Winter 1991


Mark L. Gordon

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KEY ISSUES IN CONTRACTING FOR THE DEVELOPMENT OF JOINT AND DERIVED PRODUCTS

MARK L. GORDON*

TABLE OF CONTENTS

I. INTRODUCTION ............................................ 2

II. LEGAL FRAMEWORK ....................................... 4

A. COPYRIGHT LAW CONCEPTS .................................. 5
   1. Work Made For Hire .................................. 6
   2. Joint Works ......................................... 7
   3. Derivative Works .................................... 8

B. TRADE SECRET LAW CONCEPTS ............................... 10
   1. Jointly Developed Trade Secrets ..................... 11
   2. Trade Secrets Based Upon Preexisting Works ....... 12

C. PATENT LAW CONCEPTS ..................................... 13
   1. Joint Patents ....................................... 13
   2. Inventions Based Upon Preexisting Materials ....... 15

D. THE INCREASED DILEMMA OF THE CO-EXISTENCE OF
   DIFFERENT FORMS OF PROPRIETARY PROTECTION ....... 15

III. THE PRODUCT AND ITS COMPONENTS ....................... 16

A. DEFINITIONAL FRAMEWORK .................................. 16
   1. Product ........................................... 16
   2. Documentation ..................................... 17
   3. Work Product ....................................... 17
   4. Confidential Materials or Information .............. 17
   5. Related Proprietary Rights ........................... 17
   6. Derived Products .................................... 17
   7. Preexisting Proprietary Materials .................. 17
   8. Functional Specifications ............................ 18
   9. Technical Specifications ............................. 18

* 1991 © Gordon & Glickson, P.C., Chicago, Illinois. The author wishes to gratefully express his appreciation to Francoise Gilbert, a partner with Gordon & Glickson P.C., who made several contributions to this article, and to Cristen Kogl, a summer associate at Gordon & Glickson P.C., who also assisted.
I. INTRODUCTION

Legal controversies swirling about the computer software and information business are reported daily in the industry and legal press. Most notably, high profile disputes on the application of traditional proprietary rights concepts, for example, in the copyright area, are impacting the industry, its products and services. However, a new and more complex wave of controversy is ahead—the inevitable battles over the control and ownership of jointly developed and derived technology products.

For several years, the developers of innovative technologies have recognized that collaboration with others can enhance products and markets. Large-scale companies have turned to independent contractors and outsourcing for development and technological support. Industry members have sought by acquisition and business combination to strengthen product lines and markets. System integration has become a high-priority functionality goal for every industrial and commercial

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1. None more drastic than Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37 (D. Mass. 1990), finding copyright infringement liability of Paperback Software Int'l & Stephenson Software, Ltd. for the “copying” of non-literal elements of the Lotus 1-2-3 spreadsheet corporate program, and in doing so, Judge Keeton articulated a three-part test for determining the scope of copyrightability of the non-literal elements. The ramifications of this decision have already been felt throughout the technology industry, as demonstrated by broad-scale industry and legal press attention and the filing of related cases.

2. In this article “derived” is used as a broad term encompassing all products that are developed or derived, in whole or in part, from an existing work. The term is not meant to be synonymous with the term “derivative works” as used in the context of the copyright laws.
market. Smaller companies have recognized the power of joint ventures and strategic alliances to achieve business levels that alone would be unattainable.

Ownership and allocation of contribution in these environments is complex, fluid and volatile. And if this were not enough, this moving-target issue is further confused by the fact that these are portable products developed by portable employees, where ownership or contribution barely can be traced.

Whether it be strategic alliance, systems integration project, independent contractor relationship, collaboration, joint venture, business combination, or any other currently popular transaction format, the net result will be both an intentional and unintentional blurring of the control of the involved proprietary technologies. While it is indisputable that each of these transaction formats has advantages, a judicious approach is required to gauge the longer term impact on the ability of each of the participants to control and exploit both the contributed and the resulting technologies in these projects, and to preclude others from exploiting them.

Allocation of these rights of control and exploitation is best accomplished through a specific and clear contractual distribution of such rights. In the absence of a specific contractual allocation of these rights, the growing and changing body of statutes and common law applicable or analogous to the creation of joint or derived products may provide some guidance as to which party has obtained what rights. Yet numerous questions and grey areas rise from an application of these statutes and areas of common law.

This Article considers the contractual, statutory and common law rights of the parties that develop a joint or derived product and presents a variety of structural approaches that may be instituted when contracting for the development of a joint or derived product. The first section concentrates on three primary areas of the law that influence the ownership and control of the joint or derived products in the absence of a specific contractual agreement to the contrary: copyright, trade secret, and patent law. This section also examines the questions

and problems raised should these areas of law ultimately govern such ownership and control. The second section suggests a definitional framework and an administrative framework that can be used as a basis to articulate a contractual structure for the allocation of ownership and control. Finally, the third section of this Article sets forth five alternative structural approaches or templates that can be considered when contracting for the development of a joint or derived work, each of which yields a different allocation of ownership and control in these collaborative efforts.

II. LEGAL FRAMEWORK

Absent a contractual agreement, when two or more parties develop a product, the nature of their ownership rights in the product will be determined (although as the theme of the article suggests, not very well) by statutory and common laws in light of the contracting parties' respective contributions to the development. These laws are premised on a public policy that is the foundation of legal proprietary rights for intellectual property. The goal of this policy is to provide economic incentive for the investment of time and money to develop a product which will benefit society at large.4

Each form of protection strikes a different balance between the need to afford adequate protection in order to induce development of the product and its components, and the need to make this technology widely available to afford greater scientific and social advancements. In order to balance these contrary goals, different intellectual property laws advance proprietary protections in differing degrees and forms. Copyright protection requires only a minimal amount of "original authorship," and does not depend upon maintaining the secrecy or confidentiality of the work. Copyright, however, only protects the form of expression and not the underlying ideas or designs. It also does not protect against the independent creation of a similar product. Trade secrecy protection requires less novelty and does protect the underlying ideas and designs not covered by copyright. Trade secrecy, however, requires that steps be taken to preserve the confidentiality of the work. Indiscriminate disclosures will cause a loss of trade secret protection. Like copyright, trade secrecy does not protect against the independent development of a similar product. Patent protection requires a very

high degree of novelty but grants the inventor a relative monopoly on the invention for a period of time, thus precluding any similar independent development.\(^5\)

### A. COPYRIGHT LAW CONCEPTS

Copyright has been defined most succinctly as "the right of an author to control the reproduction of his intellectual creation."\(^6\) It is one of the primary areas of statutory law protecting joint or derived work proprietary rights. Specifically, computer programs are protected as Literary Works,\(^7\) as demonstrated by the House Report accompanying the Copyright Act:

The term "literary works" does not con note any criterion of literary merit or qualitative value:

- it includes catalogs, directories, and similar factual reference, or instructional works and compilations of data. It also includes computer data bases; and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves.\(^8\)

The Copyright Act provides that ownership of the copyright vests initially in the author of the work.\(^9\) It guarantees the owner's exclusive rights in the resulting work including reproduction, adaptation, public distribution, public performance and public display. In addition, virtually all forms of the computer program are capable of being protected by copyright, including object code, source code, and micro-code whether in printed, magnetic or hardware ROM forms.\(^10\) Although copyright expands intellectual property protection into the far reaches of computer systems to include machine language, database, structure sequences and literal and non-literal components, the precise scope of this protection has yet to be fully defined by either Congress or the courts.

Three areas of the Copyright Act are particularly relevant in any

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attempt to demonstrate the present scope and utility of the protection offered as it relates to the protection of joint or derived works: works made for hire, joint works and derivative works. Notwithstanding the Copyright Act's applicability to these areas, numerous questions arise related to exactly how the ownership issues will be resolved.

1. **Work Made for Hire**

A party may contract with, hire, or assign a person to a development project when creating a joint or derived work. This type of agreement may or may not be a "work made for hire." The status of the work, as work made for hire or not, will dictate which party, the employer or other party, has the future right to control and exploit the resulting work. A work made for hire is:

- a work prepared by an employee within the scope of his or her employment; or
- a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, ..., if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire. 11

A variety of controversies and questions have arisen in determining how the concept of work made for hire affects copyright ownership rights. The United States Supreme Court recently addressed this issue in *Community for Creative Non-Violence v. Reid.* 12 The Supreme Court held that, in determining whether a hired party is an employee for the purposes of Section 101(1) of the Copyright Act, one must look to Section 220(2) of the Restatement (Second) of Agency (1958). The Court concluded that the term "employee," for the purposes of copyright law, is defined by the general common law of agency, specifically stating that an employee is a separate entity from an independent contractor. In order to ascertain the status of a party as an employee or independent contractor, a variety of factors, including location of work, relationship of the parties and method of payment, must be considered. 13

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12. 490 U.S. 730 (1989). This case involved a sculpture, a portion of which the plaintiff had retained the defendant to create. The defendant claimed ownership of the entire work including the contracted portion, whereas the plaintiff asserted that it was a work made for hire. The District of Columbia Circuit Court of Appeals endorsed the agency definition of employee, and the decision was affirmed by the Supreme Court.
13. The court may also consider the following factors: the hiring party's right to control the manner and means by which the product is accomplished; the skill required; the source of the instrumentalities and tools; the location of the work; the duration of the relationship between the parties; whether the hiring party has the right to assign additional projects to the hired party; the extent of the hired party's discretion over when and how long to work; the method of payment; the hired party's role in hiring and paying assist-
In light of the existing state of the law of work made for hire, and in the absence of an agreement, a number of questions exist regarding the authorship, and hence ownership, of the copyrighted product. The potential concerns of a joint developer or an employee include, for instance: Who is the author of the product if the employer pays for the development of the product (salary and cost of materials) and the work is not specifically commissioned? Or if the employee spends time after work developing the product? Or if the employee works on the product at home? Or if the employee creates a product, at home on his own time, similar to the one being developed at work? How will a court construe the factors used to determine an individual’s status as an employee or independent contractor? How heavily will the determining factors weigh? Are some factors more determinative than others? How is the status of the final production as work made for hire determined?

2. Joint Works

A joint work is defined by the Copyright Act as a work prepared by two or more authors with the intention that their contributions will be merged into inseparable or interdependent parts of a unitary whole. The authors of a joint work are co-owners of that work. Each co-owner has the right to use, transfer or license the work without obtaining the consent of the co-owner as long as the use, transfer or license will not cause the work’s destruction, and unless the parties have made a previous agreement to the contrary. The only obligation due to the other co-owner, absent specific contractual duties, is that each party must account to the other the profits obtained from the use and licensing of the joint or derived product. If an author only contributes ideas to the development without reducing these ideas to expression, that author does not obtain a copyright interest in the work. Problems arise in determining whether a joint work in fact exists, and judicial decisions provide unclear guidance.
Problems also arise in differentiating between a joint work and a collective work. A collective work is a work in which a "number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole." The collective work as a whole may be copyrighted, but each author may still maintain the copyright in the individual work that becomes part of the collection. In contrast, the touchstone of a joint work is that separate works are absorbed or combined into an integrated unit. A collective work lacks the elements of merger or unity, and instead the key element is that of collection or assembly. The intention of the parties to create a joint or collective work is very important to the product's ultimate classification and its subsequent protection, as well as to the allocation of the ownership rights. For example, if two programmers write separate programs which are subsequently merged into a single product, the authors are not entitled to joint ownership of the copyright in the product as a whole, only in their individual program. Yet, if two programmers create separate programs with the intent to create a single integrated program, both will be entitled to joint ownership of the completed program.

The creation of a joint work without the benefit of an agreement allocating proprietary rights may result in conflicting expectations regarding authorship, ownership and the use of the product. Questions that may arise include, for example: How is the determination of a work's destruction established? In differentiating between joint and collective works, how is the intent of the developers determined? Do all developers have to manifest intent to create a joint product? Other questions may arise when joint developers generate a product without an agreed upon final goal, or when the parties enter the development process with the same objective in mind but during the development their focus alters.

3. Derivative Works

A derivative work, as defined by the Copyright Act, is a work based upon one or more preexisting works that have been "recast, transformed or adapted." In order to qualify as a derivative work, the work must have been substantially developed from preexisting materials, yet have a sufficient amount of originality to be considered an independent work.

Supreme Court Work for Hire Decision Leaves Many Questions Unanswered, COMPUTER LAW., July 1989, 37, 40-42.
18. C. SHERMAN, supra note 5, at § 202.5(c).
19. Id.
The Copyright Act limits copyright protection in a derivative work to "only the material contributed by the author of such work . . ." and further states that the "copyright in such work is independent of, and does not affect or enlarge the scope, duration, ownership or subsistence of any copyright protection in the preexisting material." Thus, the Copyright Act's derivative work provision refines rather than enlarges the original copyright owner's rights.

Section 106 of the Copyright Act secures the right of the owner of an existing work to authorize others to copy or develop derivative works from the preexisting product. A work is considered a derivative work only if the use of the preexisting materials would have constituted a copyright infringement, had the creator of the derivative work copied that portion of the preexisting work without the owner's permission. Merely copying ideas, and not the expression, of a work or modifying a preexisting work without using a sufficient amount of originality will not create a derivative work. The threshold amount of originality required is low. An example of when a work does not contain this requisite amount of originality would be the rewriting of a computer program from one language to another, making only those changes required to allow the program to operate in the new language. Such actions would constitute copyright infringement, not as an unauthorized creation of a derivative work, but rather as unauthorized copying.

Due to the nature of a derivative work, the Copyright Act does not provide the author of the original work substantial protection from an infringing derivative work. Derivative works are, by definition, not direct copies of the original work. Consequently, proving the substantial similarity of derivative and original work can be extremely difficult. This difficulty exists because much of the derivative work's code may appear to be entirely unlike the original work after having been "recast,

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23. A common analytic framework used to prove the substantial similarity test is articulated in Arnstein v. Porter, 154 F.2d 464, 468 (2d Cir. 1945). Arnstein establishes a two-step test utilizing expert testimony and reaction. Although a variety of criticism has arisen due to the reaction step, and the Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d 1222 (3rd Cir. 1983), cert. denied, 479 U.S. 1031 (1987) decision appears to have rejected this second step (Whelan relies only on expert testimony to determine the substantial similarity), Arnstein still appears to be the majority rule in the circuits. See also Note, Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test, 68 MINN. L. REV. 1284, 1278-79 (1984); Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37 (D. Mass. 1990) (establishing a broader view of protectability).
transformed and adapted." Thus, if an author has unlawfully created a derivative work, the author may only protect the portion of the derivative work that is independent of the unlawfully used preexisting work. If the derivative work cannot be separated from the original or preexisting work, the author of the derivative work will not have any protectable rights in the creation. However, if this author had lawfully created a derivative work, the Copyright Act would protect the derivative work from infringing uses.

Although a derivative work itself is copyrightable, its status does not change the copyright and ownership rights granted in the original work. Derivative works add another dimension to the authorship and ownership questions. In the absence of an agreement, the use of an original work for the development of a derivative work is unlawful. Moreover, assuming the consent was granted, but the terms of the use of the original product were not agreed upon, questions of the following nature may arise: Will the original author have any rights in the derivative work, its use, profits or liabilities? What types of defenses are available to the original author whose work has been unlawfully copied but is separable from the original work? How is the severability of the derivative work from the original work determined? What factors are involved?

B. TRADE SECRET LAW CONCEPTS

Unlike copyright protection, trade secrecy will protect underlying ideas and designs provided that steps are taken to maintain the confidentiality of the information for which trade secret protection is sought. Even though the standards for establishing and maintaining a trade secret are well settled, the impact of trade secrecy law in a joint or derived development setting is even less clear than the impact of copyright law.

Trade secret protection is a product of state law which can vary from jurisdiction to jurisdiction. In general, a trade secret may be described as information or a compilation of information, formula, pattern, or device which is used in one's business and maintained in secrecy, and which gives its owner an opportunity to obtain an advantage over a competitor who does not know, or have use of, these materials. Most state and federal courts have approved this definition of trade secret as it applies to computer software.

The first, and ultimately the most important step in analyzing the

law of trade secrecy, is the determination of trade secret status. In order for a product or information related to its development to qualify for trade secret status, four requirements must be met: appropriateness of subject matter, secrecy, novelty and economic value.26 Once all four criteria have been determined to exist within the product, its documentation or work product, or any other related materials, trade secrecy is established in that entity.

The protection granted by trade secrecy laws is unclear when applied to a joint development project. A sample list of potential problems follows: Absent an explicit obligation to maintain trade secrecy, is there an implied obligation to maintain secrecy and what are the requirements? Where and how are general skill and knowledge separated from knowledge and information gained through association with a particular project? What is the status of trade secrets developed independently, as opposed to those disclosed during the project? How is trade secret information licensed to others and what is the status of the information upon commencement of the licensing agreement? Although these questions also arise out of the mere application of trade secrecy to a product, they are substantially more complex when trade secrets are involved in joint ventures or derivative works.

1. Jointly Developed Trade Secrets

Two or more parties can jointly create and hold a trade secret. The establishment of a joint venture transaction may create a confidential relationship from which trade secrets are developed.27 During the existence of the relationship one of the creators cannot use or disclose the trade secret to the detriment of the other. Yet the uncertainties of an implied obligation, due to lack of notice and vague scope of protec-

26. The following is a non-exhaustive list of factors that must be analyzed to determine whether information is a trade secret: the extent to which the information is known outside the business; the extent to which the information is known by employees and whether each of these employers needs to know that information; the methods undertaken to maintain the secrecy of the information (such as confidentiality legend or oral or written reminders that the information is confidential), and limiting access to the information; the extent to which the methods to protect the secrecy are followed; the value of the information to its owner or its owner's competitors; the effort in time, money and human resources incurred in developing the information; and the ease or difficulty with which others could independently acquire or duplicate the information.

27. For example, in Com-Share, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229, 1238 (E.D. Mich. 1971), aff'd, 458 F.2d 1341 (6th Cir. 1972), the disclosure of system developments under a joint agreement established a confidential relationship. See also C. SHERMAN, supra note 5, at § 309.3(d)(4); RESTATEMENT OF TORTS § 757 comment j, reprinted in 226 U.S.P.Q. (BNA) 692, 695 (D. Minn. 1985) (inadequate secrecy to support a finding that a trade secret existed in software where plaintiff-developer disclosed much of the system to potential joint venturers without cautioning that the practices were confidential or obtaining a written confidentiality agreement).
tion, create a less than desirable scenario. Further, upon termination of the relationship, the ownership rights of the joint venturers in the trade secret are extremely unclear.\textsuperscript{28}

In the absence of a specific agreement allocating proprietary rights, trade secret protection for a jointly developed project leaves a proprietary protection chasm. For example, even after obtaining trade secret protection, questions exist as to: how to establish information as a trade secret; how to establish misappropriation of a trade secret by an employee or co-developer; how to protect confidential relationships and materials indirectly related to the product through express or implied covenants not to disclose; how to determine employee's or co-developer's right to the trade secret in light of time, place, and materials used in the creation of the product; how to establish who has title or ownership of the product and who will be permitted to exploit the product for commercial advantage.

2. Trade Secrets Based Upon Preexisting Works

A trade secret can also be developed based upon the use of preexisting work, and, similar to the Copyright Act, trade secrecy law does not confer upon the owner of the preexisting work any proprietary rights in the derivative work. Computer software, databases, chip design, manufacturing, and testing processes have been determined to be protectable under trade secret law as a combination of known elements, or known and unknown elements.\textsuperscript{29} The architecture of the program or the unique combination of information, even if previously known in the industry or to the public, can be information subject to trade secret protection.\textsuperscript{30} The owner or creator of the trade secret, absent a specific contractual allocation to the contrary, owns the newly developed trade secret.

Similar to copyright protection, trade secret protection does not entitle the owner to preclude others from independently developing similar technology. Unlike patented or copyrighted works, however, trade secrets are materials which have been given restricted dissemination to the public. Therefore, maintaining secrecy is necessary to this form of protection.

\textsuperscript{28} R. MILGRAM, ON TRADE SECRETS ch. 4 (1990).
\textsuperscript{29} C. SHERMAN, supra note 5, at § 305.6(b)(3).
In the absence of an agreement, trade secrecy based upon a preexisting work, like a copyright in a derivative work, results in a Pandora's box of possible problems: What are the rights of the original owner of the trade secret? What are the rights of the owner of the preexisting materials, absent trade secrecy in the materials? What are the rights of the owner of the derivative work? What types of constraints are placed on those involved in the development to enforce the obligation to maintain secrecy? Is there a difference if the trade secret was in the preexisting work or developed from the preexisting work?

C. Patent Law Concepts

Patent law may also play a role in determining the parties’ rights and obligations in a joint or derived work. Patent law creates rights distinct from the legal principals applied to joint and derived works under copyright and trade secrecy law.

The general concept of patentability, set forth in the first section of the Patent Act, provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of [Title 35 of the United States Code].” The Supreme Court’s frequently cited decision on the question of software patentability, Diamond v. Diehr, has narrowed the arena of unpatentable materials by concluding that only those patent requests which solely claim a mathematical algorithm, a mathematical formula, or a method of calculation define unpatentable subject matter.

1. Joint Patents

An invention may be made by two or more persons jointly. In order to patent an invention as a joint invention, each inventor must have contributed to the invention and the inventors must apply for the patent jointly. Joint inventors, however, need not have physically worked together or even at the same time; they do not need to have similar or equal contributions to the invention, nor do they need to have made a contribution to the subject matter of every claim of the patent. Unlike co-owners of a copyright, “each of the joint owners of a patent

34. Id.
36. Id.
37. Id.
may make, use or sell the patented invention without the consent of and without accounting to the other owners."

"Common-law principles govern the ownership of patentable inventions in the absence of an express agreement." Ownership rights are based on two factors: (1) the purpose and scope of employment, and (2) the nature of the discovery and how it relates to the employer's business and the employee's employment scope. Three examples illustrate the determination of ownership rights of employees, and possibly independent contractors, based on the preceding two factors. If the employee was hired specifically to invent a product, ownership rights belong to the employer. However, if the employee was hired to invent, but was not given any specifics regarding the invention—"a general inventive employment"—the ownership rights belong to the employee. If an employee was not hired to invent but discovers an invention, the common law rule is that the employee maintains proprietary rights in the invention and patent.

Even when common law dictates that the employee owns the invention, this proprietary right is still subject to significant factors in favor of the employer. For example, a court may conclude that the circumstances of the employment and competing claims to the discovery dictate that the ownership of the patent rests with the employer. When the employee is found to own the invention, a court may find that the employer is still entitled to a "shop right"—a non-exclusive, royalty-free, nontransferable license to use the invention. Other factors a court may consider include: a special trust relationship between employer and employee; the "understanding" of the parties that the employment was for the special purpose of making an invention; or the original conception of the idea was by the employer and the mechanical aspects were merely perfected by the employee. In addition, state invention statutes which are not analyzed here, have an impact on these

39. C. SHERMAN, supra note 5, at 405-04.
40. There is little direct authority regarding the ownership of patentable inventions by independent contractors. Ownership rights may be determined by analogizing to the laws governing employee-employer ownership. Berke, supra note 3, at 18.
41. C. SHERMAN, supra note 5, at 405-5. See also Solomons v. United States, 137 U.S. 342, 346 (1890); Standard Parts Co. v. Peck, 264 U.S. 52, 58-60 (1924).
42. C. SHERMAN, supra note 5, at § 405.2.
44. Berke, supra note 3, at 18; C. SHERMAN, supra note 5, at § 405.2. See, e.g., 1 P. ROSENBERG, PATENT LAW FUNDAMENTALS § 11.04 at 11-12 (2d ed. 1988).
46. See, e.g., Illinois Employee Patent Act, ILL. ANN. STAT. ch. 140 ¶ 301 (Smith-Hurd 1965); Minnesota Employment Laws, MINN. STAT. ANN. § 181.78 (West 1976); Minnesota
analyses.

Questions arising from the development of joint patentable works are abundant. The following is just a sample of these questions: Why invest time and money in the development of a jointly held patent if either party can exploit the product without consent of, or accounting to, the other co-developer? What type of contribution by one party warrants the issuance of a joint patent? What defines an employee, as distinguishable from an independent contractor, and does patent law recognize a difference between the ownership rights of either?

2. Inventions Based Upon Preexisting Materials

It is common for patents to protect improvements to a previously granted patent. For example, a company may obtain a patent that prevents its competitors from using a particular improvement even though one of the competitors invented the original technology. Thus, patent protection offers a monopoly to the owner of the patent. Questions of licenses, shop rights, and employees' rights to the benefits of the patented invention still exist. For example, would the patent on the improvement grant ownership rights to the original work, patented or not? Would the owner of the improvement patent be able to exploit the entire product, including improvement and original invention? How can an improvement be developed without infringing on the original patent holder's proprietary right, absent a specific contractual agreement?

D. The Increased Dilemma of the Co-Existence of Different Forms of Proprietary Protection

In the absence of an agreement allocating ownership rights, it is generally acknowledged that proprietary protection methodologies can co-exist. However, this co-existence or blending of proprietary protection leads to a wider array of questions in the context of the issues raised by collaborative projects. The statutory and common law proprietary protection methodologies are in themselves unclear. In a blended state it is difficult to ascertain or predict which analysis and methodology will govern.

In the absence of an agreement, the parties to a joint venture may have the following concerns: Which law governs when two or more protection methodologies are invoked? Which is preempted or precluded? Which form of protection will dictate the scope, length and form of protection? Is the product control and ownership analyzed under the


47. C. Sherman, supra note 5, at § 404.4(b), § 404.4(b)(1).
Copyright Act or trade secret laws? If a patent is applied for, should that body of law govern?

The one inescapable conclusion that is reached when seeking guidance from the growing and changing body of statutes and judicial decisions in the intellectual property area to protect joint and derived product projects is that no clear guidance exists. In the absence of a specific contractual allocation of these rights, the ultimate control and ownership of the joint or derived products will be unclear. Consequently, in order to avoid controversy in corporate and commercial contexts, the contractual process must be clear and specific. The parties must negotiate and allocate their rights as they intend.

III. THE PRODUCT AND ITS COMPONENTS

The next two sections of this article will suggest contractual methodologies for tackling the ownership and control of jointly developed or derived products. This section will underscore the importance of a definitional and administrative framework for any contractual agreement that will involve joint or derived product development.

A. DEFINITIONAL FRAMEWORK

This section presents a selection of key terms, with definitions, regarding the product and its development as a joint or derived work that can be used in any contractual setting. While admittedly other terms and more expansive definitions may be chosen, the point of this effort is to demonstrate that any contractual arrangement (or in this case, the organization of a hopefully articulate article), must be built upon an unambiguous definitional structure understood by the parties.

1. Product

It is essential that a definition of the “Product” be articulated so as to discern the type of transaction structure best suited for its development. The term Product, as used within this analysis, is the final result of the project. It is typically described in terms of its general functionality. Often, the first step in the development process is to establish detailed specifications of the desired Product. Only after the functional and technical specifications have been determined can one proceed.\(^{48}\)

\(^{48}\) One method of defining such Product in an agreement would be to gather in one or several exhibits to the agreement, the detailed functional and technical specifications of the product, as well as any other document (such as allocation of responsibilities) that would allow the parties to identify, with some level of confidence, the different Products that will result from the contributions of the different participants in the project. The definition section in the body of the agreement would then refer to exhibits as part of the definition of the Product or other materials in question.
2. *Documentation*

The "Documentation" is the materials either developed or used with the Product. It can include, without limitation, user's manuals, training materials, and technical manuals.

3. *Work Product*

The "Work Product" may be defined as everything except the product that is developed during the project. This may include, without limitation and whether in tangible or intangible form, all intermediate or partial versions of the Product, program materials, Technical and Functional Specifications, technical data, production data, technical designs, detailed designs, test data and results, flow charts, drawings, designs, graphs, diagrams, notes, outlines and the like created in connection with the development of the Product, and all formulas, processes, algorithms, ideas, inventions, "know-how," techniques and other information not generally known to the public.

4. *Confidential Materials or Information*

"Confidential Materials or Information" are the materials and information used in the development of the Product. Confidential Materials or Information may include the Product, Documentation, Functional and Technical Specifications, Work Product, and Preexisting Proprietary Materials.

5. *Related Proprietary Rights*

"Related Proprietary Rights" may include all copyrights, patents, trademarks, mask works, trade secrets and other proprietary rights.

6. *Derived Products*

"Derived Products" may include products and documentation that are created by modifying or revising the Product and Documentation. These may include derivative works under the Copyright Act, subsequent inventions, whether patentable or not, and other materials that may or may not be protectable.

7. *Preexisting Proprietary Materials*

In any type of development project, each party typically contributes some "Preexisting Proprietary Materials." These Preexisting Proprietary Materials may include essentially any materials in existence prior to the commencement of the project that are similar to the materials previously listed as Work Product.
8. **Functional Specifications**

"Functional Specifications" include the specific objectives the client or developer wishes to achieve through the development of the Product. Functional Specifications may include, but are not limited to, screen layouts, security requirements, record keeping or report processing capabilities, and any other functional objective agreed upon by the contracting parties.

9. **Technical Specifications**

"Technical Specifications" may include the technical requirements of the Product, the size, number, speed and memory capabilities of the hardware, the response time, the interfaces with other products, and the compatibility with designated hardware or operating system software.

10. **Modifications**

"Modifications" may include all modifications, enhancements, updates, upgrades, and error corrections to the Product.

11. **Customization**

"Customization" may include all Modifications made to an existing product or preexisting material so that the Product can be adapted to a specific business or other specific needs which are described in the Functional Specifications.

12. **Tests**

"Tests" are the series of instructions or tasks required to be performed to ensure that the Product is operational and performs according to the Functional Specifications and the Technical Specifications.

The use of definitions can be as detailed or expansive as the circumstances require. However, without regard to the structure of the transaction, or the independent or joint goals of the parties, the use of definitions in any contract of this type is mandated. These definitions should be an integral part of the contract and a starting point for all parties to determine, on all levels, their goals and objectives.

**B. ADMINISTRATIVE FRAMEWORK**

In addition to setting forth a clear definitional framework, the contract drafted between the developers of a joint or derived product may be used as a platform from which the parties organize and define the Product, project goals, and methods by which the Product will be developed and ownership rights will be allocated. The contract, although
often mischaracterized as a document containing legalese only for "the lawyers," should contain the objectives of the parties and define administrative controls to manage and monitor the development process. The parties must then view the contract in a bifurcated manner: one eye on the end result, and the other on the process required to achieve this goal.

Despite the care taken in defining the expressions or words to be used in a contract, numerous grey areas might remain, making it difficult to determine precisely the origin of a particular work. For instance, how will the interface requirements be defined and their authorship allocated if two parties develop two programs intended to be used in conjunction with each other? Who will be deemed the author of the product if the product evolves as it is being developed; for instance, if a more thorough analysis of the problem reveals a different, more elegant method of resolving it? Will it be the person who developed the "first draft," or the one who made the "second draft?" Even if the parties have defined the development responsibilities or have prepared detailed outlines, flow charts and other technical requirements with a reasonable level of precision, the ultimate result of the development work might be somewhat different from what had been anticipated. For that reason, it is prudent to provide a structure for recording the progress of the development to ensure that, when needed, the authors of each portion of a program, or those that have contributed to its creation or development, can be identified with a reasonable level of certainty.

Before the development can commence, all parties must organize the work to be accomplished. They must institute time tables, progress reports, and establish target dates for the completion of a certain phase. Additionally, alternative plans must be created at the outset in the event of unanticipated delays or problems. At this step, responsibilities for unforeseen events must also be allocated. Each party must agree to accomplish specific goals within the time frames allotted. In addition, the parties must identify the personnel who will accomplish these goals. They must also identify the provisions articulating the specifications of equipment, resources and other material integral to the project's ultimate objective.

The parties must prepare the provisions addressing potential modifications and complications. They must articulate alternative proposals in the event of any party's failure to meet a deadline, or the inadequacy of a resource, or a change in Functional or Technical Specifications. Testing and other reviews can ensure the proper functionality of the Product, upon the completion of key components or steps, and upon the completion of the entire project.

The ownership rights central to the project ultimately can only be
monitored during the Product's development if the parties have agreed on the processes to consider this issue on a regular and frequent basis during the course of the project. Processes such as employees keeping daily logs, having periodic meetings, or making progress updates should focus on adequately documenting the development process in light of potential challenges to the contracted ownership rights. These processes will allow the parties to maintain an equivalent understanding of the control of the Product (and its components), Confidential Materials or Information, Preexisting Proprietary Materials and any other materials or Documentation.

Through the development relationship the parties must manage the project's progress daily. Signing the contract does not end the development project or guarantee a specific outcome. Although the overall framework must be initially acknowledged, the day to day developments, modifications, and problems must be specifically managed. Even with the existence of a specific agreement allocating proprietary rights to the Product, developments arise that were not originally anticipated. Legal grey areas, as well as functional and technical crises, arise. The parties who manage the daily activities of the development must be equipped to address these problems and institute changes consistent with their objectives.

IV. ALTERNATIVE STRUCTURAL APPROACHES

Although each party in any given transaction may desire or seek exclusive ownership of the Product and Work Product together with all of the Related Proprietary Rights and an ability to control subsequent use associated therewith, this is less and less likely a commercially acceptable resolution. It fails to match market or technology realities. Thus, with greater frequency, parties to these collaborative projects must struggle to allocate ownership and license rights, the underlying rights to produce subsequent Modification, Derived Products and the like. Without a clear statement articulating these rights, the imprecision of control and ownership under the law will predictably put both parties at risk.

A number of influences that are most prevalent in attempting to secure proper proprietary protections should be addressed in any arrangement. Such influences may include: the types of marketing contemplated for the Product and its related materials; whether the Product will be used as a core technology, integrated with other technology, or will be a stand-alone product; depending on the type of distri-

49. See In re Bedford Computer Corp., 62 Bankr. 555 (N.H. 1986). There the failure to adequately document the dividing line between pre-existing technology and technology derived therefrom caused an inability to award ownership of the derived product.
bution, what type of arrangement would offer the best array of protection methodology; the extent of the right to make Modifications to the development project and right to use the Preexisting Proprietary Materials or the Confidential Materials or Information in future endeavors; the type of support and maintenance to be used throughout development and installation and its consistency with the forms of distribution to be implemented; and subsequent competition by employees or co-developers and their use of the Product, Documentation, Confidential Materials or Information, or Preexisting Proprietary Materials.

Different structures are appropriate in any given situation; their definition will, in most instances, be the result of negotiations. This article outlines five alternative structural approaches or templates which constitute the general categories or framework generally used in joint or derived work development projects. For each alternative presented, an analysis will describe the circumstances in which the particular structure would be a desirable alternative based on the goals of the contracting parties, its advantages and disadvantages, and a description of a classic situation in which each structure might be used. A sample contract provision that will illustrate one of the issues in its particular template for instituting each approach will be presented in each case.

A. ALTERNATIVE ONE: TOTAL SINGLE PARTY OWNERSHIP

The first structural approach establishes a situation where one party receives ownership of the developed Product and related Proprietary Rights, while the other party obtains no rights. This structure grants the exclusive ownership rights in the developed Product, Work Product and Documentation to one party. The other party does not retain any ownership rights, even to those portions of the Product that it contributed. In addition, the party without ownership rights could be further limited by being prohibited from using any of the Work Product, Confidential Materials or Information, or Preexisting Proprietary Materials of the owning party.

This alternative is appropriate when one party wishes to acquire the Product and does not want the other party to develop a similar or perhaps competitive Product. The party wishing to retain total ownership rights would pay a premium for this position because this transaction could effectively bar the non-owner from developing a similar Product.

The advantage of this type of agreement is that the sole owner maintains the right to independently determine how and whether the Product, Work Product and Documentation will be marketed, distributed and licensed or used. The owner will also have all future development rights, including the creation of joint or derivative works. The
owner will, thus, have an uninhibited ownership of the Product and all its possible present and future uses. In addition, the non-owner can be precluded from developing any similar Product.

Although this type of contractual agreement appears very advantageous to the owner of the Product, a number of disadvantages exist. The restrictive nature of the ownership rights and future development of similar Products, the history of each party’s contribution and prior use, and the general trends of the market may make it quite difficult to find additional players to participate in such a venture. Even if one were to find such participants, all the outright costs to the owner of such a venture may outweigh any benefit received, or—better stated—perceived. Finally, although the contractual agreement would provide for no future development of similar Products, this conceptual prohibition is in reality difficult to police. Therefore, “unauthorized” competitive developments may be difficult to prevent.

In structuring a contractual agreement for this alternative, a sample contract provision for such an arrangement might read as follows:

The [Product, Work Product and Documentation developed and created by Party A] shall be a work made for hire within the meaning of the Copyright Act of 1976, as amended. If and to the extent that any portion of the [Product, Work Product, or Documentation developed and created by Party A] is determined not to be a work made for hire, Party A hereby assigns to Party B all right, title and interest in and to such portion of the [Product, Work Product and Documentation developed and created by Party A], as well as all related copyright, patent, trade secret, and other related proprietary rights therein. Party B shall own all rights, title, and interest in and to the Product, Work Product and Documentation developed and created by Party A from the date such Product, Work Product and Documentation are conceived, created or fixed in a tangible medium, as applicable. Party A agrees to cooper-

50. Part II of this Article emphasized that the parties to an agreement should clearly identify in their contract both the product and contribution of each of the authors for the purpose of allocating the ownership rights and the related proprietary rights. The wording in between brackets in the template was used for convenience in this Article to identify the contributions of “Party A” and “Party B” to the hypothetical development project. The wording to be used in a “live” agreement should specify, as precisely as possible, the nature of the products or materials. Thus the sentence between brackets in the provision above (as well as in the other templates presented in this Article) should be replaced by the defined word, used in the balance of the agreement that refers to the portion of the Product, Work Product, Documentation, and other similar materials that are to be developed or created by Party A.

51. This provision has been limited to the ownership of elected items, the “Product,” the “Work Product” and the “Documentation,” which have been defined broadly. Of course, the provision could also focus on other, more discrete components of the project, such as the detailed Technical or Functional Specifications, the Modifications or the customization. In most circumstances, conceivably, different types of rights would apply to different components of the project.
ate with Party B and to execute any document reasonably necessary to give this Section full force and effect.

B. ALTERNATIVE TWO: OWNERSHIP WITH A LIMITED LICENSE

Under the second alternative structure, one party retains all ownership rights to the developed Product and grants to the other a license of limited scope. Such a license has many variations. The license issued could be limited, for example, to the other developer's internal use only, or it could also grant the other party the right to sublicense the developed Product as well as the right to make subsequent Modifications for use by particular markets. Another alternative would be to permit the non-owner developer to use portions of, but not the whole, developed Product for subsequent development projects. Using this structure, the licensee may also receive a limited license to the Work Product and certain Confidential Materials or Information, or Preexisting Proprietary Materials.

This structure is often used when one party desires a Product for its own internal use and, for any number of reasons, is less concerned about the scope of the other party's use. This situation may occur when one party wishes to minimize its development costs or when the developed Product's use is unique to the party's efforts on the project. The license given to the other party would probably be limited to certain aspects of the Product that specifically apply to the other party's business. Under this structure, any payment made by the purchaser of the rights should reflect the significant rights retained by the owner and the owner's subsequent ability to market the Product and any Modifications thereto. The situations where this type of an agreement may be advantageous to both parties include the following: when one party may want a Product customized but has no intention or desire to remarket the developed Product; when one party is willing to accept nonexclusive use of the developed Product in exchange for a reduced, development cost; or when one party is only concerned about the remarketing of an exact duplicate of the developed Product and would thus permit the other party to develop similar technology for a third party provided that the jointly developed Product as a whole is not used.

Similar to the disadvantages mentioned in the first alternative structure, the party obtaining the limited license is obviously restricted in the manner in which it can use the developed technology should its business goals change. In addition, the drafting of this agreement may be difficult due to the parties' inability to foresee any or all future uses that would not conform with the present objectives of the owner.

A sample contract provision for such an agreement may read as follows:
The [Product, Work Product and Documentation developed and created by Party A]\(^{52}\) shall be a work made for hire within the meaning of the Copyright Act of 1976, as amended. If and to the extent that any portion of the [Product, Work Product, and Documentation developed and created by Party A] is determined not to be a work made for hire, Party A hereby assigns to Party B all right, title and interest in and to such portion of the [Product, Work Product and Documentation developed and created by Party A], as well as all related copyright, patent, trade secret and other proprietary rights therein. Party B shall own all right, title and interest in and to the [Product, Work Product and Documentation developed and created by Party A] from the date such Product, Work Product and Documentation are conceived, created or fixed in a tangible medium, as applicable. Party A agrees to cooperate with Party B and to execute any document reasonably necessary to give this Section full force and effect. Party B hereby grants to Party A a non-transferable, non-exclusive, perpetual, royalty-free license to use the [Product, Work Product and Documentation developed and created by Party A] only for Party A's internal business purposes.

C. ALTERNATIVE THREE: SOLE OWNERSHIP FOR ONE PARTY WITH A NONEXCLUSIVE, UNRESTRICTED LICENSE GRANT-BACK TO THE OTHER

A third structure would provide one party with ownership and the other party with all the rights of ownership except title. This type of agreement would be beneficial if one party believes it is important to be the sole owner despite its grant of an unrestricted license. Title ownership will permit that party to enforce against others the underlying proprietary interests in the Product. Nonetheless, and even with this allocation of title, this structure allows both parties a great deal of room to negotiate and govern their own proprietary concerns. Unlike the license grant in Alternative Two, the license grant here has essentially no restrictions.

The advantage of this arrangement is that the owner retains sole ownership of the developed Product and all of the rights that accompany that exclusive ownership. The licensee also has most of the rights of the owner. However, the licensee may have been able to get a much better bargain on this less than exclusive ownership than if both parties desired exclusive or joint ownership.

There are inherent disadvantages to this structure. Neither party can truly control the Product's use because, for all practical purposes, both parties share unlimited use of the developed Product. Also, as mentioned in the previous alternative structure, a drafting problem arises. The scope of the license must be very broad in order to encom-

\(^{52}\) See supra note 50.
pass all potential future uses. In addition, the non-exclusive licensee's concerns regarding its inability to sue a third party for copyright and patent infringement may be another disadvantage in that the licensee must rely on the exclusive owner to insure protection against infringement.

A sample contract provision for such an agreement may read as follows:

The [Product, Work Product and Documentation developed and created by Party A] shall be a work made for hire within the meaning of the Copyright Act of 1976, as amended. If and to the extent that any portion of the [Product, Work Product and Documentation developed and created by Party A] is not determined to be a work made for hire, Party A hereby assigns to Party B all right, title and interest in and to such portion of the [Product, Work Product and Documentation developed and created by Party A], as well as all related copyright, patent, trade secret and other proprietary rights therein. Party B shall own all right, title and interest and all related copyright, patent, trade secret and other proprietary rights in and to the [Product, Work Product and Documentation developed and created by Party B]. Such ownership shall inure to the benefit of Party B from the date the [Product, Work Product and Documentation developed and created by Party B] are conceived, created or fixed in a tangible medium, as applicable. Party A agrees to cooperate with Party B and to execute any document reasonably necessary to give this Section full force and effect.

Party B hereby grants to Party A a non-exclusive, perpetual, irrevocable, world-wide, royalty-free license to use, execute, display, modify, reproduce, translate, incorporate, create derivative works based upon, distribute, market, license and sublicense the [Product, Work Product and Documentation developed and created by Party A] for any purpose.

D. ALTERNATIVE FOUR: JOINT OWNERSHIP

This structure grants both parties full ownership and rights in the Product created from the joint venture. Responsibility for accounting to the other party under copyright law is often contractually waived; however, it can be governed by the terms of the agreement. This type of contractual agreement is more probable when both parties have an equal or substantial input into the developed Product and intend to subsequently use or distribute this Product in different markets or to subsequently modify the Product and market the modified Product.

In this situation, both parties to the agreement enjoy full ownership rights and the ability to fully utilize the Product in any manner, regardless of whether such use was originally contemplated. However, if the

53. Id.
parties have any present or future plans for market competition, a joint venture with full joint ownership rights would not be beneficial. Also, because of the unlimited use of the Product, neither party can completely control the other's use or marketing of the Product.

A sample contract provision of such an agreement may read as follows:

Party A and Party B shall jointly and equally own all right, title and interest (and each party hereby assign to the other a one-half indivisible interest) in and to the [Product, Work Product and Documentations]54 and in and to the related copyright, patent, trade secret and other proprietary right therein. Such joint and equal ownership shall inure to the benefit of each party from the date such Product, Work Product and Documentation are conceived, created or fixed in a tangible medium, as applicable. Each party agrees to cooperate with the other and to execute any document reasonably necessary to carry out the intent of this Section.

[Optional addition: Neither party shall have a duty to account to the other.]

E. ALTERNATIVE FIVE: EACH PARTY OWNS ITS SEPARATE INPUT

This last structure provides that each party will own only those materials that it developed as part of the project. This type of agreement might be used when contracting with another party to develop only a particular portion of the Product.

On paper, the benefit of this type of agreement is that each party receives only that which it contributed towards the development. Each party also receives only the benefits of its individual efforts; this maximizes individual incentive. In addition, proprietary problems resulting from the sharing of Confidential Materials or Information would be reduced because neither party would grant any ownership right in any materials to any other party.

The disadvantages to this agreement are as obvious in the practical realm as the advantages are on paper. This structure will not work with certain Products where it may be difficult to determine where one party's input began and another party's ended. Upon a cursory view, this structure seems to be the most equal and fair distribution of proprietary rights. However, the practical application of this structure to a variety of situations is nearly impossible.

A sample contract provision of such an agreement may read as follows:

Party A and Party B shall each own all right, title and interest in and to the [Product, Work Product and Documentation that it has created

54. Id.
or developed[55] and to the related copyright, patent, trade secret and other proprietary rights therein.

V. CONCLUSION

Technological inventions in the computer industry develop and advance continually. Yet, intellectual property laws governing ownership rights may not advance at the same pace, or with sufficient clarity. Many ambiguities are present within the body of each form of intellectual property law. Additional ambiguities arise from the fusion of copyright, trade secret and patent protection methodologies within the same project. Due to the fluid and uncertain nature of the law, in a contracting situation it is not prudent to rely on the existing proprietary protection laws to allocate the interests of the parties collaborating on a project. Negotiations, mutual agreement and draftsmanship are the appropriate mechanisms to advance each parties' interests.

55. Id.