra* note 47 discussing the creation of CONTU.

36. CONTU REPORT, *supra* note 28, at 11.

37. U.S. CONST. art. I, § 8, cl. 8.

38. *Id.*

right protection to meet modern needs.<sup>39</sup> Among the works found to be *writings* and, therefore, copyrightable are photographs, records, motion pictures and computer programs.<sup>40</sup>

### B. Legislative History

Since enacting the original federal copyright law in 1790, Congress has adopted many revisions and amendments.<sup>41</sup> The 1909 revision<sup>42</sup> and amendments served during the era of greatest technological growth to resolve copyright protection questions in the new fields of radio, television, records, tapes, motion pictures and computers.<sup>43</sup> However, due to the magnitude of the technological explosion that had occurred, Congress became increasingly dissatisfied with the then existing copyright law.<sup>44</sup> In 1955, Congress appropriated funds to study the problem and to recommend changes.<sup>45</sup> In 1967, while legislation was being considered to revise the 1909 Act, Congress determined that the studies already in progress or completed had not adequately dealt with the copyright problems raised by computer use.<sup>46</sup> To remedy this, Senator John McClellan introduced a bill to establish the National Commission on New Technological Uses of Copyrighted Works (CONTU).<sup>47</sup> Without the

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39. CONTU REPORT, *supra* note 28, at 14. "[T]he word *writing* in the Constitution has broad and dynamic meaning." *Id.* For a discussion of Congress' intent to allow flexible and broad interpretation of the scope of copyrightable material under the 1976 Act, see 1 M. NIMMER, NIMMER ON COPYRIGHT § 2.03[A], at 2-24 (1984); *see also infra* note 40.

40. 17 U.S.C. § 102 (1982). The 1976 Act lists seven categories of works of authorship. They are: "(1) literary works; (2) musical works, . . . ; (3) dramatic works, . . . ; (4) pantomimes and choreographic works; (5) pictorial, graphic, and sculptural works; (6) motion pictures and other audiovisual works; and (7) sound recordings." *Id.* § 102(a) (1982).

The Code places computer software in the *literary works* category which the 1976 Act limits to "works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects . . . in which they are embodied." *Id.* § 101; *see also* Burrow-Giles Lithograph Co. v. Sarony, 111 U.S. 53 (1884) (photograph is writing and is copyrightable); Apple Computer, Inc. v. Formula Int'l, Inc., 562 F. Supp. 775 (C.D. Cal. 1983) (all computer programs are copyrightable), *aff'd.*, 725 F.2d 521 (9th Cir. 1984); Time, Inc. v. Bernard Geiss Assocs., 293 F. Supp. 130 (S.D.N.Y. 1968) (motion picture film of President Kennedy's assassination is proper subject matter for copyright protection).

41. CONTU REPORT, *supra* note 28, at 3; *see also infra* note 42.

42. Copyright Act of 1909, ch. 320, 35 Stat. 1075 (1909) (amended by Act of July 30, 1947, ch. 391, 61 Stat. 652 (1947) (codified as amended in scattered sections of 17 U.S.C.)).

43. CONTU REPORT, *supra* note 28, at 3.

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.* at 4. The 93rd Congress actually established the National Commission on New Technological Uses of Copyrighted Works (CONTU). Act of Dec. 31, 1974, Pub. L. No. 93-573, 88 Stat. 1873 (1974). The bill granted CONTU three years for its study of "the reproduc-



benefit of CONTU's recommendations, and after much study and debate,<sup>48</sup> Congress enacted the revised Copyright Act of 1976.<sup>49</sup> CONTU published its recommendations in 1979, and they were eventually incorporated by amendment into the 1976 Act.<sup>50</sup>

### C. *The 1976 Act*

The 1976 Act provides that only "original works of authorship fixed in any tangible medium of expression"<sup>51</sup> may be protected by copyright. A work is considered "fixed in any tangible medium of expression" if it "can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."<sup>52</sup> In addressing whether this protection was available for computer programs, CONTU explained that "[c]omputer programs are prepared by the careful fixation of words, phrases, numbers, and other symbols in various media . . . and that [t]he instructions that make up a program may be followed by a human being."<sup>53</sup> Thus, CONTU determined that computer programs are eligible for copyright under the 1976 Act.<sup>54</sup> Furthermore, CONTU noted that with the increased demand for computers and computer programs, there was a greater need to protect that form of expression.<sup>55</sup> This was particularly true since it is more expensive to develop computer programs than it is to duplicate them, tempting a less than scrupulous person to save the

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tion and use of copyrighted works of authorship . . . in conjunction with automatic systems capable of storing, processing, retrieving, and transferring information." CONTU REPORT, *supra* note 28, at 4. CONTU's task included the study of photocopying as well as computers and computer software.

President Gerald Ford appointed the CONTU members which included representatives of authors and copyright owners, copyright users and the public. The 12 Commission members included John Hersey, President of the Authors League of America, Inc., Dan Lacy, Senior Vice-President of McGraw Hill, Inc., (publishers), Arthur R. Miller, Professor of Law at Harvard Law School, Stanley H. Fuld, retired Chief Judge of the State of New York and the New York Court of Appeals and Melville B. Nimmer, Professor of Law at the University of California at Los Angeles. CONTU REPORT, *supra* note 28, at 4.

48. It took 21 years from the initial appropriation of funds for the study of revision until the passage of the 1976 Act.

49. 17 U.S.C. § 101 (1982).

50. An Act to Amend the Patent and Trademark Laws, Pub. L. No. 96-517, § 10(a)-(b), 94 Stat. 3015, 3028 (1980) (codified at 17 U.S.C. §§ 101, 117 (1982)).

51. 17 U.S.C. § 102(a) (1982).

52. *Id.* Under the 1909 Act, for federal copyright to protect electronic media (or conventional) works of authorship, it was necessary that the work be published and that a copyright notice be affixed. Now, material used or stored in a computer is protected if it is an original work of authorship from the time of its *creation* without publication or the need for affixing copyright notice. CONTU REPORT, *supra* note 28, at 8.

53. CONTU REPORT, *supra* note 28, at 10.

54. *Id.* at 12; *see also supra* note 40.

55. CONTU REPORT, *supra* note 28, at 10.

cost by duplicating.<sup>56</sup> Consequently, "legal as well as physical protection for [such] information is a necessary incentive if such information is to be created and disseminated."<sup>57</sup> As "[t]his proposition is the underlying principle of copyright,"<sup>58</sup> the Commission concluded that copyright protection for computer programs was desirable.<sup>59</sup>

In 1980, Congress amended the 1976 Act to include CONTU's recommendations.<sup>60</sup> By repealing the existing section 117,<sup>61</sup> enacting a new section 117<sup>62</sup> and adding the definition for computer program to section 101,<sup>63</sup> Congress achieved greater clarification of federal copyright protection for computer software than had previously existed.

#### D. Evolution of Software Copyright Protection

While the 1980 amendment of the 1976 Act helped statutorily estab-

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56. *Id.* at 10-11.

57. *Id.*

58. *Id.* In a number of cases, courts have expressed the underlying purpose of copyright. *See, e.g.,* Goldstein v. California, 412 U.S. 546, 555 (1973) (purpose of copyright is to promote intellectual and artistic creation by rewarding authors with control of their work); Mazer v. Stein, 347 U.S. 201, 219 (1954) (purpose underlying copyright is to encourage creativity in science and the arts by protecting individual gain); Gilliam v. American Broadcasting Co., 538 F.2d 14, 24 (2d Cir. 1976) (purpose of copyright law is to offer economic incentive for artistic and intellectual creation).

59. Until 1964, specific mention of copyright protection for computer software was deliberately avoided. CONTU REPORT, *supra* note 28, at 82. The Registrar of Copyright explained that those suggesting revision of the copyright law considered it "safer to draft general language which [could] be interpreted by the courts," because of the great number of anticipated developments in the computer field within the near future. *Id.* However, the Copyright Office announced in May 1964, that copyright registration of computer programs would be allowed under the 1909 Act. *Id.*

60. Act of Dec. 12, 1980, Pub. L. No. 96-517, 94 Stat. 3028 (codified at 17 U.S.C. §§ 101, 117 (1982)).

61. Prior to its amendment, § 117 read as follows:

Notwithstanding the provisions of sections 116 and 118, this title does not afford to the owner of copyright in a work any greater or lesser rights with respect to the use of the work in conjunction with automatic systems capable of storing, processing, retrieving, or transferring information, or in conjunction with any similar device, machine, or process, than those afforded to works under the law, whether title 17 or the common law or statutes of a State in effect on December 31, 1977, as held applicable and construed by a court in an action brought under this title.

17 U.S.C. § 117 (1976), amended by 17 U.S.C. § 117 (1980). The Committee on the Judiciary House Report No. 94-1476 noted that § 117 was enacted as an interim measure to protect existing copyrights until the recommendations of CONTU became available for consideration. H.R. REP. NO. 1476, 94th Cong., 2d Sess., reprinted in 17 U.S.C. § 117 historical and revision notes (1982).

62. 17 U.S.C. § 117. The new § 117 primarily differs from the original by allowing owners of copyrighted programs to make archival copies. *See infra* note 99.

63. Section 101 defines a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (Supp. 1980).

lish software protection, the scope of that protection was still unclear.<sup>64</sup> It was not until courts stepped in to resolve specific questions that the extent and nature of software copyright protection became clearer. The legal principles underlying copyright protection for computer software, having roots in earlier copyright questions, had to be examined.

The evolution of software copyright protection in effect began before the computer was born. Before modern day judicial interpretation concerning eligibility of copyright protection for computer programming could be applied, the holding in *White-Smith Music Publishing Co. v. Apollo Co.*<sup>65</sup> had to be laid to rest. In *White-Smith*, the United States Supreme Court held that a player piano roll was not a copy of the music produced when played, since it was incapable of being read by the unaided human eye.<sup>66</sup> Therefore, the Court determined there was no infringement when the roll was duplicated without authorization. Under this holding, which became part of the interpretation of copyright law under the 1909 Act,<sup>67</sup> a precise duplication of the object code in a ROM or the code on a disk is not an infringement, because neither can be seen by the unaided human eye.<sup>68</sup> The amended 1976 Act remedied this loophole by allowing copyright protection for works which can be perceived "either directly or with the aid of a machine or device."<sup>69</sup> However, because of its complex nature, there was still confusion as to whether all software was copyrightable.<sup>70</sup> Because the computer program was understood by the courts to be in some cases a writing and in some a

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64. See, e.g., *Apple Computer, Inc. v. Formula Int'l, Inc.*, 562 F. Supp. 775 (C.D. Cal. 1983) (all computer programs are copyrightable), *aff'd*, 725 F.2d 521 (9th Cir. 1984); *Apple Computer, Inc. v. Franklin Computer Corp.*, 545 F. Supp. 812 (E.D. Pa. 1982) (computer program, whether in object or source code is "literary work" and is protected from unauthorized copying, consequently, computer operating system is copyrightable), *rev'd*, 714 F.2d 1240 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171 (N.D. Cal. 1981) (computer program is a work of authorship subject to copyright; the silicon chip upon which the program is imprinted is a tangible medium of expression).

65. 209 U.S. 1 (1908). In *White-Smith*, the Court held that the piano roll was more like a mechanism than a copy of music. Since the music could not be communicated to a human without the piano, it was more like a part for the piano than a "copy" of music. Therefore, the Court held that the piano role was not protected by copyright law. *Id.* at 18.

66. *Id.*

67. See, e.g., *Data Cash Sys., Inc. v. JS&A Group*, 480 F. Supp. 1063 (N.D. Ill. 1979), *aff'd*, 628 F.2d 1038 (7th Cir. 1980). In *Data Cash*, one of the first cases to deal with the *White-Smith* doctrine as it relates to computer programs, the court held that "the ROM is not in a form which one can 'see and read' with the naked eye, [and therefore] it is not a 'copy' within the meaning of the 1909 Act." *Id.* at 1069.

68. *Id.*

69. 17 U.S.C. § 102(a) (1982).

70. See *supra* note 2.

machine operating part, disagreement continued as to the extent of its copyrightability.<sup>71</sup> As a machine part, it was not copyrightable.<sup>72</sup> The argument continued until the Third Circuit, in *Apple Computer, Inc. v. Franklin Computer Corp.*,<sup>73</sup> reversed the lower court's decision that the object code programs in question were not copyrightable. The lower court had reasoned that the programs worked as machine parts, operating the computer. The Third Circuit, however, concluded that "[i]f . . . programs can be written or created which perform the same function as an . . . operating system program, then that program is an expression of the idea and hence copyrightable."<sup>74</sup> Thus, the circuit court held unequivocally that "a computer program, whether in object code or source code, is a 'literary work' and is protected from unauthorized copying, whether from its object or source code version."<sup>75</sup>

The *Franklin* decision was echoed by the Ninth Circuit in *Apple Computer, Inc. v. Formula International, Inc.*<sup>76</sup> In *Formula*, the Ninth Circuit agreed with the Third Circuit and held that "the copyrightability of computer programs [was] firmly established after the 1980 amendment of the Copyright Act."<sup>77</sup> The *Formula* court concluded that "[i]t is crystal-clear that CONTU recommended that *all* computer programs, fixed in any method and performing any function, be included within copyright protection. There likewise can be no doubt but that Congress accepted that recommendation and embodied it in the 1980 amendments to the Copyright law."<sup>78</sup>

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71. *Data Cash Sys.*, 480 F. Supp. at 1063. "The 'source program' is a writing while the 'object program' is a mechanical tool or machine part." *Id.* at 1065. CONTU members also disagreed. Commissioner Hersey recommended in his dissent to the CONTU Report that:

The Act of 1976 should be amended to make it explicit that copyright protection does not extend to a computer program in the form in which it is capable of being used to control computer operations.

Congress could obtain any technical advice necessary to assist it in reaching an appropriate definition of the cutoff point, the point at which a program ceases being a copyrightable writing and becomes an uncopyrightable mechanical device.

CONTU REPORT, *supra* note 28, at 37.

72. The subject matter protected by copyright are works of authorship included in the seven categories listed in § 102 of the Copyright Act. *See supra* note 40.

73. 545 F. Supp. 812, *rev'd*, 714 F.2d 1240. In *Franklin*, the defendant admitted copying the object code programs of the plaintiff but the court denied an injunction based on the reasoning in *White-Smith*. The lower court found the purpose of the programs was to operate the computer and was not meant for human communication. Therefore, the programs could not be copyrighted. *Id.*

74. *Id.* at 1253.

75. *Id.* at 1249.

76. 725 F.2d 521 (9th Cir. 1984).

77. *Id.* at 780 (quoting *William Elecs., Inc. v. Artic Int'l, Inc.*, 685 F.2d 870, 875 (3d Cir. 1982)).

78. *Formula*, 562 F. Supp. at 781 (emphasis in original).

Because there have been no appeals of circuit court decisions on the question of copyrightability of computer software, written in either source or object code, the Supreme Court has not had an opportunity to express its view. However, since no circuit court has yet found computer software to be ineligible for copyright protection, it appears the argument, for the time being, is settled.

#### IV. COMPUTER SOFTWARE RENTAL

Some in the computer world who favor computer software rental feel that "most software is confusing, difficult, and time-consuming to learn,"<sup>79</sup> and, therefore, software users should have the opportunity to try before they buy.<sup>80</sup> On the other hand, software copyright holders contend that the availability of rental undermines the effectiveness of copyright protection.<sup>81</sup> Under the 1976 Act, it is not an infringement for a purchaser of copyrighted material to rent the copy purchased to another party.<sup>82</sup> This statutory concept is referred to as the first sale doctrine.<sup>83</sup>

##### A. *The First Sale Doctrine*

Under the 1976 Act, a copyright owner is entitled to protection of five exclusive rights in relation to the work that has qualified for copyright.<sup>84</sup> Those rights are (1) the reproduction right; (2) the right to prepare derivative works; (3) the distribution right; (4) the public performance right; and (5) the public display right.<sup>85</sup> The first sale doctrine limits the distribution right by providing that once the copyright owner has transferred ownership of a particular copy, the new owner can redistribute by resale, rental or loan *that copy* without the consent of the copyright owner.<sup>86</sup> For instance, if a software manufacture/copyright owner sells a copy of Macwrite,<sup>87</sup> the purchaser/retailer can resell or rent that

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79. Bunnell, *The Software Storm Ahead*, MACWORLD, Sept. 1986, at 13.

80. See generally Bunnell, *The Battered PC User*, PC WORLD, Apr. 1986, at 13, discussing the increasing difficulty of understanding new software and the need for more information, help and service for the user.

81. See *supra* note 16.

82. 17 U.S.C. § 109(a) (1982).

83. See *infra* notes 84-93 and accompanying text discussing the origin of the first sale doctrine.

84. See *supra* note 40.

85. 17 U.S.C. § 106(1)-(5) (1982).

86. 17 U.S.C. § 109(a).

87. Macwrite is a word processing program developed by Apple Computer, Inc. to be used with the Macintosh computer.

copy to someone else.<sup>88</sup>

Although the term first sale is not actually used in either the original 1909 Act or the 1976 Act, the concept existed in the 1909 Act. The origin of the term first sale with respect to this concept of ownership rights dates back to the House Report on the 1909 Act.<sup>89</sup> That report explained "that it would be most unwise to permit the copyright proprietor to exercise any control whatever over the article which is the subject of copyright after said proprietor has made the *first sale*."<sup>90</sup> This use of the term first sale was not seen in a published opinion until 1942, when a federal district court in New York decided *Fawcett Publications, Inc. v. Elliott Publishing Co., Inc.*<sup>91</sup> In *Fawcett*, which examined a defendant's resale of the plaintiff's comic books, the court, in finding no infringement, confirmed that:

The exclusive right to vend is limited. It is confined to the first sale of any one copy and exerts no restriction on the future sale of that copy. . . . The defendant is not charged with copying, reprinting or rearranging the copyrighted material of the plaintiff or any of its component parts.<sup>92</sup>

Courts continue to affirm the first sale doctrine<sup>93</sup> and thereby continue to allow non-copyright owners of computer software to sell and rent the copies sold to them by manufacturers.

### *B. Availability of Computer Software Rental*

Software rental is, and has been for some time, readily available by mail-order. However, the computer software rental store is a relatively recent innovation.<sup>94</sup> Advertisements placed in magazines which cater to computer users list programs available for rental, their prices, membership fees, toll free numbers, and almost without exception specify that the rental price can be applied to the purchase price. Rental by mail is for a set fee and a set period of time.<sup>95</sup>

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88. 17 U.S.C. § 109(a).

89. H.R. REP. NO. 2222, 60th Cong., 2d Sess., 19 (1909).

90. *Id.* (emphasis added).

91. 46 F. Supp. 717 (S.D.N.Y. 1942).

92. *Id.* at 718.

93. See, e.g., *United States v. Powell*, 701 F.2d 70 (8th Cir. 1983) (first sale defense is applicable to legitimately obtained records); *United States v. Atherton*, 561 F.2d 747 (9th Cir. 1977) (conviction for selling allegedly stolen movies reversed on the basis that a first sale had occurred); *United States v. Wise*, 550 F.2d 1180 (9th Cir.) (exclusive right to vend the transferred copy rests with the vendee), *cert. denied*, 434 U.S. 929 (1977).

94. Bunnell, *supra* note 79.

95. For example, one can rent a variety of software for 14 days through the 1986 spring catalogue of MacRentals, a Texas mail order software rental firm. The catalogue lists a rela-

Computer rental stores, on the other hand, operate more like video rental stores. Software users select from software on display and pay a daily rental fee of between one and twenty dollars. The rental fee in the store, like the mail order fee, can be applied to the purchase price.<sup>96</sup> Software manufacturers and copyright owners contend that rental firms, because their fees make rental more attractive than purchase and because many of the firms also sell code-breaking programs, encourage their customers to pirate programs.<sup>97</sup> One commentator goes so far as to blame piracy for the decline experienced in the software industry in 1985.<sup>98</sup>

### C. The Piracy Problem

Piracy is the term used to describe the unauthorized copying of computer software programs.<sup>99</sup> It refers to infringement either by one

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tively inexpensive game program for the Macintosh computer, Mac Vegas, which is manufactured by Videx, Inc., as retailing for \$59. It can be rented, however, for \$9.95. A more expensive office management program, such as Executive Office, manufactured by Datapak Software, sells for \$349 and can be rented for \$50.35. Shipping charges are paid by the mail order firm for orders over \$200. MACRENTALS SPRING CATALOG 1986 (copy on file at *Loyola of Los Angeles Law Review*).

96. Bunnell, *supra* note 79, at 13.

97. *Id.* at 16. Code breaking programs are used to facilitate creating copies of software for archival purposes. Since § 117(2) of the 1976 Act permits copying for such purpose, the sale of code breaking disks is legal. See 17 U.S.C. § 117(2) (1982); see also *infra* note 99. However, code breaking disks can also be used to overcome embedded copy protection for illegal purposes. For a discussion of embedded copy protection, see *infra* text accompanying notes 153-66.

An in depth discussion of whether the seller of a code breaking disk is guilty of contributory infringement is beyond the scope of this Comment; however, the basis of such an analysis would require the examination of the merit of the alleged primary purpose of a code breaking disk. See, e.g., *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), where the Court held that manufacturers of video tape machines were not contributory infringers because the machines had a non-infringing primary purpose—off air video taping of television program for time shifting (later viewing). *Id.* at 449.

98. Note, *Copyrightability of Software: Piracy on the Waters of Protection*, 37 S.C.L. REV. 679, 680 (1986).

99. Section 117 of the United States Code allows the software user to make an authorized copy provided:

(1) that such new a copy [sic] . . . is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or

(2) that such new copy . . . is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program.

17 U.S.C. § 117 (1982). The CONTU report explained that the purpose of permitting an owner of a program to make a back-up (archival) copy is to protect against the risk of "de-

company copying the software of another company *or* the unauthorized copying by lawful users of particular programs.<sup>100</sup> It is the latter form of copying that concerns the software manufacturers and copyright owners who are urging the passage of the Computer Software Rental Act.<sup>101</sup>

Copyright owners' concerns stem from the increase of software piracy in relation to the increase of computer software used. As computer software use grows, computer software piracy increases.<sup>102</sup> Because research involved in the development of computer software is costly, piracy results in staggering financial losses to the computer industry.<sup>103</sup> Analysts estimate that 1.3 billion dollars in sales were lost from piracy between 1981 and 1984 alone.<sup>104</sup>

The software pirate, morality aside, benefits greatly from piracy. Unlike the copying of phonorecords or tapes, there is no loss of fidelity with the copying of software. A blank disk costs little,<sup>105</sup> the copying method is simple<sup>106</sup> and the rental price is a fraction of the purchase price.<sup>107</sup> Since vendors include instructions with the rented software, the pirate also has the opportunity to duplicate them. What the pirate might lose is service from the manufacturers if the program is faulty, or updates which many companies make available.<sup>108</sup>

Software rental firms benefit from the fees paid. If the software user decides to purchase, the firm also benefits from the sale. If the software user does not purchase the software, when it is returned it can be rented

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struction or damages by mechanical or electrical failure." CONTU REPORT, *supra* note 28, at 31. They cautioned, however, that "this permission would not extend to other copies of the program." *Id.*

100. Note, *supra* note 98, at 679.

101. Another alleged form of piracy involving rental is the subject of a suit recently filed by the Software Publishers Association of United States against the Canadian mail order rental firm Softsave. The suit alleges that the programs that Softsave rents to its customers are themselves pirated. This takes piracy one step further than that being discussed in this Comment. The piracy allegedly occurs both before rental and as a result of rental. According to Kenneth Wasch, executive director of the Software Publishers Association, Softsave, until recently enjoined by court order, was renting out about approximately 1000 illegally copied software program disks a day. Wasch alleges further "that 90% of Softsave's orders are from U.S. customers, including 'some major American companies,'" Walters, *Software Firms Sue Distributor Over Copying*, L.A. Times, Dec. 23, 1986, pt. 4, at 2, col. 3.

102. See Note, *supra* note 98, at 679.

103. *Id.* at 680.

104. Smiddy & Smiddy, *Caught in the Act*, DATAMATION, June 15, 1985, at 102.

105. Some blank disks can be purchased for less than \$2. MACRENTALS SPRING CATALOG 1986 (copy on file at Loyola of Los Angeles Law Review).

106. See *supra* note 33.

107. *Getting Tough on Software Theft*, BUS. WEEK, May 31, 1982, at 28, 29; see *supra* note 95 and accompanying text for a discussion of rental cost.

108. Walters, *Ashton-Tate Ends Copy Protection*, L.A. Times, Aug. 19, 1986, pt. 4, at 1, col. 4.



out again for another fee. Because the 1976 Act provides for an infringement only if the user copies the program or a contributory infringement<sup>109</sup> if the rental firm rents the software with knowledge that the user will infringe,<sup>110</sup> the above transactions do not violate the first sale doctrine.

After the first sale of the software, manufacturers and copyright owners lose a sale each time the user rents software instead of purchasing. Arguably, Congress intended this result since it included in the copyright law a first sale doctrine which permits a buyer to dispose of the copy he or she owns "by sale . . . or by rental, lease, or lending."<sup>111</sup> However, it is difficult to argue that Congress intended manufacturers to lose again each time a copy distributed by rental is copied or a copy so pirated is recopied. If there is a defense for copying rented software it could only be that the copying is a "fair use."<sup>112</sup>

### 1. The fair use defense for copying

The fair use doctrine limits a copyright owner's exclusive right of reproduction.<sup>113</sup> If the user who copies software can justify copying by a "fair use" defense, then he or she is not an infringer. An example of how courts apply the fair use defense occurs in *Sony Corp. v. Universal City Studios, Inc.*<sup>114</sup> In *Sony*, the United States Supreme Court determined that copying television programs off the air by means of a video recorder was fair use and not infringement of copyright. The factors the Court considered in arriving at its decision were those suggested in section 107 of the 1976 Act:

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

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109. *Gershwin Publishing Corp. v. Columbia Artists Management, Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971). "[O]ne who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another, may be held liable as a 'contributory' infringer." *Id.*

110. See *supra* note 97 discussing the rental of code breaking disks as contributory infringement.

111. 17 U.S.C. § 106(3).

112. Fair use limits the exclusive rights of the copyright owner. The 1976 Act allows copying "for such purposes as criticism, comment, news reporting, teaching . . . , scholarship, or research." 17 U.S.C. § 107.

113. *Id.*

114. 464 U.S. 417 (1984).

the potential market for or value of the copyrighted work.<sup>115</sup>

Looking at the first factor, the Court found that the purpose and character of "timeshifting" (copying for later viewing) was noncommercial and nonprofit activity and was therefore a fair use.<sup>116</sup> If copying of software is for later personal use and not for sale, under the *Sony* rationale, like off air-taping, it would not be copyright infringement. However, the analogy must not end there. In *Sony* the second statutory factor, the nature of the copyrighted work, was one "which [the viewer] had been invited to witness . . . free of charge."<sup>117</sup> The software user, on the other hand, whether he or she rents or buys, has *not* been invited to use the software for free. Since the intrinsic character of the work is that it is for sale, when a user copies software without authorization, his or her use is contrary to the nature of the copyrighted work.

The third factor, both in the case of off air video taping and software copying, "the amount and substantiality of the portion used,"<sup>118</sup> requires no analysis. Television programs generally and computer programs most certainly are copied in their entirety. The Court in *Sony* dismissed the third factor, stating "the fact that the entire work is reproduced . . . does not have its ordinary effect of militating against a finding of fair use."<sup>119</sup> With software, reproduction of the entire work is relevant because software is only valuable in its whole form.

The *Sony* Court found the fourth factor, the effect of the use upon the potential market for or value of the copyrighted work, insignificant.<sup>120</sup> In light of the proliferation of the video recorder today and cable television's showing of recent movies, the Court, with hindsight, might view the effect of video taping on the potential market for movies and commercial television shows differently.<sup>121</sup> Certainly, the financial

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115. 17 U.S.C. § 107.

116. *Sony*, 464 U.S. at 449.

117. *Id.*

118. 17 U.S.C. § 107(3).

119. *Sony*, 464 U.S. at 449-50.

120. 17 U.S.C. § 107(4).

121. For an analysis of the *Sony* decision and the effect of video and software copying on the potential market of copyrighted works in both areas, see generally Case Comment, *The "Flexibility Factor" in Copyright, Trade Secret and Patent Law for Computer Software: The Aftermath of Sony*, 11 OHIO N.U.L.REV. 333 (1984); see also Case Comment, *Betamax Meets The Supreme Court: A Judicial Disappointment*, 20 NEW ENG. L. REV. 285 (1984-85) (copyright owner's right to control and exploit his or her work seriously undermined by *Sony* decision); cf. Leete, *Betamax and Soundrecordings: Is Copyright in Trouble?*, 23 AM. BUS. L.J. 551 (1986) (data relied on by United States Supreme Court in *Sony* as to sales of recording equipment in determining harm to potential market value of audio and video tapes outdated); Sinclair, *Fair Use Old and New: The Betamax Case and Its Forebears*, 33 BUFFALO L. REV.

effects of software piracy on the software market today is significant.<sup>122</sup> Therefore, when considering the statutory factors relevant to determining fair use in the case of software, it is difficult to find that copying is not an infringement whether the software is rented or purchased.

#### V. SUFFICIENCY OF CURRENT COMPUTER SOFTWARE COPYRIGHT PROTECTION

When Representative Patricia Schroeder introduced the original Computer Software Rental bill,<sup>123</sup> she stated that its purpose was to protect "the exploitation of the personal computer software industry."<sup>124</sup> She added that "commercial business interests should not be allowed to reap profits from loopholes in the copyright laws, or to conduct trade in copyrighted works at the expense of copyright owners."<sup>125</sup> The proposed Computer Software Rental bill, by amending the first sale doctrine, is intended to close the copyright "loophole" upon which computer software renters have relied and close down software rental companies.<sup>126</sup>

Furthermore, Representative Schroeder "believe[s] that *only* congressional action can ensure that [the] growing practice of computer software rental does not deal a damaging blow to the copyright protection of computer software."<sup>127</sup> To determine whether congressional action is the *only* answer, it is necessary to examine two other attempted alternatives—licensing<sup>128</sup> and embedded code protection.

##### A. Licensing of Software

In an attempt to circumvent the first sale doctrine, software manufacturers use licensing agreements.<sup>129</sup> By licensing software rather than

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269 (1984) (*Sony* decision justified except where videotapes of television program made available for rental or cable).

122. See *supra* text accompanying notes 102-04.

123. 132 CONG. REC. E1919 (daily ed. June 3, 1986) (statement of Rep. Schroeder).

124. *Id.*

125. *Id.*

126. Yates & Jones, Software Rental: A Legislative Response (1986) (unpublished information sheet prepared by the Legal Legislative Committee of the Southeastern Software Association) (copy on file at *Loyola of Los Angeles Law Review*). "If adopted, the amendment could put software rental companies out of business." *Id.*

127. H.R. 4949, 99th Cong., 2d Sess., 126 CONG. REC. E1919 (daily ed. June 3, 1986) (statement of Rep. Schroeder) (emphasis added).

128. The attempt to pass the Computer Software Rental Act appears to indicate that the software manufacturers and copyright owners do not question that a first sale has occurred. They have conceded that the 1976 Act grants rental store operators the right to rent software programs to consumers. Rather, they seek to eliminate that right by amending the 1976 Act.

129. S. MANDELL, COMPUTERS, DATA PROCESSING AND THE LAW 7-8 (1984). Licensing

selling it, copyright owners allegedly retain ownership and therefore can limit the user's rights to copy, transfer or modify the software, thereby making the first sale doctrine inapplicable.<sup>130</sup>

However, some questions remain concerning the effectiveness of software licensing agreements.<sup>131</sup> This is particularly true of shrink-wrap licenses which exist when the licensing agreement is part of the software packaging.<sup>132</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. 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>133</sup>

In the case of a shrink-wrap license, manufacturers hold the consumer to a unilateral licensing agreement which has not been bargained for or signed. Because this agreement is adhesional, its validity is questionable.<sup>134</sup>

In a conventional licensing situation where an agreement has been executed, courts looked at clear reservation of ownership rights to determine whether a license is valid or if in actuality there has been a first sale. For example, in *United States v. Wise*<sup>135</sup> where a standard licensing agreement was used, the court held the agreement was *not* a first sale.<sup>136</sup> The Ninth Circuit found that a motion picture studio which licensed

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agreements are contracts, the terms of which limit the control of software by the licensee. Licensing is an attempt to avoid an outright sale. See *S & H Computer Sys. v. SAS Inst., Inc.*, 568 F. Supp. 416, 421 (M.D. Tenn. 1983) (explaining policy behind licensing agreements). The terms of the license for business software usually specify the amount of time granted for use of the software, initial and renewal fees, whether and to what degree the licensor will customize or modify the software to meet the licensee's needs and what maintenance will be available. The licensee is generally not permitted to sell or transfer the software to others. Brotman, *Buying Computers Successfully*, TRIAL, Jan. 1987, at 33, 34.

130. S. MANDELL, *supra* note 129, at 7-8; see also *S & H Computer Sys.*, 568 F. Supp. at 421.

131. It is important to note that the effectiveness of licensing agreements in the context of software rental has not been tested in the courts.

132. Brooks, *Shrink-Wrapped License Agreements: Do They Prevent the Existence of a "First Sale"?*, THE COMPUTER LAW., Apr. 1984, at 17-19.

133. Note, *The Protection of Computer Software Through Shrink-Wrap License Agreements*, 42 WASH. & LEE L. REV. 1347, 1350 (1985).

134. There are no reported cases to date on the legal enforceability of shrink-wrap licenses to help resolve the questions.

135. 550 F.2d 1180 (9th Cir. 1977).

136. *Id.* at 1190.

copyrighted films had, in its agreement with the exhibitor, (1) limited the use of the films for a specific time period, (2) required the return of the prints after the expiration of that period and (3) expressly reserved title to the films.<sup>137</sup>

Alternatively, in *United States v. Wells*,<sup>138</sup> the United States District Court for the Southern District of Texas held that although the license agreement restricted the licensee's sale and transfer of rights to copies of aerial survey maps, a first sale resulted because the copyright owner failed to *expressly* reserve title in the licensing agreement.<sup>139</sup> The court, therefore, found that the licensee had not infringed the copyright by selling the copies.<sup>140</sup>

The court in *NEC Corp. v. INTEL Corp.*,<sup>141</sup> however, upheld defendant's software copyright and license agreement with plaintiff even though defendant's reservation of title was faulty.<sup>142</sup> In *NEC*, defendant, an electronics corporation, granted a license for use of its computer programs in plaintiff's computers in exchange for royalties. However, defendant failed to include a provision in the licensing agreement requiring copyright notices on all programs used.<sup>143</sup> Because there was no notice the plaintiff refused to pay royalties and sought to have defendant's copyright held invalid.<sup>144</sup> Reasoning that the omission was inadvertent and that defendant had made a reasonable effort later to have the notice included, the court held that the copyright and license were valid and that the plaintiff had to pay royalties.<sup>145</sup>

It appears from these holdings that software licensing agreements are neither consistently rejected nor upheld. Despite properly executed licensing agreements, if a software copyright owner neglects to expressly reserve title, the court may find that a first sale has occurred. However, as demonstrated in *NEC*, a court faced with similar facts may not find a first sale. Thus, decisions concerning the validity of licensing agreements depend on the analysis of courts on a case by case basis. Such uncertainty, together with the uncertainty that exists regarding the effectiveness of licensing agreements makes reliance on licensing agreements, for

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137. *Id.*

138. 176 F. Supp. 630 (S.D. Tex. 1959).

139. *Id.* at 634.

140. *Id.*

141. 645 F. Supp. 590 (N.D. Cal. 1986).

142. *Id.* at 591.

143. *Id.* at 594.

144. *Id.* at 591-92.

145. *Id.* at 595.

protection of a copyright owner's rights a gamble.<sup>146</sup>

### 1. Federal preemption of software licensing agreements

Assuming a licensing agreement is valid on its face, the question arises as to whether federal law preempts the state law governing the license. For federal copyright law to preempt state law, state legislation must attempt to regulate subject matter or rights within the scope of the 1976 Act. For example, state legislation to protect against the copying of computer input formats is federally preempted, but state tort law may not be if applied to the theft of an employer's software by its employees.<sup>147</sup> Thus, section 301 of the 1976 Act provides that:

[A]ll legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . that are fixed in a tangible medium of expression and come within the subject matter of copyright . . . are governed exclusively by [the 1976 Act]. . . . [N]o person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.<sup>148</sup>

Section 301 adds, however, that "the rights or remedies under the common law or statutes of any State"<sup>149</sup> are not annulled as to "subject matter that does not come within the subject matter of [the 1976 Act]."<sup>150</sup> Therefore, it appears from an examination of court decisions regarding licensing,<sup>151</sup> that for a licensing agreement to be valid, it must not be a "first sale" in disguise. Otherwise, the 1976 Act governs and preempts state laws and remedies for breach of contract.<sup>152</sup>

Additionally, if software manufacturers attempt to circumvent the first sale doctrine by licensing agreement, and the court determines that the license is invalid, rental is not prevented. It appears that licensing agreements deemed valid do offer protection. However, as has been

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146. See *supra* note 131.

147. Dorr & Eagles, *Resolving Claims to Ownership of Software and Computer-Stored Data—The Importance of Temporary Restraining Orders and Preliminary Injunctions*, 5 COMPUTER L.J. 1, 12 n.44 (1984).

148. 17 U.S.C. § 301(a) (1982).

149. *Id.* § 301(b).

150. *Id.* § 301(b)(1).

151. See *supra* text accompanying notes 135-46.

152. Nevertheless, even where a valid license is found, rather than a first sale, a court will still consider the validity of the copyright of the licensor. For example, in *S & H Computer Sys.*, 568 F. Supp. 416, where an action for violation of copyright and licensing agreement of computer software was brought, the court first determined the validity of the copyright before examining the license agreement. *Id.* at 418-19. The court held that summary judgment on the license violations was contingent on the finding at trial of a valid copyright. *Id.* at 424.

demonstrated, decisions concerning validity are inconsistent and decisions as to software rental and licensing in particular are nonexistent. Consequently, licensing agreements alone are insufficient to protect software manufacturers' and copyright owners' rights and it is necessary to amend the federal copyright law making rental an exclusive right of copyright owners. Protection by licensing agreement and protection by amendment of the federal copyright law need not be mutually exclusive. Rather, they may work together to enhance protection for software manufacturers and copyright owners.

### B. *Embedded Code Protection*

Another form of protection employed to combat piracy is the use of codes embedded in computer software. This technical process can take several different forms to prevent unauthorized use of software programs.<sup>153</sup> In one version, the software manufacturer embeds, in computer language, a date after which the program will no longer function or, in some cases, will erase itself. When the program is used, the code is read by the computer to determine if the expiration date has been reached.<sup>154</sup> To bypass this code, the user need only enter a date earlier than the current date each time the program is used.<sup>155</sup> Another method, somewhat more difficult to circumvent, is an embedded code that counts the number of times a program is used.<sup>156</sup> The program ceases to perform after being used the number of times encoded by the manufacturer.<sup>157</sup> With both of these methods, users with knowledge of computer programming language can annul the protection by altering the object code<sup>158</sup> in which the embedded protection is written.<sup>159</sup> Accordingly, these two types of embedded protection do not prevent the actual copying of the program; they do prevent operation of unauthorized copies the same way that the use of authorized copies is limited. They primarily serve to force the user to pay an additional fee<sup>160</sup> and are not solely for the prevention of piracy.

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153. See generally Saltzberg, *Legal and Technical Protection Through Software Locks*, 5 COMPUTER L.J. 163, 163, 165 (1984).

154. *Id.* at 163. The expiration date may be extended by the software manufacturer for the legitimate user by an arrangement such as payment of additional fees. *Id.* at 165.

155. *Id.* at 164.

156. *Id.* at 165.

157. *Id.*

158. See *supra* text accompanying note 27 discussing object code.

159. Saltzberg, *supra* note 153, at 164.

160. *Id.* at 165. The most common use of this type of protection is with demonstration software. Demonstration software allows the user to try the software for a limited time before deciding whether to buy it. *Id.*

A protection method which more effectively protects against unauthorized copying involves embedding serial numbers in the software.<sup>161</sup> In this method, manufacturers embed a serial number on each program which allows the software user to utilize the program only with a computer having a corresponding number. While this permits the user to make back-up copies,<sup>162</sup> these copies will not function on anyone else's computer.<sup>163</sup> This method may work with a business computer user who will often buy a "package" from a single source which will include computers and software modified or written to meet the company's specific requirements. A personal computer user, however, often purchases a computer from one manufacturer and software from a variety of manufacturers. This makes the practicality of the serial number method questionable for users other than businesses who enter into software package deals.

Other embedded code protections encode the software program with instructions that specifically prevent copying. However, these methods have failed to deter piracy.<sup>164</sup> This failure results because the determined user can overcome these protections with code breaking disks<sup>165</sup> and by altering the object code.

This problem is compounded by complaints from individual and corporate customers that the codes make programs more difficult to use.<sup>166</sup> Highly sensitive to customers' complaints, almost all the major software manufacturers have removed embedded code protections despite estimates that fifty percent of programs in use are pirated. In addition, the Wall Street Journal reported that technology analysts predict that embedded code protections would be removed by all software manufacturers within the year.<sup>167</sup> Therefore, it appears that embedded code

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161. *Id.*

162. *See supra* note 99.

163. Note, *supra* note 98, at 681.

164. *See Walters, supra* note 108, at 1, col. 4.

165. *See supra* note 97.

166. Walters, *supra* note 108, at 1, col. 4. Users complain that copy protection interferes with legitimate back-up copying and with the use of other copy protected programs used in conjunction with each other. If a program fails, and has not been backed-up, volumes of work can be lost. So, in actuality, embedded codes do not interfere with the use of a program; however, they interfere with legitimate back-up copying and with other copy protected programs in computer networks. *On Your Honor: Software Firms Remove Copy-Protection Devices*, Wall St. J., Sept. 25, 1986, § 2, at 37, col. 4. [hereinafter *On Your Honor*].

167. *On Your Honor, supra* note 166. However, computer industry officials say that code protection will remain embedded in game and education programs. "Games tend to be bought by youths who have little money to buy programs and few compunctions about copying them. Education programs tend to be bought by schools, which often can't afford to buy a lot of copies. Protection is also likely to remain on very expensive programs." *Id.*



protections are no longer a viable alternative to enactment of federal protection prohibiting unauthorized copying of rented software. Congress must enact some form of legislation to stop piracy at what appears to be its most controllable source—rental.

### C. *Record Rental Amendment of 1984 as Precedent*

Representative Schroeder, in introducing her proposed Computer Software Rental Act<sup>168</sup> compared it to the Record Rental Amendment of 1984.<sup>169</sup> Clearly, both records and software can be easily copied and pirated at substantial financial loss to the manufacturers and copyright owners and with financial gain to the copier. Representative Schroeder stated, however, that "software rental weakens the effectiveness of copyright protection even more seriously than the rental of records."<sup>170</sup> An examination of this analogy would therefore be helpful.

At the time that the House of Representatives began committee hearings on the then proposed record rental amendment, record rental was a growing phenomenon in the United States.<sup>171</sup> Allegedly, record rental promoted piracy which resulted in great financial losses to the record industry.<sup>172</sup> In addition, it was argued that

the pernicious consequences of record rentals will ultimately be borne by the public at large: as the record industry is forced to retrench, the quantity and diversity of new musical releases available to consumers will diminish. Moreover, prices of prerecorded discs and tapes are likely to be forced upward.

To respond to this problem, . . . the "Record Rental Amendment . . ." [has been introduced]. The Amendment represents a narrow modification of the first sale doctrine . . .<sup>173</sup>

168. H.R. 4949, 99th Cong., 2d Sess., 126 CONG. REC. E1919 (1986).

169. Pub. L. No. 98-450, 98 Stat. 1727 (1954) (codified as amended in scattered sections of 17 U.S.C.).

170. 132 CONG. REC. E1919 (daily ed. June 3, 1986) (statement of Rep. Schroeder). In support of her statement, Congresswoman Schroeder pointed out that software programs often require years of research and development and because of their cost may represent a greater loss of revenue when copied than do records. "Moreover, copying a software diskette is usually quicker and easier to accomplish than duplicating a sound recording." *Id.*; see also *supra* note 33 & *infra* note 180.

171. *Audio and Video First Sale Doctrine: Hearings on H.R. 1027, H.R. 1029 and S. 32 Before the Subcomm. on Courts, Civil Liberties, and the Administration of Justice of the House Comm. on the Judiciary*, 98th Cong., 1st & 2d Sess. 19 (1985) (joint statement of AGAC/The Songwriters Guild, The National Association of Recording Merchandisers, The National Music Publishers' Association and The Record Industry Association of America).

172. *Id.* at 35-37.

173. *Id.* at 19-20.

Consumer advocates and rental firms, on the other hand, argued that passage of the Record Rental Amendment would result in price fixing by the record industry<sup>174</sup> and closure of rental businesses to the detriment of the consumer public.<sup>175</sup> In addition, record rental advocates asserted that the record industry was exaggerating its losses and denied that if there were losses, they were due to record rental.<sup>176</sup> Consumer advocates and rental firms also denied that record rental firms were growing with "wild abandon."<sup>177</sup> In summary, these groups argued that the purpose of the first sale doctrine was to create a "limited monopoly [which] provides freedom from infringement, not freedom to fix prices, and not freedom to engage in other anticompetitive behavior."<sup>178</sup>

The arguments favoring the Record Rental Amendment are analogous to those outlined in this Comment supporting the passage of the Software Rental Amendment. To reiterate, computer software is available for rent, both through mail order and store rental as were records before the passage of the Record Rental Amendment. Record rental resulted in piracy and severe financial loss to the record industry. Similarly, computer software piracy, according to the software manufacturers and copyright owners provides about fifty percent of all programs now in use,<sup>179</sup> and as with the recording industry, severe losses in the software industry may logically contribute to economic depressions in the computer industry and subsequent layoffs of employees affecting the development of new works to the detriment of the public. In the case of software, an additional factor adds weight to support for legislation. As Representative Schroeder stated: "[C]opying a software diskette is usually quicker and easier to accomplish than duplicating a sound recording."<sup>180</sup>

Similarly, arguments made in opposition to the Record Rental Amendment may also be made in opposition to the Software Rental

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174. *Id.* at 155 (statement of Father Robert J. McEwen, S.J., Chairman, Economics Dept., Boston College).

175. *Id.* at 119 (statement of William R. Watts, Owner of Soundway Rent-A-Record).

176. *Id.* at 126-32 (statement of Marlow Cook, attorney representing Audio Recording Rights Coalition).

177. *Id.* at 126.

178. *Id.* at 136.

179. *On Your Honor*, *supra* note 166.

180. 132 CONG. REC. E1919 (daily ed. June 3, 1986) (statement of Rep. Schroeder). Unless a special tape copying machine is used, two recording machines and the actual running time of the tape is needed to duplicate sound recordings, whereas any one disk drive computer can copy software in a few moments.

Amendment.<sup>181</sup> It is true that passage of the Software Rental Amendment would close rental firms. However, it would not prevent them from becoming retail firms. As to the opportunity to try confusing software before committing to purchase, such services are already provided to the consumer by software retailers.<sup>182</sup> Like record retailers who will play new records in their stores, software retailers generally are willing to demonstrate software to customers and make themselves available to answer questions about software the user purchases.<sup>183</sup> Furthermore, there is no evidence that the passage of the Record Rental Amendment resulted in price fixing. It is, therefore, reasonable to assume that the consumer need not fear price fixing of software. Finally, the Record Rental Amendment neither created a monopoly in the record industry nor eliminated competition. It is, therefore, logical to assume that the Computer Software Rental Amendment patterned after the Record Rental Amendment will not result in monopolies or eliminate competition in the computer software industry.<sup>184</sup>

## VI. CONCLUSION

Software piracy, a substantial concern in the software industry, results in economic disincentives for research and development of new software. This is contrary to the expressed intention of the Copyright Act. A major factor in the growth of software piracy is the availability and encouragement of software rental. Like the record industry before it, the software industry needs expanded copyright protection. Alternative methods of protection such as licensing agreements and embedded code copy protection have not been effective: the former because of their legal questionability and the latter because consumer complaints are

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181. The exception is the argument denying financial loss due to copying which cannot be confirmed in relation to software piracy.

182. Some major software manufacturing companies are already expanding their services to customers, but not necessarily for altruistic reasons. Some companies derive as much as 15% of their annual revenues from service to corporate computer users. Walters, *supra*, note 108, at 1, col. 4.

183. Egghead Discount Software, a software retailing chain, encourages customers to try before buying and will even allow the software to be returned within 14 days for a refund. Caruso, *Egghead Software*, PERS. COMPUTING, Feb. 1987, at 116, 118. However, this is not the case with all software retailers. One former retail store owner admits that he discouraged his salespeople from demonstrating software because he feared that demonstrating the software would lose sales. He reasoned that once that customer understood the program, he or she could go somewhere else to get it cheaper or decide it was too hard or in some way lacking. *Id.* at 118-19.

184. See Fabrikant, *The Record Business is Solid Gold*, BUS. WEEK, Feb. 25, 1985, at 35; *A Year for Records*, FORTUNE, Apr. 1, 1985, at 10; P. Hall, *The Sweet Sound of Success*, FINANCIAL WORLD, Sept. 4-17, 1985, at 72.

causing their elimination by virtually all software manufacturers. Congress should amend the Copyright Act's first sale doctrine to protect software copyright owners as it did to protect sound recording copyright owners. Passage of a Computer Software Rental Act as proposed by Congresswoman Schroeder would allow copyright owners to authorize rental for the benefit of the consumer without detriment to the copyright owner. In view of the growing complexity of computer software, manufacturers should make available to the consumer more service and the opportunity to try before buying. Legislation amending the first sale doctrine combined with increased consumer service would protect both computer software copyright owners and the public.

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