

**Copyright Law:**  
**Still the Most Predictable**  
**Protection for Software**

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I. Introduction

Once the premise (some say the fiction) that computer code is a "literary work" is accepted, as it has been in the United States for decades and is now internationally in all member nations to GATT, the protection copyright affords computer software fits relatively neatly and consistently within accepted doctrines of copyright law. Copyright protects the actual code as "literary works", and the screens displayed while programs are in operation as "audiovisual works". In addition, accompanying documentation such as manuals are protected as "literary works".

Some have the perception that copyright protection for software is shrinking or contracting. Self-described "copyright law protectionists" bemoan recent decisions that have declined to define broadly copyrightable subject matter (originality) and have limited the "look and feel" test of infringement. See, e.g., Apple Computer v. Microsoft Corp., \_\_\_ F.Supp. \_\_\_ (1993); 35 F.3d 1435 (9th Cir 1994), *cert. denied*, 115 S.Ct. 1176 (1995) ("Apple v. Microsoft"), Computer Associates, Int'l, Inc. v. Altai, Inc., 775 F.Supp. 544 (E.D.N.Y. 1991); *aff'd in part, vacated in part*, 982 F.2d 693 (2nd Cir. 1992) ("Altai"), Lotus Development Corp. v. Borland International Inc. 49 F.3d 807 (1st Cir.), *aff'd without opinion*, 116 S.Ct. 804 (1996) ("Borland").

However, in the copyright law mainstream, these same recent decisions are greeted as having normalized copyright law as applied to software. This trio of decisions has not only made the application of copyright law to software more in line with copyright law analyses in other areas, but has brought more predictability. In this author's view, copyright therefore remains the easiest, most predictable and most affordable means to protect software.

Further adding to predictability, the majority view is now that shrink-wrap licenses for computer software are, after all, enforceable. See ProCD Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996) ("ProCD").

To be sure, the nature of software as works of authorship with a strong functional component has given courts reason to recognize computer programs as qualitatively different from other works. Thus computer programs may be "reverse engineered" (Sega Enterprises Ltd. v. Accolade, Inc., 977 F.2d 1510; 24 USPQ2d 1561 (9th Cir. 1992)) and graphical user interfaces ("GUIs") are given less protection than other types of works (Apple v. Microsoft). However, recognition of the special nature of computer programs and the narrow scope of protection for GUIs is not qualitatively different from the narrow scope of protection traditionally afforded fact based works, compilations and similar copyrightable subject matter that has always been afforded "thin" copyright protection. Therefore although computer programs have received special treatment in their review by the courts, the type of special treatment neither puts them outside the main stream of copyright protection nor indicates that copyright protection for software is meaningfully lessened.

Some uncertainty remains in one area dealing with the rights of owners of a copy of a computer program to copy or adapt it under Section 117. Decisions that have held third-party servicing of computer software infringement have unduly narrowed the rights of owners of copies of

software under Section 117. See, e.g., MAI Systems Corp. v. Peak Computer, Inc., 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*; 510 U.S. 1033; 114 S.Ct. 671 (1994). On the other hand, other courts have clarified that the right to adapt a computer program for internal use is permissible under Section 117 and does not create an infringing derivative work. Aymes v. Bonelli, 47 F.3d 23, 26; 33 USPQ2d 1768 (2nd Cir. 1995).

The real problems with using copyright as a means to protect software do not so much arise from doctrinal narrowing of copyrightability and standards of infringement, but from the lack of care in insuring that all rights to software are secured. Ignorance about the work for hire provisions of the Copyright Act and sloppy business practices means that lack of ownership of the copyrights in software remains a persistent problem that needs to be recognized.

This paper will first discuss how software is "copyrightable subject matter" under the Copyright Act, and will then discuss the current standards for determining infringement of both computer code and computer screen displays, or graphical user interfaces.

The extension of protection to third-party maintenance operations will then be discussed, as well as other issues under Section 117.

Finally, the critical issues of copyright ownership and international considerations with respect to ownership will be discussed, as these areas appear at this point to present a far greater impediment to effective copyright protection than doctrinal nuances of copyrightable subject matter and infringement.

## II. Copyright Protection for Computer Software and Graphical User Interfaces Under the Copyright Act.

The Copyright Revision Act of 1976, 17 U.S.C. Section 101 *et seq.* (the "Copyright Act", or "Act") protects "original works of authorship fixed in

any tangible medium of expression . . ." Section 102(a). The categories of "works of authorship" that may be protected are generally circumscribed only by the writings clause of the Constitution, Article I, Section 8. The Act defines several types of works, without limiting them. They include "literary works" and "audiovisual works". "Literary works" are defined broadly to include not only works in words, but also "numbers or other numerical symbols or indicia regardless of the nature of the material objects . . . in which they are embodied." "Audiovisual works" are "works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or device . . . together with accompanying sounds, if any . . .".

Before clarifications to the Copyright Act in 1980, both the Copyright Office and the courts assumed that computer programs were "literary works" and protectable under the Act. The Copyright Office has registered computer programs as "literary works" since 1964. Congress and the courts also recognized the protection of software under the copyright law. See Legislative History of Section 101, H.R. Rep. No. 1476 94th Cong. & Ad. News 5959, 5667 ("Literary works . . . includes computer programs"); Tandy Corp. v. Personal Micro Computers, Inc. 524 F.Supp. 171 (N.D.Cal 1981); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3rd Cir. 1983).

In 1980, to dispel any doubt, a definition of "computer program" was added to the Copyright Act. It defines computer program as "a set of statements or instructions to be used directly or indirectly in a computer to bring about a certain result."

In the early days of protection for software, the "source code" or human-readable form of a program was held to be protectable, as comparable to a piece of technical writing. See, e.g., Data Cash Systems, Inc. v. J S & A Group, Inc., 480 F.Supp. 1063, 1068 (N.D. Ill. 1979); *aff'd* 628 F.2d 1038 (7th

Cir. 1980). However, some courts adopted arguments that if the computer program was in "object code" or machine-readable form, then the program was no longer protectable. This distinction between "source code" and "object code" in terms of protectability has long been rejected. Now all forms of a program, regardless of how it may be embodied, are protectable. See, e.g., Apple Computer, Inc. v. Franklin Computer Corp., *supra*.

Later, similar arguments were raised based on the type of computer program -- operating systems software was argued not to be protectable because it was an intrinsic part of a computer, whereas applications software was protectable. These distinctions, too, have not been accepted. All types of software, regardless of their function, have been held protectable. See, e.g., Apple Computer, Inc. v. Franklin Computer Corp., *supra*.

With respect to protecting the visual output of a computer program, it has long been held that the computer games, initially video arcade games, are protectable. See, e.g., Atari Games Corporation, v. Oman, 888 F.2d 878 (D.C. Cir. 1989) ("Oman"). Now all visual outputs, GUIs and otherwise are held to be protectable. Lewis Galoob Toys, Inc. v. Nintendo of America, Inc., 780 F.Supp. 1283 (N.D.Cal 1991); Apple v. Microsoft, *supra*.

The outer boundary of all copyright protection for any type of work is that particular expressions only are protected, not ideas. Section 102(b) of the Act provides:

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.

Applied to software, for example, this means that the underlying algorithm in a computer program that a computer utilizes to accomplish a particular task is not protectable, but the expression of that algorithm in a particular sequence of computer code is.

When there is only one way of expressing an idea, or there are very few ways, then certain "expressions" cannot be protected, since protection of the expression would effectively accord protection to the idea itself. This is referred to as the "merger" doctrine. Baker v. Selden 101 U.S. 99 (1879); Kregos v. Associated Press, 937 F.2d 700 (2nd Cir. 1991). As stated in an early computer software case "[i]f there were only one or two ways to write a program for a particular function, then extending copyright protection in the program might in effect give its author a patent on the idea itself." Apple Computer, Inc. v. Formula International, Inc., 562 F.Supp 775, 782 (C.D. Cal 1983).

The theoretical analysis used to determine whether a "merger" has occurred or not is a difficult one -- note the approach taken in by the Altai court, discussed below.

A novel approach to Section 102(b) was taken by the First Circuit in the Borland case, which may change how the "idea-expression" analysis will proceed in the future.

In Borland, the First Circuit (affirmed without opinion by the Supreme Court) held that the menu command hierarchy and menu sequence of the spreadsheet program Lotus 1-2-3 is a "method of operation" under Section 102(b) and thus not protectable subject matter. Analogizing the command structure and commands themselves to videocassette recorder buttons that are labeled "Play", "Reverse", "Stop/Eject", etc., the court found that they were essential to operating Lotus 1-2-3, so that spreadsheet users familiar with this program would need to use this sequence in order to use any compatible program.

The Lotus menu command hierarchy provides the means by which users control or operate Lotus 1-2-3. If users wish to copy material, for example, they use the "Copy" command. . . [u]sers must use the command terms to tell the computer what to do. Without the menu command hierarchy, users

would not be able to access and control or indeed make use of, Lotus 1-2-3's functional capabilities. The Lotus menu command hierarchy does not merely explain and present Lotus 1-2-3's functional capabilities to the user; it also serves as the method by which the program is operated and controlled.

The practical effect on the users if different commands for the same functions had to be re-learned by the user on a program-by-program basis influenced the court's decision:

Under Lotus' theory, if a user uses several different programs, he or she must learn how to perform the same operation in a different way for each program used. For example, if the user wanted the computer to print material then the user would have to learn not just one method of operating the computer such that it prints, but many different methods. We find this absurd.

The Borland court's emphasis on the practical market effect of a holding that the menu hierarchy and commands were protectable, as well as its recognition of the de facto functionality of the menu and hierarchy because the Lotus 1-2-3 product had become the market standard makes this decision one among several recently that have held that the need for compatibility will limit the extent of copyright protection afforded.

### III. Test of Infringement

A *prima facie* case of copyright infringement is shown by proving ownership of a valid copyright and copying by the defendant. Feist Publications, Inc. v. Rural Telephone Service Co., 499 U.S. 340, 111 S.Ct. 1282 (1991). "Copying" in turn may be shown by proof of access to a work and substantial similarity between the two works. Atari, Inc. v. North American Phillips Consumer Electronics Corp., 672 F.2d 607, 614 (7th Cir. 1982); Altai, supra. If the copyright in a work has been registered within five years of first publication, the certificate of registration constitutes *prima facie*

evidence of the validity of the copyright and of the facts stated in the certificate. Section 410(c); 411. Thus if there is wholesale copying of a program, proof of infringement is relatively simple, particularly if registration has been made within the required time frame.

The early cases indeed involved direct copying of an entire program. See, e.g., Apple Computer, Inc. v. Franklin Computer Corp., *supra*. Dumping computer code is a relatively coarse and easily provable form of infringement. The more typical case today has come to involve fact patterns where no actual code was copied, but the overall function of a program arguably was. The more difficult and interesting cases today involve not literal, but non-literal copying.

When non-literal copying is alleged, a threshold issue always becomes whether protectable elements of a work were copied or not. Because only expressions, not ideas, can be copied, and various constraints limit what are considered "expressions", including the doctrines of "stock scenes" (*scenes a faire*) (see, e.g., Oman), lack of originality and merger under Section 102(b), defining the scope of a protectable work has become critical.

In the mid-1980s some courts came to espouse protection of the "total concept and feel" of computer programs, taking their cues from cases outside the computer software realm such as Sid & Marty Krofft Television Productions, Inc. v. McDonald's Corp., 562 F.2d 1157, 1162 (9th Cir. 1977).

In the leading "look and feel" case, Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc. 797 F.2d 1222, 1236 (3rd Cir. 1986) ("Whelan"), the Third Circuit propounded arguably the broadest interpretation of what can be considered the protectable aspects of a computer program. In tackling the idea-expression dichotomy to determine which aspects of a program used in billing and maintaining records in a dental lab were protectable, the court suggested that the idea or function of a computer program is the idea of a program as a whole, and "everything that is not necessary to that

purpose or function [is] part of the expression of that idea." The Whelan formulation thus extended protectable "expression" to virtually every aspect of any program. This formulation was widely criticized, and appears to have been put to rest by the Altai case, the Second Circuit opinion in 1992, which remains the leading case today in determining the standard of infringement for computer software.

Altai involved a job scheduling program used on mainframe computers, which scheduled and then controlled implementation of various tasks by the computer. The portion of the program that was allegedly copied was the ADAPTOR program, the operating system compatibility component that enabled the program to run on various operating systems. This segment had in fact been copied by an employee of the defendant, unbeknownst to the employer. Upon discovery, using "clean room" techniques, this portion of the code was independently re-written, preserving, however, the functionality of the program.

The Altai court noted that practical considerations must inform the analysis of protectability. Under Altai:

[A] court would first break down the allegedly infringed program into its constituent structural parts. Then, by examining each of these parts for such things as incorporated ideas, expression that is necessarily incidental to those ideas, and elements that are taken from the public domain, a court would then be able to sift out all non-protectable materials. Left with a kernel, or possibly kernels, of creative expression after following this process of elimination, the court's last step would be to compare this material with the structure of an allegedly infringing program. The result of this comparison will determine whether the protectable elements of the programs at issue are substantially similar so as to warrant a finding of infringement. 12 USPQ2d 1252, 1253.

Important to the court's analysis were "elements dictated by efficiency". This was the court's application of the merger doctrine in the

computer program context. The court noted that "efficiency concerns may so narrow the practical range of choice as to make only one or two forms of expression workable options." Altai considered "whether the use of *this particular set* of modules is necessary efficiently to implement that part of the program's process. . . . If the answer is yes, then the expression represented by the programmer's choice of a specific module or group of modules has merged with their underlying idea and is unprotected."

Another analytical tool used by the court was "elements dictated by external factors", or the application of the stock scenes or *scenes a faire* doctrine. Noting that certain standard programming techniques are likely to be employed in a given situation, the court noted that:

This is a result of the fact that a programmer's freedom of design choice is often circumscribed by extrinsic considerations such as (1) the mechanical specifications of the computer on which a particular program is intended to run; (2) compatibility requirements of other programs with which a program is designated to operate in conjunction; (3) computer manufacturers' design standards; (4) demands of the industry being serviced; and (5) widely accepted programming practices within the computer industry.

These external factors then limit or eliminate the protection of certain aspects of a program.

Finally, the court rejected the protectability of any code that is in the public domain: "[p]laintiff's may not claim copyright protection of an . . . expression that is, if not standard, then commonplace in the computer software industry." 23 USPQ 1256.

Once these three types of material were filtered out, a comparison of remaining, protectable elements could be made and "substantial similarity" determined.

Altai, therefore, like Borland, is grounded in practical considerations of the computing environment. A basic assumption in this case, as in Borland,

is that compatibility must be possible. Authors of competing software with compatibility requirements can mimic the functions of the software of the competitor so long as the "expression" is not copied.

The above discussion has focused primarily on the "literary works" component of computer programs, the actual computer code. The other important component is the audiovisual output of a program. In the case of computer games or other motion-picture-like output, there is little controversy concerning protectability. Historically, courts have had little difficulty finding video games and other like output protectable. See, e.g., Atari, Inc. v. North American Philips Consumer Elecs. Corp., *supra*. In a notable case, Oman, *supra*, the First Circuit, in an opinion written by now-Justice Ginsburg, put the Copyright Office in its place by finding sufficient originality in even a banal computer game to constitute copyrightable subject matter, and ordered the Copyright Office to register the copyright in the BREAKOUT game.

More subtle, and more interesting, is the question whether the graphic user interface of a program is protectable, and if so, to what extent. Two cases have importantly defined these limits. In one, Borland, discussed above, the Supreme Court upheld without opinion the decision of the First Circuit which held that the menu command hierarchy and the commands themselves used in operating the Lotus 1-2-3 spreadsheet program were not protectable because they are a "method of operation" and as such excluded from copyright protection under Section 102(b).

In the other, Apple v. Microsoft, the Ninth Circuit created a different test for copyright infringement than the "substantial similarity" test. The subject before the court was the protectability of the Apple computer "desktop". There, the court held that a computer user interface that consists mainly of uncopyright elements is not infringed unless the accused work is virtually identical with the interface as a whole. The court rejected the

theory that the desktop should be considered as a whole, as a compilation, under a "look and feel" theory. Instead, the court analyzed each separate element of the "desktop", and rejected most of them (the trash can, for example) as uncopyrightable. As stated by the lower court opinion 35 F.Supp. 1435 (1993):

The works as a whole in this case consist of a compilation of many elements, most of which the court found unprotectable, some of which the court found protectable under the substantial similarity standard and some of which the court found protectable under the virtual identity standard. Despite the different levels of protection afforded to the individual elements the compilation as a whole is protected under the virtual identity standard. As the Ninth Circuit has explained, '[c]ompilations that consist largely of uncopyrightable elements receive only limited protection. As with factual compilations, copyright infringement of compilations consisting largely of uncopyrightable elements should not be found in the absence of 'bodily appropriation of expression'. (citing Harper House Inc. v. Thomas Nelson Inc. 889 F.2d 197 (9th Cir. 1989).

Thus the Apple v. Microsoft decision squarely puts the "compilation" of features in a GUI within the same category of "thin" protection of compilations of facts, databases and like works that always have been afforded a lesser standard of protection. After the Supreme Court's opinion in Feist, supra, it is clear that the only protectable elements in compilations are the selection, coordination and arrangement of preexisting materials or data in such a way that the resulting work as a whole constitutes an original work of authorship. Considering the functional and descriptive nature of GUIs, this analysis appears to be entirely appropriate and within established doctrines of copyright law.

#### IV. Fair Use

A complete defense to copyright infringement is provided under Section 107, which sets forth the "fair use" exemption from copyright infringement liability. Under this doctrine, otherwise infringing copying is exempted from infringement. The statute sets forth four factors to be considered in such a finding:

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

In an important acknowledgment of the need for functional compatibility, the 9th Circuit in Sega Enterprises Ltd. v. Accolade, Inc., *supra*, held that the disassembly of a software program is a fair use if the code must be disassembled to understand the functional elements of the program in order to create compatibility.

The Sega case involved computer software needed to make video games operable on a Sega platform. It was clear to the court that the disassembly of the code itself is the making of a "copy", which, in the absence of permission or exemption, would be an infringement. It did not matter in the court's view that the disassembly was only "intermediate" copying, not a copying that remained in the final software. The court focused on the second prong of the fair use analysis, "the nature of the copyrighted work", and held that because the functionality of the copied program was not understandable without disassembly and the copying was done "solely in order to discover the functional requirements for compatibility with the Genesis console . . .". The court also emphasized the "nature of the use" and found a public benefit obtained from a third party's understanding and exploitation of the functional features of the Sega systems which created more Sega-compatible products in the marketplace

and fostered competition. See also Atari Games Corp. v. Nintendo of America, Inc., \_\_\_ F.3d. \_\_; 24 USPQ2d 1015, 1023-1024 (C.A.F.C. 1992) ("when the nature of a work requires intermediate copyright to understand the ideas and processes in a copyrighted work, that nature supports a fair use for intermediate copying. Thus, reverse engineering object code to discern the unprotectable ideas in a computer program is a fair use . . . The fair use reproductions of a computer program must not exceed what is necessary to understand the unprotected elements of the work. This limited exception is not an invitation to misappropriate protectable expression.")

These cases make a practical accommodation to the realities of software: it has to be "copied" in a disassembler or otherwise to be understood. The Atari court specifically analogized this procedure to use of the facts or data in a compilation. In that context, it is not an infringement to copy the actual data; it is only an infringement to copy the selection, order and arrangement. The analogy here is to the functional aspects of the program, which, like the data in compilations, is not protectable. The "copying" of facts is not infringing because the facts aren't protectable. By analogy, the "copying" of the functional features (although the whole program has to be dumped to get at them) is similarly not infringing.

Further to the "normalizing" of copyright law as applied to software and GUIs, the recent Seventh Circuit ProCD decision, *supra*, has created more predictability about the enforcement of shrink wrap licenses.

#### V. Section 117: The Archival Copying and Adaptation Right

Section 117 was added to the Copyright Act in 1980 specifically to address the needs of owners of copies of computer programs to make back-up copies and to adapt programs to their own particular needs without becoming infringers. It states in pertinent part:

[I]t is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided: (1) that such a new copy or adaptation 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 or adaptation is for archival purposes only . . . .

In MAI Systems Corp. v. Peak Computer, Inc., 991 F.2d 511, 26 USPQ2d 1458 (9th Cir. 1993), the Ninth Circuit held that third party maintenance of licensed software contrary to the software license terms was an infringement. This is because in order to service the software, it had to be loaded into RAM, thus "copying" the software on the computer hard drive. The court apparently misread Section 117, holding that it applied only to the owner of a computer program, not the owner of a copy of the program (which a licensee is), and thus finding the third party liable for infringement. The ruling was followed in Advanced Computer Systems of Michigan Inc. v. MAI Systems Corp., 845 F.Supp 356 (E.Va. 1994).

Several bills have been introduced in Congress to change the language of Section 117 to clarify that such third party maintenance is not an infringement; however, the most recent legislative proposal along these lines was dropped from the copyright housekeeping bill of which it was a part. Eventually, however, this mis-reading of the statute should be overcome, if not legislatively, then judicially.

In a better-reasoned opinion, Aymes v. Bonelli, 47 F.3d 23, 26; 33 USPQ2d 1768 (2d Cir. 1995), the Second Circuit held that modifications of computer programs for internal use only, not for resale, fall within Section 117, so that the computer program owner did not create an infringing derivative work when it adapted the program to its individual needs. The court pointed out that the creation of upgrades such as those performed in the case could be prohibited contractually, which was not the case.

VI. The Stumbling Block Today: Ensuring that the Copyrights are Properly Owned

Amazingly, nearly 20 years after implementation of the Copyright Law Revision Act in 1978, confusion and ignorance remain about basic copyright ownership issues. With downsizing and out-sourcing, more and more code - - and pieces of it -- is being created by independent contractors, not employees. This threatens the very ownership of the software. Moreover, the increase in global marketing and GATT implementation mean that international law considerations must be taken into account in assuring ownership rights.

Section 201(a) of the Copyright Act (17 U.S.C. §§101 *et seq.*) provides that "copyright in a work . . . vests initially in the author or authors of the work. The authors of a joint work are co-owners of copyright in the work."

Section 201(b) provides: "In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title, and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright."

Thus the initial author of a work is the owner of the copyright rights. This balance in favor of ownership vesting in the actual author remains in the "work for hire" definition. The only way to have a work considered as a work for hire is to have a written instrument to that effect -- a formality that is frequently overlooked.

A. Works for Hire.

The Copyright Act distinguishes between two very different types of works that may be considered "works for hire". One is for works created by employees in the course and scope of employment, the other, much more limited, is for "specially ordered or commissioned" works by non-employees.

1. Employee Work for Hire

Section 101 provides: "A 'work for hire' is - (1) a work prepared by an employee within the scope of his or her employment".

Determination of who is an "employee" was addressed and settled in Community for Creative Non-Violence v. Reid, 490 U.S. 730 (1989). The prior, common law "control theory" was rejected (cf. Aldon Accessories Ltd. v. Spiegel, Inc., 738 F.2d 548 (1984)). Although not "new", this point must be underscored because many clients (and lawyers) intuitively believe that if a client pays a lot for a work and directs what the work's scope is, then the client then owns it. For example, a publisher who hires a photographer to photograph a series of flowers for a floral calendar may well provide the studio, provide the set, provide the props and have at the ready one or more art directors who tell the photographer exactly how the shot should look when finished, re-direct the shot after initial takes, and so on. That "control", before Reid, was considered by some courts to create a "work for hire". After Reid, no more.

In Reid, the Supreme Court also clarified that common-law agency principles will be applied to determine whether a person is an employee such that rights in copyrightable subject matter created by that person in the course and scope vest, under Section 201, in the employer.

Factors include: 1) right to control the manner and means by which the work is created, 2) skill required; 3) source of instrumentalities and tools; 4) location of the work; 5) duration of the relationship between the parties; 6) whether the hiring party has the right to assign additional projects to the hired party; 7) the extent of the hired party 's discretion over when and how long to work; 8) the method of payment; 9) hired party's role in hiring and paying assistants; 10) whether work is part of regular business of the hiring party; 11) whether the hiring party is in business; 12) the provision of employee benefits; and 13) the tax treatment of the hiring party. cf. Restatement of Agency § 220(2).

The next question becomes, of course, whether or not the work was created "within the course and scope." Most courts, following Reid, apply common-law agency theory to determine the "course and scope" question. See, e.g., Miller v. CP Chemicals, Inc., 808 F.Supp. 1238 (D.S.C. 1992) (Restatement Agency §228 applied, a three-part test: 1) it is the kind of work which the employee was hired to perform; 2) was it done within substantially within authorized time and space limits; and 3) was the work done to further the interests of the employer?).

Thus if an employee creates a work in the course and scope of employment, the employer owns the copyright, and is in fact considered the "author", and thus "owner" of the work (Section 201).

## 2. Non-Employee Work for Hire.

The second type of work for hire is defined in Section 101(2) "Work for hire". This Section defines what works created by non-employees can be treated as "works for hire". The Section provides in pertinent part as follows:

A 'work for hire' is - (2) a work specially ordered or commissioned for use as:

- i) a contribution to a collective work,
- ii) as a part of a motion picture or other audiovisual work,
- iii) as a translation,
- iv) as a supplementary work,
- v) as a compilation,
- vi) as an instructional text,
- vii) as a test,
- viii) as answer material for a test, or
- ix) as an atlas . . . . .

Note that the list is short and comprised of a rather odd assortment of types of works that are capable of being treated as non-employee "works for hire". There are only nine categories. They fall, roughly, into three groups: 1) the textbook and other publishers special interest group (contribution to a collective work, translation, supplementary work, compilation, atlas); 2) the motion picture special interest group (part of a motion picture or other audiovisual work) and the secured test special interest group (as a test, answer material for a test).

Critical to this discussion, software is NOT among the nine enumerated categories of works capable of being treated as works for hire if created by non-employees. Any contract that purports to vest rights in the party commissioning the software or GUI by means of "work for hire" will fail. No rights in the commissioning party will be created. None.

Even if you have a work within the enumerated nine categories, you still must read on in the statute: ". . . IF (my emphasis) the parties expressly agreed in a written instrument signed by them that the work shall be considered a work made for hire."

Therefore there must be a signed writing by both parties specifying that the work shall be a work for hire, **and** the work must be within

the nine enumerated categories, to be a "work for hire" under this part of the statute.

It has been thought that such a writing must be completed before the work is completed, and securing a writing before the "work for hire" is created is certainly prudent. However a recent Second Circuit case has held that agreement on the work for hire status before creation of the work is all that is necessary; the actual writing can be executed later. See Playboy Enterprises, Inc. v. Dumas, 53 F.3d 549 (2d Cir. 1995) (endorsements on checks paying for works satisfies the writing requirement). If this trend is followed, the writing requirement will be considerably eased.

#### B. Joint Works

If your client is not the natural author, and ownership cannot vest under the work for hire doctrine, you need to consider whether the client may be a "joint author" and therefore a "joint owner" of the copyright. Section 101 defines a "joint work" as follows: "A 'joint work' is a work prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole."

"Joint authorship" creates co-ownership status, like a tenant in common. Each author has an undivided interest in the whole of the work. Section 201. The joint contributions must create a "unitary whole" with "inseparable or interdependent parts". The classic example is music and lyrics by the joint authors Rogers & Hammerstein.

There is some difference of opinion, but in the Ninth and other Circuits, the contribution of each joint author must constitute separate, independently copyrightable subject matter for joint authorship status to arise. See, e.g., Ashton-Tate v. Ross, 916 F.2d 516 (9th Cir. 1990) (ideas for commands for user interface not copyrightable subject matter; no joint

authorship). This creates a great hurdle to overcome because frequently the entity commissioning the work has not itself created "copyrightable subject matter".

In a very interesting recent case regarding rights in a computer program, an Illinois District Court held that rights in the design of a graphic user interface could create joint authorship in the work as a whole, together with the rights in the computer code itself. See Napoli v. Sears, Roebuck and Co., 874 F.Supp. 206 (N.D. Ill. 1995) ("Sears"). This decision may or may not be followed, and the copyright status of screen displays is a thin thread, in any event, upon which to hang "joint authorship".

Although Sears offers a ray of hope in the "joint authorship" line of cases, it has been and will continue to be difficult to prove "joint authorship" and thus "joint ownership" for two reasons. One is the requirement in the Ninth and other Circuits that each contribution be separately copyrightable and the other is the "intent" requirement set forth in the statutory definition.

With respect to the "intent" requirement, the statute expressly requires that for a "joint work" the parties must prepare the work "with the **intention** that their contributions be merged into inseparable or interdependent parts of a unitary whole". In the event of a dispute, it is unlikely that an independent consultant who drafted portions of code would maintain that he or she intended to create a joint work with the client. See Respect Inc. v. Committee on the Status of Women, 815 F.Supp. 1122 (N.D. Ill. 1993), *motion granted*; 821 F.Supp. 531 (N.D. Ill. 1993).

#### C. Acquisition of Rights by Contract

The easy, and often the only way to ensure ownership of rights is simply to require an assignment of rights by all employees and

independent contractors. This will avoid the "authorship-ownership" issues. Language of assignment of copyright rights must be in all employee and outside contractor contracts. To fulfill the requirements for an assignment under the Act, the assignment must be in writing and signed by the party making the assignment. Not only for domestic law reasons, but also to enable enforcement of copyright rights outside the U.S., it is advisable always to get an assignment, even from employees.

Often, however, rights are not assigned outright, but may be licensed for specific uses. The issue then becomes to determine if the client has acquired the right to use the copyrighted work in the manner that the client wishes. This is the "old rights, new uses" problem, and, with emerging technology, these are not easy questions to answer. For example, are rights to use a work in "motion pictures" the same as in "television"? In videocassettes? Does the right to use software in a computer program extend to on-line distribution?

One line of cases, following Bartsch v. Metro-Goldwyn Mayer, Inc., 391 F.2d 150 (2d Cir. 1968) interprets contractual language in light of the technology existing or "reasonably anticipated" at the time. There the Second Circuit held that the licensee of motion picture rights in a play "may properly pursue any uses which may reasonably be said to fall within the medium as described in the license. . . if the words are broad enough to cover the new use, it seems fairer that the burden of framing and negotiating an exception should fall on the grantor." The licensee had full "exhibition" rights, and the court held that "exhibition" could include broadcasting via television. In Bartsch "motion picture" rights extended to television, since the medium existed and was not expressly exempted from the license. The issues are, one, whether the new use was "reasonably anticipated", and two, was the grant broad enough to encompass the new use? If so, the "old" rights extend to the new medium.

Other courts have taken a different approach, appearing to focus more on the means of distribution and the economics of the transaction to determine if a grant of rights in one medium extends to another. For example, in Rey v. Lafferty, 990 F.2d 1379 (1st Cir. 1993) the court held that a license "to . . . produce . . . film episodes [of CURIOUS GEORGE cartoons] . . . solely for broadcast on television" did not include rights to market videocassettes of the episodes. The holding is based, in part, on a somewhat dubious factual finding that in 1979, when the contract was concluded, no videocassette market existed, but more on the grounds that the granting clause contemplated broadcasting or centralized distribution, not the playing of videocassettes in the home.

This seems to be the view that the Ninth Circuit is taking. See, e.g., Subafilms Ltd. v. MGM-Pathe Communications Co., 988 F.2d 122 (9th Cir. 1993) vacated in part, 24 F.3d 1088 (9th Cir. 1994). (No rights to perform film YELLOW SUBMARINE in videocassette form where grant of rights was to perform and transmit "by television and by any other technological, mechanical or electronic means, method or device now known or hereafter conceived or created" since home venue videocassettes not anticipated at the time of the license.)

D. Protection and Enforcement Problems  
in Civil Law Jurisdictions

Following the lead of the United States, most industrialized countries now recognize computer programs as "literary works" under their domestic copyright laws. Article 10(1) of the 1994 GATT/TRIPS Agreement provides that computer programs "whether in source or object code, shall be protected as literary works under the Berne Convention." An important E.U. Directive also brings computer programs within the rubric of "literary works", and adopts a low originality threshold, rejecting specifically stricter

standards once promulgated in jurisdictions as important as Germany. See European Union's Directive on the Legal Protection of Computer Programs, promulgated on May 14, 1991 and subsequently implemented through legislation in member states. Council Directive 91/250, 1991 O.J. (L 122) 42.

The requirements of obtaining good title to software outside the United States, as in the U.S., must be considered. International rights are critical to most U.S. copyright industries. The copyright economy is global, and the flow of data (and copyrightable subject matter) on the "Information Super-Highway" does not stop at any borders.

In 1989, copyright industries generated \$303 billion annually, representing a 5.8% share of the U.S. gross national product. A core group of copyright industries -- music, motion pictures, home videos, books, periodicals, newspapers and computer software -- generated foreign sales of \$22.3 billion in 1989. At that time U.S.-produced software constituted 55% of the world market. (Economists, Inc., *Copyright Industries in the U.S. Economy* (Oct. 31, 1990). According to a 1995 report, the United States has become the dominant force in the world software market, supplying approximately 75% of the nearly \$70 billion worldwide packaged software market in 1993. U.S. Dept. of Commerce, *U.S. Global Trade Outlook 1995-2000; Toward the 21st Century* 134-35.

Put another way, copyright industries reduced the balance of payments deficit by \$34 billion in 1990. Losses to U.S. copyright industries due to piracy and from trade barriers arising from differences in forms of protection have been estimated to cause losses of \$12 to \$15 billion annually. Green Paper, pp. 83-84, quoting from *Copyright Industries in the U.S. Economy* (1993) by International Intellectual Property Alliance.

U.S. law, based on the common law tradition of granting property rights in the owners of the property, has a fundamentally different

philosophical base than the civil law rights based on "moral rights" and "droit d'auteur", under which rights flow from the fruits of natural authors.

For example, under the copyright law of most civil law jurisdictions, a "producer" of a sound recording, film, or multimedia software is probably not the author and thus not the copyright owner. The "work for hire" doctrine, making the "author" of the work either the employee or the commissioning party is not recognized under civil law regimes. "Joint authorship" does not equal "joint ownership" under civil law standards. Moreover, civil law standards for "joint authorship" are different, requiring inseparability; thus song music and lyrics, the classic example of "joint authorship" under U.S. law, do not create "joint authorship" under civil law regimes. And "joint owners" may not severally exploit rights, except in the U.S. -- consent of all joint owners is the general rule in civil law regimes.

Therefore it is even more critical in ensuring that rights to software are owned by the companies creating or paying for it that all programmers -- employees and outside contractors -- be required to assign over their copyright rights.

## VII. Conclusion

Copyright rights exist from the moment a work is fixed in a tangible medium of expression. All formalities - with the important exception of assignments - have been eliminated. Thus creative enforcement of rights in computer code, audiovisual output and documentation can bring important benefits to software producers. The evolution and settling of copyright law principles as applied to software has also created more certainty both for producers and users. Courts have struck the right balance between producers'/authors' rights and users' rights. Copyright law promises to

continue to evolve, as it has for centuries, to meet changing technologies and marketplace realities.

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