COMMENT

EXTENDING COPYRIGHT PROTECTION TO A COMPUTER PROGRAM'S STRUCTURE

Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d 1222 (3d Cir. 1986)

In *Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.*,[1] the United States Court of Appeals for the Third Circuit rejected the use of the "ordinary observer" test for determining "substantial similarity"[2] in copyright infringement cases involving highly complex issues. The court found no statutory basis, under the Copyright Act,[3] for treating computer programs[4] differently from other "literary works"[5] involving the

1. 797 F.2d 1222 (3d Cir. 1986).

2. Judge Learned Hand best described the "substantial similarity" standard. He stated courts would find such similarity when "the ordinary observer, unless he set out to detect the disparities, would be disposed to overlook them, and regard their aesthetic appeal as the same." Peter Pan Fabrics v. Martin Weiner Corp., 274 F.2d 487, 489 (2d Cir. 1960). The ordinary observer test acts without the aid of expert testimony. *See infra* notes 34-38 and accompanying text. *See also* 3 M. NIMMER, NIMMER ON COPYRIGHT § 13.03 (1986); E. KINTNER & J. LAHR, AN INTELLECTUAL PROPERTY LAW PRIMER 407-10 (1975).

3. Congress defined 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). Computer software consists of three elements: the underlying process or algorithm the program is based on, the actual program coded in a programming language, and the supporting materials explaining the program. *See* Keplinger, *Computer Software—Its Nature and Its Protection*, 30 EMORY L.J. 483, 484-85 (1981) [hereinafter Keplinger, *Computer Software*]. Computer programs can be written in three differing levels of computer language. The lowest form of language, machine language, employs a binary system and is referred to as object code. Although the first computer programs were written in machine language, its current use is limited. The intermediate level of language, assembly language, consists of alphanumeric labels. While easier for the human user to understand than object code, most programmers find assembly language difficult to understand. High level language, such as EDL, BASIC, FORTRAN and PASCAL, however, uses English words and symbols making it relatively easy to understand. The computer industry refers to statements in high level language and assembly language as source code. *See* Whelan Assoc. v. Jaslow Dental Laboratory, 797 F.2d 1222, 1229-31 (3d Cir. 1986); Comment, *Computers and Copyright—Copyright Protection for Computer Operating Systems Programs*—Apple Computer Inc. v. Franklin Computer Corp., 33 U. KAN. L. REV. 167, 169-70 (1984) [hereinafter Comment, *Computers and Copyright*]; Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3d Cir. 1983).

4. Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541, 17 U.S.C. §§ 101-117 (1982); Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10, 94 Stat. 3015, 3028, 17 U.S.C. §§ 101-117 (1982). Section 102 provides in pertinent part:

> (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed,

ordering and sequence of materials.[6]

The defendant,[7] a dental laboratory, employed the plaintiff,[8] a developer of computer programs, to create a computer software system to automate many of the defendant's office functions.[9] The plaintiff wrote the "dentalab" program in EDL[10] for an IBM Series One Computer.[11] The defendant developed a BASIC[12] language program, the "Dentcom PC" program to serve essentially the same function as "Dentalab" using an IBM Personal Computer.[13] The plaintiff alleged that defendant's licensing of the Dentalab and Dentcom programs infringed plaintiff's copyright in Dentalab.[14] The District Court for the Eastern District of

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from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include. . .

(1) literary works;

. . .

(6) audiovisual works;. . . .

17 U.S.C. § 102(a)(1) & (6) (1982). Section 106 grants to the owner of copyright under Title 17. . . the exclusive rights to do and to authorize any of the following:

(1) to reproduce the copyrighted work in copies or phonorecords;
(2) to prepare derivative works based upon the copyrighted work;
(3) to distribute copies of phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;

17 U.S.C. § 106 (1982). Congress lists the limitations of these exclusive rights with respect to computer programs in Section 117.

5. The Copyright Act, 17 U.S.C. § 101, defines "literary works" as "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, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied." 17 U.S.C. § 101 (1982).

6. Congress specifically grants copyright protection to "compilations" and "derivative works" which involve the ordering and sequence of materials. *See supra* note 31.

7. Defendant-appellant Jaslow Dental Laboratory, Inc. manufactures dental prosthetics and devices. Defendant Dentcom, Inc. develops and markets computer programs for use by dental laboratories. The individual defendants are shareholders and officers in both Jaslow Dental Laboratory, Inc. and Dentcom, Inc. 797 F.2d at 1225.

8. Plaintiff-appellee, a corporation, develops and markets custom computer programs.

9. 797 F.2d at 1225.

10. EDL is an acronym for Event Driven Language, a high level computer language. *See supra* note 3. Plaintiff filed copyright registrations for the Dentalab program, including enhancements and manuals. Whelan Assoc. v. Jaslow Dental Laboratory, 609 F. Supp. 1307, 1316 (E.D. Pa. 1985).

11. 797 F.2d at 1226.

12. BASIC is an acronym for Beginner's All-purpose Symbolic Instruction Code. BASIC, like EDL, is a high level language.

13. 797 F.2d at 1226. The IBM Personal Computer, a relatively inexpensive desktop computer, popular among dental laboratories employing 25 or fewer employees, is smaller and less expensive than IBM Series One Computers. 609 F. Supp. 1307, 1309 (E.D. Pa. 1985). The IBM Personal Computer does not recognize programs written in EDL while the IBM Series One Computer does not operate using software employing BASIC.

14. 797 F.2d at 1227. Whelan Associates sought injunctive relief in addition to compensatory and punitive damages.

Pennsylvania found plaintiff's copyright in "Dentalab" valid and defendant's sales of the "Dentalab" program violations of that copyright.[15] The Court of Appeals for the Third Circuit affirmed and held that the protection afforded to a computer program under the Copyright Act extends beyond its literal computer language codes to its structure, sequence, and organization.[16]

Under the United States Constitution, Congress has the authority to grant authors exclusive rights to their writings.[17] Pursuant to this authority Congress established the first copyright statute in 1790,[18] and has continually expanded its scope.[19] The history of the Constitutional Convention and the legislative history of the Copyright Act indicate that motivation of the creative activity of authors, rather than monetary reward or notoriety is the primary purpose of copyright.[20] Although the Copyright Office accepted applications for computer program registration in

15. 609 F. Supp. 1307, 1322 (E.D. Pa. 1985).

16. 797 F.2d 1222, 1248 (3rd Cir. 1986).

17. The United States Constitution provides "The Congress shall have Power. . .To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries:" U.S. CONST. art. I, § 8, cl. 8.

18. The Act protected only "maps, charts and books." Act of May 31, 1790, ch. 15, 1 Stat. 124.

19. Act of Apr. 29, 1802, ch. 36, 2 Stat. 171 (Designs, engravings and etchings); Act of Feb. 3, 1831, ch. 16, 4 Stat. 436 (musical compositions); Act of Aug. 18, 1856, ch. 169, 11 Stat. 138 (Dramatic compositions); Act of Mar. 3, 1865, ch. 126, 13 Stat. 540 (photographs and negatives); Act of July 8, 1870, ch. 230, 16 Stat. 198 (statues and models); Act of Mar. 4, 1909, ch. 320, 35 Stat. 1075 (repealed 1976) (Congress completely revised the Copyright Statute and extended copyright protection to "all the writings of an author."); Act of Aug. 12, 1912, ch. 356, 37 Stat. 488 (motion pictures); Act of Oct. 15, 1971, 85 Stat. 391 (sound recordings).

In 1976, Congress repealed the 1909 Act and replaced it with a new act which extended copyright protection to all original works of authorship fixed in any tangible medium of expression. Copyright Act of 1976, Pub. L. No. 94-553, § 101, 90 Stat. 2541, 5544-45 (codified at 17 U.S.C. § 102(a) (1982)).

20. "The copyright law, like the patent statutes, makes reward to the owner a secondary consideration." United States v. Paramount Pictures, 334 U.S. 131, 158 (1948). The National Commission on New Technological Uses of Copyrighted Works (CONTU) stated "The purpose of copyright is to grant authors a limited property right in the form of expression of their ideas." NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT 16 (1979) [hereinafter CONTU REPORT]. In contrast, "[p]atents are designed to give inventors a short-term, powerful monopoly in devices, processes, compositions of matter, and designs which embody their ideas." CONTU REPORT at 16. Trade secrets protect a "formula, pattern, device or compilation of information" that gives them "an opportunity to obtain an advantage over competitors who do not know or use it." RESTATEMENT OF TORTS § 757 comment b (1939). *See* 1 M. NIMMER, NIMMER ON COPYRIGHT § 1.03[A] (1986). In Mazer v. Stein, 347 U.S. 201, 219 (1954), the Supreme Court stated:

> The economic philosophy behind the clause empowering Congress to grant. . .copyrights is the conviction that encouragement of individual effort by personal gain is the best way to

1964,[21] Congress did not specifically provide copyright protection for computer programs until the Computer Software Copyright Act of 1980.[22]

In *Baker v. Selden*,[23] a seminal opinion in copyright law, the Supreme Court first enunciated the idea-expression rule. Copyright protection extends only to the expression of an idea, not the idea itself.[24] *Baker* suggested that courts focus on the end the author sought to achieve in order to distinguish between idea and expression.[25] The idea is the purpose or function of the utilitarian work, while the expression is everything not necessary to the purpose or function.[26]

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advance public welfare through the talents of authors and inventors in "science and useful Arts."

21. The Register of Copyrights announced computer programs would be accepted for registration provided that (1) they contained sufficient original authorship; (2) they had been published and (3) copies submitted for registration were in human—readable form. CONTU REPORT, *supra* note 20, at 15 (citing COPYRIGHT OFFICE, CIRCULAR 31D (Jan. 1965)).

22. Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10(a), 94 Stat. 3028 (codified at 17 U.S.C. § 101). The Act furnished a definition of a "computer program" specifically considering it a "literary work." *See supra* notes 3-4. *See also* H.R. REP. NO. 1476, 94th Cong., 2d Sess., 54, *reprinted in* 1976 U.S. CODE CONG. & ADMIN. NEWS 5659, 5667 [hereinafter HOUSE REPORT]. The Act adopted the recommendations of the National Commission on New Technological Uses of Copyrighted Works (CONTU). CONTU REPORT, *supra* note 20 at 12. Congress established CONTU to study the problems of computer programs and photocopying in relation to copyright protection. Act of Dec. 31, 1974, Pub. L. No. 93-573, §§ 201-08, 88 Stat. 1873.

23. 101 U.S. 99 (1979). In *Baker* the Supreme Court considered the copyrightability of a book explaining a new accounting system. Selden's book illustrated the system and included "certain forms or blanks, consisting of ruled lines and headings." *Id.* at 100. The Court faced the question whether Selden's blank forms were part of the method (idea) of the book or part of the text (expression). *Id.* at 101. The Court held that Selden could copyright the explanation of the accounting system but not the blank forms. *Id.* at 107. The Court concluded that "any person may practise and use the art. . .which he has described and illustrated [in his book]." *Id.* at 104.

24. The rule of Baker v. Selden is codified at 17 U.S.C. § 102(b) (1982):

> In no case does copyright protection for an original work of authorship extend to any *idea, procedure, process, system, method of operation*, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work. (Emphasis added).

The first amendment free speech guarantee requires the fundamental distinction between idea and expression. *See* 1 M. NIMMER, NIMMER ON COPYRIGHT §§ 1.10[B], 2.03[D] (1986).

25. 101 U.S. at 150. *See also* Whelan Assoc. v. Jaslow Dental Laboratory, 797 F.2d 1222, 1236 (1986). *See generally* Wharton, *Use and Expression: Scope of Copyright Protection*, 5 COMPUTER L.J. 433, 459-67 [hereinafter Wharton, USE AND EXPRESSION].

26. "[W]here the art it teaches cannot be used without employing the methods and diagrams used. . . or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and given therewith to the public. . . ." 101 U.S. at 103. Where a number of different methods exist to obtain a specific result, the particular means chosen is not necessary to the purpose. Consequently, there is expression rather than idea. *See* Whelan Assoc. v. Jaslow Dental Laboratory, 797 F.2d 1222, 1236 (3d Cir. 1986). Stated in a slightly different manner "if a particular

In 1978, *Synercom Technology, Inc. v. University Computing Co.*[27] presented the courts with the first copyright infringement action involving a computer program.[28] In *Synercom*, the District Court for the Northern District of Texas held that input formats[29] did not meet the requirements necessary for copyright protection because the expression was indistinguishable from the idea.[30] The court postulated an alternative holding categorically excluding formats from the class of copyrightable works.[31] The *Synercom* court suggested infringement could consist of translating from one computer language to another.[32] While clearly indicating the appropriateness of copyright protection for computer software, the *Synercom* decision left unanswered many questions regarding the extent of copyrightability.[33]

To prevail in a copyright infringement suit the owner of a valid copy-

idea admits of only one form of expression, that expression may not be copyrighted." Note, *Defining the Scope of Copyright Protection for Computer Software*, 38 STAN. L. REV. 497, 508 (1986). *See also* 1 M. NIMMER, NIMMER ON COPYRIGHT § 2.18[B] (1986).

27. 462 F. Supp. 1003 (N.D. Tex. 1978).

28. In *Synercom*, plaintiff developed a computer program for performing certain engineering calculations related to structural analysis. The success of the program depended on the manner in which it accepted input data and the way in which it presented the results to the user. Defendant obtained copies of the manuals, identified the input formats and created a similar program. Plaintiff alleged the program infringed copyrights of the input formats. *Id.* at 1006-09.

29. Input formats are the manner in which a program asks the user for data.

30. *Id.* at 1013-14. The court determined that the input formats were no more than ideas because the identical sequence and arrangement of the formats was necessary for the defendant to achieve the same result. The court reasoned that the formats merely expressed the sequencing of data on a common eighty punch card. The court concluded "if order and sequence is the expression, the skilled effort is not separable, for the form, arrangement, and combination is itself the intellectual conception involved." *Id.* at 1014.

31. *Id.* at 1014. The court determined input formats are not separable "from the underlying art of process with which they are used." Note, *supra* note 26, at 525. The court stated that it would only protect expressions involving "stylistic creativity *above and beyond* the bare expression of sequence and arrangement." 462 F. Supp. at 1014. For a criticism of the court's refusal to grant copyright protection to input formats, see Note, *supra* note 26, at 525-26 (The definitions of "compilation" and "derivative work" in the 1976 Copyright Act, and the express inclusion in § 103, indicate both sequence and arrangement are copyrightable. Additionally, "[t]he sequence and arrangement are expression that is separable from the underlying utilitarian purpose of the formats, which is to enable the user to communicate with the computer program.").

32. 462 F. Supp. at 1013, n.5. "[I]t is as clear an infringement to translate a computer program from for example, FORTRAN to ALGOL, as it is to translate a novel or play from English to French."

33. The court began to apply the principles of copyright law to computer programs, however, it suggested copyright protection would be subject to the idea—expression test of *Baker*. *See* Keplinger, *Computer Software*, *supra* note 3, at 508.

right must establish the defendant copied the work.[34] Direct evidence of copying rarely exists.[35] Consequently, the plaintiff must establish copying through indirect evidence. In 1946, the Court of Appeals for the Second Circuit, in *Arnstein v. Porter*,[36] suggested a two-part test for determining whether substantial similarity exists between two works. The first part, which may include expert testimony, asks whether substantial similarity exists between the two works in question to conclude that the alleged infringer used the copyrighted work in making his own product.[37] The second part of the test uses an ordinary observer standard to determine whether the alleged infringer improperly appropriated the expression.[38]

In two recent cases, the Court of Appeals for the Third Circuit extended copyright protection to the literal elements of computer program, the source code and the object code.[39] In 1982, in *Williams Elecs., Inc. v. Artic Int'l, Inc.*,[40] the court upheld the copyrightability of an application program[41] written in object code and stored in ROM.[42] The court as-

34. 3 M. NIMMER, NIMMER ON COPYRIGHTS § 13.01 (1986).

35. A plaintiff rarely has a witness to the actual copying.

36. 154 F.2d 464 (2d Cir. 1946).

37. *Id.* at 468. The court states evidence may consist of the defendant's admission of copying or of access. Some courts consider the definition of access to include the opportunity to view the copyrighted work. Others require the plaintiff to prove the creator of the defendant's work actually viewed the plaintiff's work. *See* 3 M. NIMMER, NIMMER ON COPYRIGHT § 13.02[A] (1986). If no evidence of access exists, the works must be so similar so there can be no question that the plaintiff and the defendant did not independently create similar works. 154 F.2d at 468.

38. Also known as the "audience" test, this test does not involve expert testimony. This test is of little value in cases involving complex technical issues. *See* Note, *Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test*, 68 MINN. L. REV. 1264, 1285-88 (1984). For a criticism of the ordinary observer test see, Note, *supra* note 26, at 514-15.

Courts have also used a quantitative test to show substantial similarity between two sets of computer instructions. This type of test, however, is arbitrary and copying is easy to disguise from this test. In Midway Mfg. Co. v. Strohon, 564 F. Supp. 741, 752 (N.D. Ill. 1983) the court concluded 89% or 97% identity amounted to substantial similarity. In SAS Inst. v. S & H Computer Sys., 605 F. Supp. 816 (M.D. Tenn. 1985) the court found infringement after determining one-fortieth of one percent of the code was identical. *See* Note, *supra* note 26, at 512-13.

39. *See supra* note 3.

40. 685 F.2d 870 (3d Cir. 1982).

41. Application programs "usually perform a specific task for the computer user, such as word processing, checkbook balancing, or playing a game." Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3d Cir. 1983). They "are written to solve specific problems, to produce specific reports, to update specific files." ENCYCLOPEDIA OF COMPUTER SCIENCE AND ENGINEERING (2d ed. 1983).

42. 685 F.2d at 876-77. ROM (*R*ead *O*nly *M*emory) is an "internal permanent memory device consisting of a semiconductor 'chip' which is incorporated into the circuitry of the computer. . . . Information stored on a ROM can only be read, not erased or rewritten." 714 F.2d at 1243. *See*

sumed copyright law protected source code.[43] For the purposes of copyright protection the court rejected any distinction between source and object code, concluding both satisfied the fixation requirement of the Copyright Act.[44] The court observed that protecting a program's source code, but not its object code, would create a loophole by which infringers could circumvent copyright law.[45]

Less than one year later, in the most significant and far-reaching decision protecting computer software, *Apple Computer, Inc. v. Franklin Computer Corp.*[46] presented the question of whether copyright protection extended to an operating system,[47] written in object code and stored in a silicon chip.[48] The court responded affirmatively.[49] The court determined that the object code form of a program qualified as a "literary work."[50] The court formulated a test to distinguish idea from expression, holding that copyright protection extends to a program if it is possible to create additional programs that can perform the same function as the original.[51]

Note, *Copyright Protection of Computer Program Object Code*, 96 HARV. L. REV. 1723, 1725 n.21 (1983).

43. Although the court makes several references to prior cases involving source code, no prior court seems to have actually distinguished between source and object code. Even if the other courts did not consider the distinction, their holdings must apply at the very least to source code since it is more comparable to traditional "literary works."

44. 685 F.2d at 877. 17 U.S.C. § 102(a) (1982). The court reached the same conclusion. CONTU REPORT, *supra* note 20, at 22.

45. 685 F.2d at 877. For a general discussion on the copyrightability of object code see Note, *supra* note 42, at 1723-44 (arguing object code is copyrightable).

46. 714 F.2d 1240 (3d Cir. 1983), *reh'g denied, cert. dismissed*, 104 S. Ct. 690 (1984).

47. Operating system programs are programs that "generally manage the internal functions of the computer or facilitate use of application programs." 714 F.2d at 1243.

48. *Id.* at 1251-53. The case arose out of Franklin's copying of fourteen of Apple's programs written in object code and stored in ROM or on disks.

49. *Id.* at 1249. The court refused to recognize that operating system programs were "processes" or "methods" while application programs were not. The court stated that "it should make no difference for purposes of section 102(b) whether these instructions tell the computer to help prepare an income tax return (the task of an application program) or to translate a high level language program from source code into a binary language object code form (the task of an operating system program. . .)." *Id.* at 1251. The court relied on section 101, the statutory definition of "computer program," *supra* note 3, which makes no distinction between operating system programs and application programs. *Id.* at 1252.

50. *Id.* at 1248-49, *citing* Midway Mfg. Co. v. Strohon, 564 F. Supp. 741, 750-51 (N.D. Ill. 1983); GCA Corp. v. Chance, 217 U.S.P.Q. 718, 719-20 (N.D. Cal. 1982).

51. 714 F.2d at 1253. The court states this inquiry is no different from asking whether the idea and the expression have merged. *See* Comment, *supra* note 3. Here, Apple only sought to protect the instructions that described the method, not the method itself. 714 F.2d at 1249.

The District Court for the Middle District of Tennessee, in 1985, in *SAS Institute, Inc. v. S & H Computer Systems, Inc.*,[52] considered not only the literal elements of a computer program in deciding the issue of substantial similarity, but also looked to structural similarity.[53] The court found "copying of the organization and structural details"[54] of plaintiff's program pervaded the defendant's entire work, although literal copying constituted only a small percentage.[55] The court held appropriation of the structure and sequence of a computer program constitutes infringement.[56]

In *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.*[57] the Court of Appeals for the Third Circuit interpreted the Copyright Act of 1976 and the 1980 Amendments expansively. The court held that copyright protection for a computer program extends to the program's structure and organization.[58] In *Whelan*, the court first examined the elements of a copyright infringement action and identified substantial similarity as the sole issue.[59] While acknowledging the adoption of the *Arnstein* test,[60] the court rejected the ordinary observer test in copyright cases involving highly complex subject matter.[61] Instead, the court invoked a single substantial similarity inquiry that accepted both expert and lay testimony.[62]

The *Whelan* court then examined the scope of copyright protection for

52. 605 F. Supp. 816 (M.D. Tenn. 1985).

53. *Id.* at 829-30.

54. *Id.* at 830. The court has been criticized for not being clear about the nature of the "structure" which was copied. Radcliffe, *Recent Developments in Copyright Law Related to Computer Software*, 4 COMPUTER L. REP. 189, 194 (1985).

55. 605 F. Supp. at 822. Only 44 of 186,000 lines of code were identically duplicated. The court, however, said as a matter of law this was not insubstantial. *Id.* at 830.

56. *Id.* at 829-30. The court found the reasoning of Meredith Corp. v. Harper & Row Publishers, Inc., 378 F. Supp. 686, 687 (S.D.N.Y. 1974), persuasive. In *Meredith* the court found that creating a textbook from outlines of another textbook infringed the copyright of the original textbook. *See generally* Gesmer, *Developments in the Law: Computer Software Copyright Infringement*, 26 JURIMETRICS J. 224, 227-29 (1986); Note, *supra* note 26, at 527-28.

57. 797 F.2d 1222 (3d Cir. 1986).

58. *Id.* at 1238-40.

59. *Id.* at 1231-32. It is not contested that the defendant had access to the Dentalab program.

60. *Id.* at 1232.

61. *Id.* at 1232-33. The court stated it joined the growing number of courts which do not apply the ordinary observer test in copyright cases involving highly technical materials. The court cited several district court opinions. *E.g.*, E.F. Johnson Co. v. Uniden Corp., 623 F. Supp. 1485, 1493 (D. Minn. 1985); Hubco Data Prods. Corp. v. Management Assistance Inc., 2 Copyright L. Rep. (CCH) 25,529 (D. Idaho Feb. 3, 1983) (enunciating bifurcated test, but relying solely on expert testimony); Midway Mfg. Co. v. Strohon, 564 F. Supp. 741, 752-53 (N.D. Ill. 1983) (relying entirely on expert testimony).

62. 797 F.2d at 1233.

computer programs.[63] The court analogized copyright protection of computer programs to the copyright protection afforded to other "literary works" and concluded that computer program copyright infringement can occur in the absence of literal copying.[64] The court scrutinized the case law distinguishing idea from expression and suggested that the applicable rule for utilitarian works should be that where different methods to accomplish a specific purpose exist, the method utilized is not essential to the purpose. Therefore, the method is expression, not idea.[65] Finally, the court reviewed the evidence of substantial similarity, comparing the five subroutines in the programs which handled the most important tasks of the programs, and found the defendant infringed the plaintiff's copyright.[66]

The Court of Appeals' interpretation of the Copyright Act in *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.* is theoretically sound. The court correctly attempted to avoid engaging in "schizophrenic" construction of the Copyright Act by affording the same copyright protection to the structure and organization of computer programs, which it grants to other forms of "literary works." The result is fundamentally fair because all "literary works" are treated alike.[67]

Nevertheless, the *Whelan* decision may have an undesirable effect in practice. The *Whelan* opinion unfortunately fails to perceive the gravity of the conflict between the interest in encouraging development of new technology and the desire to prevent infringement of copyrighted works. *Whelan* permits the courts to draw a liberal line between protected expression and unprotected idea, leading to overly aggressive copyright enforcement.[68] Fear that courts faced with similar issues will neglect to consider the elements that were determinative in *Whelan*[69] may result in detrimental paralysis of the computer software industry.

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63. *Id.* at 1233-42.

64. *Id.* at 1234. The court relied in part on the HOUSE REPORT, *supra* note 22, at 5667.

65. 797 F.2d at 1233-40. The court concluded "the idea of the Dentalab program was the efficient management of a dental laboratory (which presumably has significantly different requirements from those of other businesses)." *Id.* at 1236 n.28. The court determined the idea could be achieved in more than one way, with different structures. The structure was, as a result, part of the expression. *Id.* at 1238-39.

66. *Id.* at 1242-48. The court stated the relevant inquiry was "whether most of the programs' steps are similar." *Id.* at 1246.

67. *See supra* notes 6 and 31.

68. *See* Gesmer, *supra* note 56, at 231.

69. Among the elements that were determinative was the conduct of the parties. Future cases, however, may involve reverse engineering.

The *Whelan* court's rejection of the "ordinary observer" test in cases involving highly technical subject matter is commendable. The court, however, failed to establish a workable standard for determining whether two computer programs are substantially similar. Accordingly, *Whelan*, rather than aiding the predictability of the outcome of copyright infringement actions involving computer programs, creates more confusion.

K.J.K.