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Introduction

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INTRODUCTION

Howard C. Anawalt*

This issue of the *Santa Clara Law Review* is devoted to the subject of computer law. Whether or not there is a separate field of law which can be properly labeled "computer law" is a topic worthy of discussion in itself. Probably the term is merely functional—an umbrella covering a wide variety of legal problems which arise in connection with the development and use of computers.

Nevertheless, there are certain areas of law which bear a special imprint and which have been changed by the emergence of computer technology. Certainly at the top of this list is intellectual property law. The symposium devotes special attention to the problems of intellectual property law in the context of the development of computers.

PATENTS

In his article, "Patent Protection of Computer Software—Practical Insights," James A. Sheridan draws on his practical experience to assess the utility of patent law as a means of protecting the intellectual work product involved in the creation of computer software. For more than a decade lawyers have puzzled over whether patent law offers an appropriate and useful means of protecting the work effort which goes into the development of computer software. On the one hand, patent law presents the traditional means of protecting inventions. Once a patent has been granted, the holder has the right to control the use of his or her method or process.

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Patent law offers the bedrock of protection of intellectual work products.¹

For all of its attractiveness as a means of protecting inventions, there are great roadblocks when it comes to employing patent law to protect computer software. The most fundamental difficulty stems from the nature of software developments. To be sure, many software developments are "inventions" just as surely as the telegraph, the tape recorder, and the automatic bowling pin setter are. Computer programs, like other inventions, put ideas into action and thus get jobs done. However, a computer program, by its nature tends to be simply a description of a problem-solving method, rather than the actual embodiment of a step-by-step process in a machine or some physical process. Thus, software developments verge on being claims to the right to own ideas or sets of ideas, and ideas in themselves cannot be made the subject of patent law and thus preempted from the public domain.² In computer development the ideal, from the point of view of the inventor, would be the capability of patenting one's original algorithm or step-by-step solution to a problem. However, algorithms in themselves are not proper subjects of patent under the statute, because the granting of a patent to an algorithm would preempt use of the idea.³

Sheridan's article takes up the difficulties of using patent law as a means of protecting software. First of all, he concludes that algorithms may be protectable if the algorithm "does more than represent a scientific principle or law of nature, and instead becomes a vehicle for communicating a solution to a complex problem in a particular environment" The article goes on to review the landmark cases of *Gottschalk v. Benson*, *Parker v. Flook*, *Diamond v. Diehr*, and a

1. Holding a patent does not give the patentee ironclad protection of the process, however. The patent is essentially "a ticket to a lawsuit." The patent is presumptively valid, but its validity is subject to attack in the infringement lawsuit. 35 U.S.C. § 282. Furthermore, the allegedly offending use may not turn out to be an infringement.

2. *Gottschalk v. Benson*, 409 U.S. 63 (1972).

3. In *Gottschalk* the claimants had sought a patent for a method of converting a coded form of decimal numbers, binary coded decimals, into their pure binary form. At the time the formula had considerable utility. The Supreme Court rejected the claim, stating "[i]f the judgment below is affirmed, the patent would wholly preempt the mathematical formula and in practical effect would be a patent on the algorithm itself." 409 U.S. at 257.

series of other cases decided by the Court of Claims and Patent Appeals.

It is important to emphasize that many practitioners who are not patent lawyers will be called upon to make initial assessments concerning what vehicles are appropriate for protecting computer intellectual property, and thus they must be prepared to understand the patent process and its limitations.⁴ Sheridan's article helps provide a sound basis for doing this.

Sheridan concludes his article with some practical observations concerning the necessity and appropriateness of making complete disclosure of one's invention in order to achieve a patent. He also discusses the time involved in the issuance of a patent and how that affects the utility of patent protection. Finally, he argues that patent protection may be used in tandem with trade secret protection during the period of time that the application for the patent is pending. Thus, the decision on whether patent provides the best means of protection may be postponed until the patent is ready to issue.

COPYRIGHT AND TRADE SECRET

A second method for protecting intellectual property in the computer field is the use of copyright law. Copyright offers one of the strongest vehicles for protection, especially since the video game cases and, more recently, *Apple Computer Inc. v. Franklin Computer Corp.*⁵ Copyright law is a newer method for protecting inventions, when compared with patent law, because it has required somewhat of a divergence from the traditional notions of copyright in order to achieve protection of such things as object code and operating systems programs. Like patent law, copyright does not protect ideas in themselves. What it does protect is the particular expression of an idea when that expression is fixed in some tangible medium. Thus, computer programs, when fixed in object code have been ruled to be copyrightable because these are in effect expressions or communications which can be ultimately un-

4. Of course, only a lawyer admitted to the Patent Bar may undertake a search and process a patent application. 35 U.S.C. §31, 32, 33. See *Jones v. Raymond III Organization, Inc.*, 209 U.S.P.Q. (C.D. Cal. 1979).

5. 714 F.2d 1240 (3d Cir. 1983), *cert dismissed*, 104 S. Ct. 690 (1983).

derstood by human beings with the aid of machines.⁶

Copyright is simple to achieve. One simply fixes an expression in a medium, and the basic requirement is achieved.⁷ If, after publication or distribution, one wishes to seek remedies against an infringer, the work must be registered with the copyright office before a law suit is commenced in the federal district court. Obtaining a copyright does not require the approval of an administrative agency as does patent. Copyright protection is somewhat more limited than patent protection. Copyright law protects primarily against copying, plagiarism, and the unlawful development of derivative works, whereas, patent law protects against infringing uses.⁸

The article by J. Clark Kelso and Alexandra Rebay, "Problems of Interpretation Under the 1980 Computer Amendment," deals with copyright problems. First of all, the authors present a useful and understandable explanation of how computer software is created. It is a process of translating a human thought pattern into a step-by-step procedure that is ultimately executed by a machine which "understands" only in the sense that it detects the presence or absence of an electrical charge. In order to make the translation from human thought to machine execution, computer programmers develop flowcharts and write computer language translations (for example, in BASIC), which are ultimately reduced to an object code. The article then reviews the scope of the 1980 amendments to the Copyright Act to determine what aspects or renditions of computer software are protected. The authors examine such questions as whether the etchings or topography on a semiconductor chip are subject to copyright. The authors suggest that they are not in that "the chip is like the uncopyrightable chair built from copyrightable plans."

The authors also examine the copyrightability of object code in the light of the 1980 amendments to the Copyright

6. 714 F.2d at 1253.

7. Published works must bear a notice stating the word "copyright," or "copr.," or ©, and the name of the owner and year of first publication.

8. One apt comparison between copyright and patent law concerns use. If you buy a copyrighted book, you may use it any way you wish, including letting all of your friends read it. You may not, however, make copies of it (unless permitted, for example by the doctrine of "fair use".) If instead of a book, the item involved were a patented machine or process, you would not be able to use that process without infringement of the patent holder's rights.

Act and the legislative history related to those amendments.⁹ They conclude that the Act protects object code, as decided in several cases before the courts of appeals.¹⁰ In further support of their argument, they note that there is a practical or economic necessity to protect object code. If object code was not protected, the purposes of the Act would be undermined, because for the computer program pirate, object code is equivalent to source code.

The authors next tackle the problem of "fair use" under 17 U.S.C. section 117. Normally, copyright law allows one to use a copyrighted work without infringement, so long as the work is not copied. However, in computer usage there are certain demands imposed by the technology which may make it necessary to copy or adapt a program in order to use it. Section 117 attempts to deal directly with the issue. The authors deal with the question of fair use of computer programs by moving step by step through five examples of the problems presented by use.

The general scope of trade secret protection is discussed in "Simultaneous Copyright and Trade Secret Protection for Computer Programs" by Philip McGarrigle. The author notes the essence and fragility of this branch of intellectual property law. Trade secret law is essentially a matter of self-help; the owner of a trade secret succeeds in retaining his or her rights only so long as secrecy or confidentiality is maintained. As the author points out, trade secret protection is "forever lost once the secret has been disclosed." In addition, the author surveys elements of the claim to copyright. Some of the recent decisions concerning copyrightability of software are discussed, and the author observes that "the *Tandy* case stands for the proposition that not only are computer programs proper subject matter for copyright, but the mechanical embodiment is also subject to copyright regulation."

With respect to computer programs, trade secret law and copyright law offer alternative means of protecting intellectual property. On the one hand, one might use trade secret law to protect a program or other process by merely keeping that

9. The authors draw upon certain decisions decided before *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983), *cert dismissed*, 104 S. Ct. 690 (1983).

10. See *id.*; *Williams Electronics, Inc. v. Artic Int'l Inc.*, 685 F.2d 870 (3d Cir. 1982).

process a secret. On the other hand, one might rely on federal copyright protection which is achieved basically by affixing an adequate notice of authorship and claim of copyright to the chosen medium of expression. Can one have both means of legal protection at the same time? McGarrigle argues, "yes." He urges that the two systems of protection are not mutually exclusive and that trade secret protection is not preempted by copyright law when one affixes a copyright notice. The heart of the problem is presented by 17 U.S.C. section 301, which states the conditions of federal preemption in the area of copyright and similar state laws. The author states, "[t]he use of state trade secret law does not seem to conflict with federal copyright law and an analysis of section 301 indicates that the policies of the preemption provision do not present any further obstacles." McGarrigle also expresses his view that dual protection is appropriate in relation to the public interests which are at stake, namely, fairer protection to inventors on the one hand and appropriate dissemination of new information to the public at large on the other. It would be, in his view, "no abatement of progress" to allow the simultaneous use of copyright and trade secret protection of software.

PROFESSIONAL MALPRACTICE

Kevin MacKinnon's article, "Computer Malpractice: Are Computer Manufacturers, Service Bureaus and Programmers Really the Professionals They Claim To Be?," reminds us that computer systems, like other processes, are subject to failure. Some of these failures may be due to bad judgment or lack of appropriate care on the part of those who design the systems or who advise concerning their use. To meet this problem, MacKinnon suggests that computer professionals should come under the full force of professional negligence law. Those who design and advise in the computer area have a degree of expertise which others necessarily rely upon. Because of this, they should not be held to a general duty of due care, but like doctors and lawyers, they should be held to "a duty to conduct themselves as reasonable persons having the skill and learning commonly possessed by members of the profession in good standing."

The professional "professes" a certain expertise. Thus, while the consumer or client is in a position to choose whose advice to follow and how far to follow it, he or she cannot

gainsay the foundation of the advice. The professional has access to the special information of importance to a client and should be accustomed to applying that information. Unless the client, too, becomes a professional, he is, to a degree, "stuck." In short, the client must rely on the professional's judgment.

The element of reliance is critical to MacKinnon's approach. "The complexity of the computer field necessitates . . . client reliance on the computer consultants and data programmers . . ." Since this is the case, the enhanced duty, i.e., to perform with a special degree of competence of an expert in the field, must be recognized by courts and applied in negligence actions against computer experts.

The article concludes with a discussion of the elements of a cause of action for professional negligence in the computer field. MacKinnon indicates that there may be difficulties in establishing the precise limits of the computer professional's duty, with consequent uncertainty as to when the duty of care has been breached. This, however, is true of negligence in general and other fields of professional liability in particular. The specific standards of care usually emerge from the requirements of the particular situation where the professional has exercised his or her judgment.¹¹ The article also comments on the Statute of Limitations issues, specifically, when the cause of action accrues. Finally, the author expresses confidence that recognition of computer malpractice will not cause an unjustified "Pandora's box" of litigation. He urges that in cases where damage arises from negligence of computer professionals, the law is simply obliged to provide an appropriate remedy. One such remedy would be a cause of action for computer malpractice.

EMPLOYEE RIGHTS

The development of new processes in the high technology area presents a conflict between the interests of employees and those of their employers. The employer wishes to maximize the production and profit to be derived from its facilities

11. An unusual case where a court has, in effect, imposed a specific professional requirement of general application is *Helling v. Carey*, 519 P.2d 981 (1974). In *Helling* the court held that the defendant ophthalmologists were subject to liability as a matter of law for failing to give tests for glaucoma.

and the efforts of its employees, while the employees may have separate desires to advance their careers, retain their mobility, and do the best that they can with their individual lives. The article by Elizabeth Smith, "Eliminating Predatory Litigation in the Context of Baseless Trade Secret Claims: The Need for a More Aggressive Counterattack," raises the problem of the employer/employee conflict of interest with the following hypothetical situation:

Motivated by a falling out with management over product development strategy, several employees have left a large company to form a competing business, selling a similar product in the same marketplace. Outraged at this move and determined to stop the new business in its tracks, management of the large company immediately burdens the new company with a hefty lawsuit. The lawsuit includes allegations that former employees misappropriated valuable trade secrets from their former employer and seeks an injunction to prohibit the new company from continuing operation.

The author observes that under these circumstances some employers have appropriate legal claims, while others initiate legal controversies which might be properly described as shams or merely vexatious litigation. In order to redress the balance for employees who may face sham lawsuits, the author proposes that the courts recognize a new cause of action which will protect the employees' interests. The elements of the cause of action would be: (1) lack of probable cause for the employer's trade secret lawsuit, (2) a showing of ulterior purpose, and (3) "improper acts by the trade secret plaintiff during the course of the trade secret litigation which result in harm to the trade secret defendant."

LITIGATION SUPPORT SYSTEMS

Andrea Hirsch's article, "The Impact of Automated Litigation Support Systems On An Attorney's Standard of Care," examines the use of computers in litigation management and control. The author suggests that in the future we may see more widespread use of computerized systems for collecting, ordering, and providing access to various documents and items needed at trial. Furthermore, the author proposes that attorneys may be obligated at certain points to use automated support systems, or else be subject to negligence liability for

failure to do so. It is suggested that attorney malpractice in this area be evaluated by examining the following factors: (1) the availability of automated litigation support systems, (2) whether automated litigation support is available at reasonable cost, (3) whether automated litigation support is being used to minimize or reduce an extraordinary risk, and (4) whether the absence of automated litigation support was a direct cause of the injury.

Whether or not liability might be imposed on an attorney for failure to use a computer in this way, it is well for lawyers to continue to look around at the various ways in which data processing is entering their business environment. Some items will be appropriate to adapt to an individual's practice and others will not. Fundamentally, it seems that the best choice would be one made based on one's understanding of how he or she works best in the increasingly complex environment of handling legal problems.

Computer law is an interesting new area of legal development. Like the computers themselves, the new legal problems will not go away. They will arise, take their particular shape, draw on old legal doctrines, and perhaps create new doctrine. This symposium has taken a look at some of these problems. In conclusion, I wish to thank the editors and authors for their work in presenting this interesting array of articles to us.

