

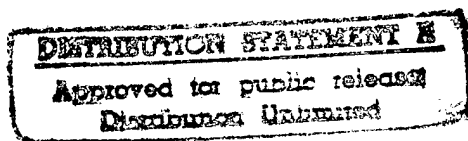
SOFTWARE DEVELOPER'S GUIDE
TO COPYRIGHT LIMITATIONS

A Research Paper

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The Directorate of Research

Air Command and Staff College



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by

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Abstract

In recent years, the use of software and multimedia in the United States Air Force has proliferated at an amazing rate. Indeed, the Air Force's Desktop Computer purchases (i.e., Desktop I, II, III, and IV) have provided hundreds of thousands of PC's and associated software to military members and civil service employees for use in their everyday jobs. For the most part, these computers and software products are provided with little, if any, accompanying training, especially with regard to copyright matters. As a result of this rapidly expanding use, Air Force software users and developers have a vital need for basic guidance on copyright law.

This research paper will discuss uses of software and multimedia including scanning and digitizing works, such as text and audiovisual content, for inclusion or insertion in software or multimedia products. This project will also cover various aspects of intellectual property and copyright law that relate to software and multimedia, including copyrightability, exclusive rights of copyright holders, exceptions to copyright protection, and copyright infringement issues.

While most copyright law concepts are complex and laden with jargon and legalese, this guide will outline the basic principles that software users and developers need for a general understanding of intellectual property law, copyrights, and copyright infringement issues. By reviewing and adhering to this guidance, Air Force users and developers of computer software can avoid copyright infringement actions, thus preventing personal and Government liability.

SOFTWARE DEVELOPER S GUIDE

TO COPYRIGHT LIMITATIONS

I. Introduction

The use of computer software and multimedia products at Air Command and Staff College (ACSC) and throughout the Air Force has recently proliferated, resulting in a multitude of products created and used to present text and video images to students and other “customers.” Typically, software and other computer resources are provided with little associated training, especially concerning copyright law protections. Because of the rapid growth in use and creation of these software and multimedia products, insertion of text or video images may occur without regard or concern for the copyrighted nature of “borrowed” material. In many instances, particular uses of copyrighted material in the ACSC environment are free of any copyright infringements. However, depending on what the ultimate purpose or use of software or multimedia products may be, copyright violations can occur.

The purpose of this paper is to address the Air Force’s expanding use of software and multimedia products and the continuing need for copyright guidance. This project will examine methods of software use and image manipulation and determine what copyright limitations exist with regard to various images, graphics, and other video interfaces. The project will provide guidance for the use of copyright protected software and multimedia

products, particularly in the academic environment. The information included in this paper will demonstrate how Air Force users can appropriately use software and multimedia and avoid copyright infringements. By reviewing this guidebook, Air Force personnel can become familiar with copyright law and understand what conduct will amount to infringement, thereby avoiding personal and Government liability.

In general, this project will act as a basic guidebook for Air Force users of software and multimedia products and will identify potential copyright issues that may arise and of which users should be aware. This paper is not meant to be a comprehensive encyclopedia which documents all copyright law applicable to computer software, and extensive jargon and legalese will be avoided as much as possible. When complicated copyright concepts are confronted during use or creation of software products, the Judge Advocate's office should be consulted to obtain particular advice relating to facts and circumstances surrounding the copyright issue. Furthermore, this paper will not expand upon other legal limitations, such as patent and trademark law, that relate to the use of software and multimedia. When confronted by more complex issues concerning patents, trademarks, or other forms of intellectual property, the software or multimedia user should consult the Judge Advocate's office for specific legal advice.

II. Overview of Intellectual Property and Copyright Law

A. *Intellectual Property*

1. In General. Intellectual property consists of the products of people's minds - products that result from intellectual, creative processes. The Constitution of the United States recognizes the need to protect the creative works of individuals. In the Constitution, Congress is authorized "To promote the Progress of Science and the Useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."¹ Trademarks, patents, trade secrets, and copyrights are all forms of intellectual property, and laws protecting them are intended to safeguard and reward artistic and inventive creativity.

2. Trademark, Patent, Trade Secret, and Copyright Defined. Developing software and multimedia products poses significant potential for infringing the trademarks, patents, trade secrets, and copyrights of others. To help clarify the differences between these types of intellectual property, an outline of some brief definitions is in order. First, a trademark is any word, name, symbol, or slogan used by someone to identify their products and distinguish them from products of others.² Registration of a trademark, either in accordance with state or Federal statutes, conveys certain rights and privileges to the owner of the trademark.³ The second and most extensive form of protection for software and multimedia technology is patent protection. A patent is a federal grant to an inventor that gives the inventor the exclusive right to make, use, or sell his invention throughout the United States for a period of 17 years.⁴ Basically, upon registration, a

patent owner obtains a monopoly over an invention for a 17 year period. Third, software and multimedia development may also result in the creation of valuable trade secrets, which may be protected by various state enactments of the Uniform Trade Secrets Act or other tort law actions. Essentially, a trade secret is some method that is not readily ascertainable and is subject to reasonable efforts to maintain its secrecy.⁵ And finally, copyright protection, which is the subject of this project, provides exclusive legal rights over literary, musical, or artistic works.

B. Copyright Protection

In addition to the above-mentioned intellectual property rights, copyright protection applies to all aspects of software and multimedia products, and is the primary source of most legal issues affecting them. The general policy behind copyright law revolves around a balancing act between promoting scientific progress and granting authors the exclusive right to publish their works.⁶

Until 1978, copyright law in the United States was essentially a dual protection system with state (common law protection for unpublished works) and federal (statutory protection for published works) coverage. On January 1, 1978, the Copyright Act of 1976⁷ took effect and superseded the Copyright Act of 1909. Eventually, this led to passage of the Berne Convention Implementation Act of 1988⁸ and enabled the US to join the Berne Convention for the protection of Literary and Artistic Works, an international treaty for the recognition and protection of copyrights. Since 1978, there has been a proliferation of new copyright laws and coverage. Additional amendments, such as the Computer Software Copyright Act of 1980,⁹ the Semiconductor Chip Protection Act of

1984,¹⁰ the Computer Software Rental Amendments Act of 1990,¹¹ the Visual Artists Rights Act of 1990,¹² the Copyright Remedy Clarification Act of 1990,¹³ and the Copyright Renewal Act of 1992,¹⁴ among others, have enhanced, supplemented, and expanded the scope of the 1976 Act. As can be imagined, copyright protection is a current area of the law which is rapidly growing and changing, especially as it relates to rights in computer software and multimedia products.

C. Copyrightability

Since 1978, in order for a work to be copyrightable, a few basic principles must apply. First, the subject matter of a copyright must be an original work of authorship.¹⁵ This principle requires that a work pass legal tests of originality and creativity, and that it must fall within a stated list of works of authorship. Second, copyrightable works must meet requirements of fixation, or embodiment, in some tangible medium.

1. Originality and Creativity. An indispensable requisite to entitlement to copyright protection is that the work must be original to its author. The originality requirement is met when a work is independently created by its author, and it "possesses some degree of creativity." The concepts of originality and creativity, while overlapping, are separate and distinct requirements for copyrightability. Although originality does entail a degree of creativity, it generally refers to independent production by an author, vice having plagiarized the work from others. Thus, a work does not have to be novel, and it is possible to have multiple copyrights for works which are exactly alike, provided that none of the works were copied from the others.

The idea of creativity, however, refers to the nature of the work and whether it qualifies as a work of art. As a matter of constitutional law, “a copyright only protects those constituent elements of a work that possess more than a *de minimis* quantum of creativity.”¹⁶ Consequently, the more subjective test of creativity may determine a work to be so trivial or lacking of a creative spark that it is not copyrightable.¹⁷ For instance, floral arrangements¹⁸ and the Koosh ball¹⁹ have been determined to lack the degree of creativity necessary to afford copyright protection.

2. Fixation. In order to be copyrightable, a second requirement mandates that an original work of authorship must be “fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”²⁰ The necessity for fixation in a tangible medium of expression also requires the work to be “embodied in a copy or phonorecord.”²¹ Essentially, a work is “fixed” in a tangible medium of expression when its embodiment as a copy in some type of concrete medium is sufficiently permanent or stable to permit perception, reproduction, or other communication for more than a transitory period.²² This definition seems to imply that purely transient reproductions quickly shown on a computer or television screen or briefly captured in a computer’s memory would not meet the definition of fixation. However, particularly regarding computer programs and electronic video games, for example, fixation can occur in what may appear to be a short time period. For instance, fixation can occur when software is merely loaded into a computer’s Random Access Memory (RAM),²³ when a computer program is embodied in a Read Only Memory (ROM) device,²⁴ or when audiovisual

displays of a video game (which may be brief or ever-changing) are permanently fixed in printed circuit boards.²⁵

D. Categories of Copyrighted Works

The subject matter of a copyright is distinguished by categories. Works of authorship include the following categories:

1. literary works;
2. musical works, including any accompanying words;
3. dramatic works, including any accompanying music;
4. pantomimes and choreographic works;
5. pictorial, graphic, and sculptural works;
6. motion pictures and other audiovisual works;
7. sound recordings; and
8. architectural works.²⁶

Compilations and derivative works, which will be discussed later, are included in this list of copyrightable subject matter.²⁷ Distinctions are made with regard to categories of copyrightable works, because different rules relating to exclusive rights, fair use, and other principles of copyright law apply, depending on the category of the particular work.

E. Exclusive Rights of the Copyright Owner

Perhaps the most important aspects of copyright ownership are the exclusive rights which are granted to the owner. Section 106 of the Copyright Act enumerates five exclusive rights of copyright:

1. the right of "reproduction" or to make copies of the copyrighted work;
2. the right of "adaptation" or to prepare derivative works based upon the copyrighted work;
3. the right of "publication" or to distribute copies of the copyrighted work to the public by sale or other transfer of ownership;

4. the right of “public performance” or to publicly perform the copyrighted work;
and
5. the right of “public display” or to publicly display the copyrighted work.²⁸

Except for a complex list of exemptions,²⁹ which will be addressed later, a copyright owner may exclude all others from exercising any of these rights with relation to the copyrighted work.

F. Copyright Duration

Besides the prerequisites for copyright protection, the duration of a copyright is a matter of particular importance. Under the terms of the 1976 Act, works created after January 1, 1978, enjoy a copyright from the time of the work’s creation and lasts for a period ending 50 years after the death of the author.³⁰ The life-of-the-author-plus-fifty year term applies to all works, whether they are unpublished works, works published during the lifetime of the author, or works published posthumously. The period of the copyright begins upon creation, i.e., when it is fixed in a tangible medium of expression or is in some concrete form.³¹ If, however, the work was created under a work for hire relationship, then the copyright period lasts for 75 years after the first publication, or 100 years after creation, whichever comes first.³²

G. Copyright Notice

The Berne Convention Implementation Act was passed in 1988 and took effect on March 1, 1989. Since that time, in the United States and most other countries, a copyright notice is not necessary to afford copyright protection to a work of authorship.³³ Therefore, software and multimedia developers cannot automatically assume that content

which lacks a copyright notice is in the public domain. Nevertheless, in order to obtain as much protection as possible, new works of authorship, whether they are software or multimedia products or other literary works, should provide a copyright notice. Utilizing a copyright notice is the easiest and best way to notify others of the author's copyright claim, and a proper copyright notice will defeat an infringer's attempt to reduce liability by alleging an "innocent" violation.³⁴ Proper copyright notices contain three essential elements:

1. the symbol "©", or the word "Copyright," or the abbreviation "Copr.;"
2. the year of first publication of the work; and
3. the name of the owner of the copyright.³⁵

The copyright notice should be applied to the work of authorship in a manner and location that will give reasonable notice of the author's copyright claim.³⁶

III. Specific Copyright Law Relating to Computers

A. *Computer Hardware and Firmware*

1. Intellectual Property Aspects of Computer Hardware. For the most part, copyright protection is not available to prevent copying of computer hardware configurations. Hardware is generally protected through patents and trade secrets. However, a copyright relating to hardware may be obtained in limited circumstances. The “pictorial, graphic, and sculptural works” category of copyrightable material includes “. . . maps, globes, charts, diagrams, models, and technical drawings, . . .”³⁷ Thus, the technical drawings for hardware, which are subject to design patent law, could be copyrighted. However, the Copyright Office will not register a copyright for a technical drawing of a patented design after the patent has been issued by the Patent and Trademark Office.³⁸

2. Mask Work Protection. Similarly, the Semiconductor Chip Protection Act of 1984 provides intellectual property protection for firmware, e.g., semiconductor chips. This law provides a new form of legal protection for “mask works,” completely distinct from patent and copyright law protections. The Act, although part of Title 17 of the United States Code, is not part of the Copyright Act, and it creates a new class of intellectual property that is similar to but different from a copyright. In basic terms, the new law provides protection to original mask works that are fixed or embodied in semiconductor chips for a period of ten years, so long as registration occurs within two years of initial commercial exploitation.³⁹

A mask work is essentially the layout of the semiconductor chip and comprises the combination of different masks that are layered and used to make the chip. Mask work protection does not protect the actual chip, but it protects the mask work that is used to make the chip and that is fixed or embodied in the chip.⁴⁰ The Semiconductor Chip Protection Act provides that mask work protection does not affect applicable copyright or patent law rights.⁴¹ Therefore, the copyright of a computer program fixed in a ROM chip exists independently of the mask work protection for the chip layout, and a patented chip embodying patented circuitry is not affected by mask work layout protection.⁴² In other words, the creator of a semiconductor chip may simultaneously and independently have three types of protection for the chip: patent protection, copyright protection, and mask work protection.

B. Computer Software

1. Copyrightability. The Copyright Act defines “literary works” as works other than audiovisual works which are “expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, . . . , film, tapes, disks, or cards, in which they are embodied.”⁴³ In terms of copyrightability then, a computer program which is “fixed in any tangible medium of expression, . . . , from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device” may be copyrighted as a literary work.⁴⁴

2. Computer Software Protection Act. The copyrightability of software has also been affected by the Computer Software Protection Act of 1980.⁴⁵ That law

amended section 101 of the Copyright Act and specifically defined a computer program as a "set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result."⁴⁶ It also added the new section 117, which deals with authorized copying and adaptation of computer programs and computer software.⁴⁷ This provision recognized and remedied the fact that the mere inputting of a copyrighted work into a computer is "copying" and a possible infringement. A computer program would be useless, however, unless it was copied, inputted, or entered into a computer. Therefore, new section 117 allows the owner to make a copy or adaptation of a computer program as an essential step in connection with its use, and that copying or adapting for these purposes are not infringements to the copyright of the computer program.⁴⁸ Thus, the amended section 117 permits the owner of a copy of a computer program to

1. reproduce or adapt the computer program as an "essential step" to using it or adapting it for one's own computer; and
2. make or authorize the copying or adaptation of the computer program for "archival purposes only."⁴⁹

"Essential step" has been interpreted to mean "indispensable and necessary," and copying or adaptation as a matter of "convenience" is not permissible.⁵⁰ Also, the owner of a copy of a computer program cannot make another copy and retain it after a lawful sale of the original, and once possession of a copy of a computer program ceases to be lawful, all archival copies must be destroyed.⁵¹

While there were some issues prior to its passage, after enactment of the Computer Software Protection Act, the copyrightability of computer programs and software as a generic problem was no longer in dispute. As will be discussed, it makes no difference whether the program is in object code, source code, microcode, an application program,

an operating system, fixed in ROM chips, or fixed in any other tangible media. These bases of debate over the copyright protection of computer programs have been resolved in favor of finding various software works copyrightable. With relation to specific copyrightability issues (e.g., originality and creativity or fixation) and potential infringing actions of individual software or computer programs, courts conduct case-by-case analyses of the particular facts relevant to the situation. The methods employed by the courts will be reviewed at relevant points in this paper.

3. Computer Software Rental Amendments Act. Another important copyright law amendment relating to computer software is the Computer Software Rental Amendments Act of 1990.⁵² This amendment to the Copyright Act prohibits the commercial rental, leasing, or lending of computer software without the express written permission of the copyright holder.

The bottom-line position concerning these statutory amendments to the Copyright Act allows individuals to possess one copy of computer software for their personal use to load onto one computer. In addition, one backup copy of software is authorized to be made. No other copies may be made without specific authorization from the copyright owner.

C. *Multimedia*

Pointing to specific areas of the law that apply to computer hardware and software is not always easy. Likewise, no single body of law known as "multimedia law" exists. Legal issues relating to multimedia include several topical areas of the law. As with the creative aspects concerning computer software, trademark, patent, trade secret, and

copyright law all apply to multimedia products. In this regard, however, copyright law is most applicable to the content aspect of a multimedia product.

Virtually all aspects of multimedia and multimedia products are protected by the Copyright Act. A review of how multimedia works receive copyright protection depends upon an understanding of what constitutes "multimedia." With respect to the legal issues involved, multimedia is generally viewed as a combination of software and multiple forms of content that are in digital form and stored and delivered through the use of computer technology. Multimedia content is typically one of three main types: (1) text; (2) sound or audio clips (i.e., spoken text, music, sound effects, etc.); and (3) visual images (i.e., photographs, graphics, motion picture clips, animation clips, etc.).

How copyright law applies to multimedia content and products depends on the type of content that is being utilized. As was discussed previously, different rules regarding exclusive rights, fair use and other exceptions to copyright protection, and other principles of copyright law apply, depending upon the category of the particular copyrighted work. Moreover, depending upon the type of multimedia content that is encountered, different rules and principles of copyright law pertain to the protection afforded to each kind of multimedia content.

IV. Exceptions to Copyright Protection

A. *In General*

The fact that a copyright owner has exclusive rights regarding his copyrighted work was previously outlined. The list of exclusive rights enumerated by the Copyright Act, however, do not provide unlimited or absolute privileged use. There are several exceptions to the exclusive rights enjoyed by a copyright owner over his copyrighted work. The limitations on exclusive rights are set out in the Copyright Act at Sections 107 to 120.⁵³ The list of exemptions is rather long and extremely complex. Some of the statutory limitations are applicable against all enumerated rights and all works, while other limitations are only available against certain rights or specific types of works.

Numerous instances occur where preexisting content is used as some or part of a new work of authorship. Not all instances of use of preexisting works amount to violations of copyright law or infringements of valid copyrights. In general, there are four exceptions which permit the use of preexisting content without having to obtain permission from the author or creator.

First, content which is in the public domain may be freely used, copied, adapted, modified, distributed, or displayed, and such use will not result in copyright infringement. Second, where the use of copyrighted content is considered to be a "fair use," content may be copied without fear of infringing the author's copyright. Determining whether the copying of another's content is fair use is a difficult task, and no hard and fast rules apply when courts decide the issue. Third, copying which is considered to be "de minimis"⁵⁴ will

not constitute a violation of an author's copyright. Finally, most, if not all, copyrighted works contain an amount of noncopyrightable content. Copying any of the noncopyrightable aspects of a copyrighted work is not infringement.

B. Works in the Public Domain

Determining whether or not a work is in the public domain is not easy to do. Large amounts of software and multimedia, such as icons, clipart, and other graphics, do exist in the public domain. However, other products which may appear to be public domain material are not. For instance, "shareware"⁵⁵ is generally copyrighted and subject to the terms and conditions of an attached license. Shareware products are not and should not be treated the same as public domain works. Content, which is otherwise copyrightable, is generally in the public domain in only very limited situations.

1. Copyright Expiration. One way copyrightable content enters the public domain is when the copyright has expired. As stated previously, works created after January 1, 1978, have a copyright period of the life of the author plus 50 years.⁵⁶ Consequently, as a matter of simple arithmetic, any work created after the effective date of the current copyright law (i.e., after January 1, 1978), cannot enter the public domain until at least the year 2029.

2. Copyright Abandonment. Another way a work may enter the public domain is through abandonment. Works first published prior to 1978 without a proper copyright notice automatically entered the public domain.⁵⁷ Works published between January 1, 1978, and March 1, 1989, without a proper copyright notice may enter the public domain, depending on the facts and circumstances leading to the failure to affix a satisfactory

notice.⁵⁸ Works created after March 1, 1989, do not require a copyright notice to be affixed to the work, and copyright protection is afforded the author of the work regardless of the lack of notice. Therefore, abandonment of copyright protection would be extremely difficult to prove for post-1989 works.

3. Works Created by the Federal Government. One final way works may enter the public domain is through creation by the Federal Government. As a matter of law, works created by the Federal Government or works created for hire by the Government are not entitled to copyright protection.⁵⁹ Specific principles relating to Federal Government works will be discussed at a later point in this paper.

C. The Fair Use Doctrine

1. Four Factor Analysis. The most applicable copyright exception, which relates to software, computer programs, and multimedia products, is the fair use provision of Section 107,⁶⁰ which affect all exclusive rights of all categories of copyrighted works. That section sets forth four factors for courts to consider when determining if a particular use, including reproduction or copying, is a fair use. The four factors include:

1. the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
2. the nature of the copyrighted work;
3. the amount and the 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.

2. Fair Use Determination by Court Review. Pursuant to the fair use doctrine, situations may arise when copying, adapting, or distributing some portion or all of a copyrighted work is permissible without consent of the copyright owner. Sometimes,

determining if a use is a fair use or not can be an extremely difficult task, and there are volumes of court cases which revolve around this issue. What makes the fair use determination so difficult is the fact that there are no hard and fast rules. Each instance of an arguable fair use must be reviewed on a case-by-case basis and analyzed in light of its own unique facts and circumstances.⁶¹

While fair use issues are frequently difficult to resolve, it is easy to imagine situations that will more likely be found to be fair uses. For instance, making copies for academic purposes or to further an in-class, educational objective would more likely be determined a fair use than copying for a purely commercial aim. If copying a work is limited to a small number of copies, even in the educational environment, a fair use is more likely than a situation involving making a large number (i.e., dozens) of copies. Finally, copying a few pages of relevant text or a portion of a video image would more probably involve fair use than copying a whole chapter or an entire document of text or an entire photograph for use as a video image.

The Copyright Act does not indicate how the four factors are to be weighed in relation to each other, but courts will typically look at the use being made of the copyrighted work with reference to each of the particular factors. For the most part, the courts will impose a backdrop of reasonableness⁶² and good faith⁶³ on the fair use defense.⁶⁴ Despite all the caselaw relating to the fair use doctrine, however, no cases have yet applied the four factor fair use analysis to the use of copyrighted content in a multimedia product.⁶⁵

D. De Minimis Copying

Recent technical advances have made it very easy to scan or digitize samplings of copyrighted works of all categories, including written text, photographs and other still images, sound recordings, motion pictures, and other audiovisual works. In some situations, it may be possible to copy small portions of a copyrighted work without actually violating the author's copyright. A *de minimis* rule has been applied by the courts to permit the copying of small or insignificant portions of copyrighted works without constituting copyright infringement.⁶⁶ When determining whether a particular copying is *de minimis* or not, courts will look at the "quantity" of the material and the "quality" of the material copied. In other words, the courts will review how much of the content has been copied, and they will decide how significant the copied content is in relation to the entire copyrighted work.⁶⁷

When conducting a quantitative analysis, the courts will analyze whether the copied content is a substantial portion of the copyrighted work.⁶⁸ From a quantitative standpoint, the larger the copied portion is with relation to the entire work, the more likely the courts will find the copying to constitute copyright infringement. Similarly, the courts will conduct a qualitative analysis to determine how significant the copied content is to the work as a whole.⁶⁹ The more important or integral the copied content is to the copyrighted work as a whole, the more likely the courts will find an infringement of the author's copyright. Thus, as can be gleaned from this two part analysis, a quantitatively small portion of copyrighted content may be copied without amounting to infringement, but if that small portion of content is qualitatively significant to the work as a whole, it will amount to infringement.

E. Use of Noncopyrightable Content

1. Facts and Ideas Distinguished from Expression. One of the most basic and important rules of copyright law is the distinction to be made between ideas and expression, for it is expression that is entitled to copyright protection, not ideas.⁷⁰ Unfortunately, determining what is an idea and what is an expression of an idea is not an easy line to draw, and just because a work is copyrighted, does not mean that every element of the work is protected.

As a general rule of law, ideas, procedures, processes, systems, concepts, principles, and discoveries that are described or embodied in a work of authorship are not extended copyright protection.⁷¹ Also, facts, whether scientific, historical, biographical, or otherwise, are never copyrightable by themselves.⁷² This means that anyone is free to use the underlying facts and ideas in another's copyrighted work, so long as they do not copy or take the expression used to communicate the facts or ideas.

2. Doctrines of Merger and Scènes à Faire. The balancing policy of the copyright law, to promote creative expression and also allow scientific advancement by allowing others to modify and enhance ideas, and the distinction between idea and expression have been recognized in two general principles. First, under the merger doctrine, where an idea is only capable of one or a few means of expression, the idea and the expression merge, and copying the expression is permitted to avoid conferring a monopoly on the idea.⁷³ On the other hand, where there are many ways to express an idea, there can be no merger.⁷⁴ Thus, the broader or more general the idea, the chances of merger with expression are less likely. Conversely, the more precise or narrow the idea,

the chances of merger are more likely, since there are fewer means of expression. An example of how the merger doctrine has been applied to computer software will be reviewed in a subsequent section of this paper. Second, under the *scènes à faire* doctrine, copyright protection is not available to those expressions that are standard or common to a particular topic or subject.⁷⁵ Finally, the actual authority for determining whether a particular instance represents idea or expression rests with the courts. When such issues arise, the courts will conduct a review of all the surrounding facts and circumstances on a case-by-case basis.

V. Specific Software Copyright Issues

A. *Facts and Ideas Versus Expression*

The idea versus expression dichotomy has been particularly troublesome in the computer software and electronic video game arena. Where an idea and its expression are not separable, courts will apply the merger doctrine and will deny copyright protection to that expression. In one recent line of cases, the court held that the merger doctrine prevented copyright protection of (1) icons used to perform tasks or represent computer functions and operations; and (2) a "drag and drop" feature that instructs the computer to perform certain tasks.⁷⁶ In essence, the court found that the ideas of icons and "drag and drop" features had merged with any possible copyrightable expression of performing the related functions and operations, since there were only a limited number of ways to implement the functions and operations.

B. *Compilations and Collective Works*

1. Definitions. The Copyright Act defines a compilation as a "work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship," and a collective work as one "in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole."⁷⁷ The difference between a compilation and a collective work is simply that the preexisting materials that are assembled to form a compilation do not have

to be or may not be copyrightable. Moreover, a compilation of several noncopyrightable facts or works may comprise a new work eligible to be copyrighted. On the other hand, a collective work is a compilation where all the preexisting works are copyrightable and incorporated into a single work. Examples of compilations include catalogs, databases, maps, and collective works. Examples of collective works include periodicals, encyclopedias, and anthologies.

2. Rights in Compilations and Collective Works. As there are differences between compilations and collective works, so there are different copyright ownership rights involving the two categories. To the extent that a compilation is comprised completely of noncopyrightable prior works and forms a new work that is itself copyrightable, the author of the compilation will obtain the right to the copyright.⁷⁸ However, for collective works, which result from assembling the previously copyrighted works of various authors, the copyright ownership of the individual works remain the property of the individual authors. Thus, while permission from those authors must be obtained before publishing a collective work, the copyright for the collective work itself is owned by the preparer of the compilation.⁷⁹

3. Software and Multimedia as Compilations or Collective Works. Software and multimedia products are frequently found to be compilations or collective works, and in many instances may present unique copyright issues. For instance, a database that is composed completely of noncopyrightable facts, may nevertheless constitute a copyrightable compilation.⁸⁰ In a similar fashion, a multimedia product consisting entirely of material within the public domain may be found to be a copyrightable compilation. Conversely, the author of a collective work of individual copyrighted multimedia works

must obtain the consent of the author of each piece of multimedia prior to preparing the compilation. Furthermore, the multimedia developer's rights in the collective multimedia work can be significantly restricted by the scope of permission extended by the author of the preexisting copyrighted work. For example, if permission is granted to use the work in a particular multimedia product or medium, then the multimedia developer may be restricted from publishing the content in a different product or medium.⁸¹

C. Derivative Works

1. Definition of a Derivative Work. Derivative works are those "based upon one or more preexisting works, such as a translation, fictionalization, ..., abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a derivative work."⁸² In order to qualify as a derivative work, two prerequisites must be satisfied. First, the work must be based upon an already existing work and must incorporate copyrightable expression from that work.⁸³ Second, an author must contribute new original material to the prior work and thereby recast, transform, or adapt the prior work.⁸⁴ Simple examples of derivative works include the translation of a book from English to French and a movie that is based on a novel. Unlike compilations, which were discussed previously, a derivative work, by its adaptation or modification, creates a new work.

2. Rights in Derivative Works. Once an author has created a derivative work, the Copyright Act makes clear that his copyright in the derivative work only extends to the new material contributed to the work, and the original author retains the copyright and

exclusive rights in the preexisting work.⁸⁵ Therefore, by definition, the author of a derivative work must obtain permission from the author of the prior work to use and adapt that work.

3. Software and Multimedia as Derivative Works. Examples of derivative works of software programs or multimedia products include the following: a new version of an existing computer program; revising or modifying a musical work for incorporation into a multimedia product; sampling or adapting a sound recording for incorporation into a multimedia product; and editing, morphing, or changing a photograph for incorporation into a multimedia product. Prior to the use of the preexisting musical work, sound recording, or photograph in a derivative work, consent from the copyright owner of that work must be obtained. Failure to obtain consent may result in copyright infringement, unless an otherwise valid defense to infringement applies (i.e., fair use, *de minimis* copying, etc.).

D. Reverse Engineering

One particular issue which is often broached with regard to computer software relates to reverse engineering of computer code. Reverse engineering usually involves the translation of a program's object code into eye-readable source code. The translation process occurs through the disassembly or decompilation of the computer program. In this light, a recent case has found that reverse engineering of a computer program may be a fair use under certain circumstances. Basically, reverse engineering will constitute a fair use if it is the only way a programmer can gain access to those aspects of the computer program code which are not capable of copyright protection, and if the purpose for access

to those noncopyrightable aspects is legitimate.⁸⁶ Reverse engineering and intermediate copying will generally constitute a fair use when they are necessary steps in developing competitive products, and when disassembly to gain access to unprotected elements of a program is for a legitimate purpose, such as determining how to make compatible products.⁸⁷

Interestingly, the fair use doctrine only applies to reverse engineering when actual copying of object code is a necessary step toward development of the new, competitive, or compatible program. Where there is only minor intermediate dumping and analyzing computer code and dissimilar code is written through the subsequent programmer's own analysis, independent thought, and imaginative processes, there is essentially no "copying," and thus no infringement of the prior work's copyright.⁸⁸ However, reverse engineering should be accomplished cautiously, since finished products, which are the result of reverse engineering or intermediate copying of program code, and which are substantially similar to the copyright protected work, may be determined to infringe.⁸⁹

E. Works Made for Hire and Government Works

In some situations, issues may arise due to who authored the copyrighted work. For instance, if a work is created by an employee, an independent contractor, or the government, different rules apply as to who owns the copyright to the work, be it software, multimedia, or any other type of work.

1. Works Made for Hire by Employees. As a general rule, the author is the person who creates a work and embodies it in a tangible medium of expression, and the Copyright Act states that it is the author who initially owns the copyright to the work.⁹⁰

However, software or multimedia, which are created by employees within the scope of their duties of employment for their employer, are "works made for hire,"⁹¹ and the person or employer for whom the work was prepared is actually considered the author and owner of the copyright.⁹² Therefore, if the work is one made for hire, the particular individual who created the work will own no copyright nor have any rights relating to the work.

2. Works Made for Hire by Independent Contractors. Under some circumstances, works created by independent contractors⁹³ may also be considered to be works made for hire.⁹⁴ For the most part, however, independent contractors will retain the rights and ownership of the copyright in works created by them for other parties. Under the Copyright Act, two prerequisites must be satisfied before a work created by an independent contractor will be considered to be a work for hire. First, the work must be specially ordered for use as a contribution to a collective work, a supplementary work, a compilation, an instructional text, or a few other specific types of works; and second, all parties must agree in a written document that the work will be considered to be one for hire.⁹⁵ If either of these requirements are not satisfied, the work will not be one made for hire, and the independent contractor will own the copyright for the software, multimedia, or other work it was hired to create.

3. Works of the United States Government. In contrast to works made for hire, Government works involve a totally unique application of copyright law. The Copyright Act specifically denies copyright protection to any work of the United States Government.⁹⁶ The statute defines a "work of the United States Government" as one which is "prepared by an officer or employee of the United States Government as part of that person's official duties."⁹⁷ Furthermore, the concepts relating to works made for hire

apply to Government works. For instance, works prepared by employees and within the scope of their official duties are Government works and not entitled to copyright protection.⁹⁸ On the other hand, works created by an individual at their own volition and outside their duties are outside the scope of their employment and not Government works.⁹⁹ Similarly, works ordered pursuant to a United States Government contract or grant may be considered works made for hire if the above discussed prerequisites are met. In such cases, the works would qualify as Government works, and no copyright protection would ensue. More likely though, the particular agency awarding the Government contract or grant will decide whether to allow an independent contractor to copyright works prepared completely or partially with the use of Government funds. In these instances, while the independent contractor may own the copyright for such works, the United States Government may be entitled to unlimited rights, limited rights, or Government purpose license rights to use the works, depending on the extent Government funding was used to develop those works.

F. Object Code and Source Code Emulation

Traditionally, the copyright laws only extended protection to literary works that were perceivable to human beings. Thus, copyright protection only applied to works which were written or printed in some intelligible form. As stated previously, the Computer Software Protection Act of 1980 specifically classified a computer program, which is only readable by a machine, as a literary work. This raised an issue as to what part of a computer program was afforded copyright protection against copying. This question, however, was soon answered by the courts, and it was determined that a

computer program, whether in object code or source code, is protected from unauthorized copying of either its binary object code or its source code.¹⁰⁰

G. Screen Display Emulation

Some other interesting copyright issues arose shortly after enactment of the Computer Software Protection Act of 1980, including emulation or copying of computer screen displays. Initially, the courts were unclear concerning the copyrightability of actual screen displays.¹⁰¹ In other instances, courts have held that while a copyright of a computer program did not protect the screen displays, they were protected as a compilation.¹⁰²

In light of the various amendments to the Copyright Act, revisions of Copyright Office practices and regulations regarding software copyright registration, and subsequent case law, this issue no longer poses a problem. Clearly, copying or emulation of screen displays, as well as the underlying program or code, are violations of copyright law. Also, in several recent video game cases, courts have held that screen displays are audiovisual works, and hence, copyrightable.¹⁰³

Although video games and screen displays are copyrightable, that does not mean that all elements of a game or display are subject to copyright protection.¹⁰⁴ Those elements of a video game or screen display which amount to "ideas" are not subject to the protections afforded by copyright law. For example, standard video game features (i.e., walls, mazes, tunnels, etc.) are not protected. However, a distinctive character or image featured in a game would be protected.

VI. Implications of Copyright Infringement

A. *Civil Liability for Copyright Infringement*

1. Civil Infringement, Generally. Any violation of the exclusive rights owned by a copyright holder will amount to copyright infringement.¹⁰⁵ For instance, violating a copyright owner's right of reproduction by partially or completely copying his copyrighted work constitutes copyright infringement. Any action for copyright infringement must be brought in the federal courts, since they have exclusive jurisdiction to hear cases arising under the Copyright Act, regardless of citizenship of the parties or the amount in controversy.¹⁰⁶ In order to prove a case of copyright infringement, the copyright owner must basically show two things: (1) that he owns a valid copyright; and (2) that the defendant copied protected expression that was the subject matter of the copyright.¹⁰⁷

2. Contributory Infringement. In addition to personal liability for individual infringement, a defendant may be liable for infringement in cases where he did not actually do the copying or in situations where he did not even know the copying occurred. For example, under the doctrine of *respondeat superior*,¹⁰⁸ an employer with a right of supervision may be found liable for copyright infringement by its employees who exploit copyrighted material, even though the employer had no intention and did not have knowledge of the infringement.¹⁰⁹ Liability is imposed upon the employer because of the direct financial interest and position as a beneficiary of the exploitation of the copyrighted work. Similarly, under the concept of enterprise liability and contributory infringement, a contributory infringer who knowingly induces, causes, or materially contributes to the

infringing conduct of another will be equally liable for damages for infringement.¹¹⁰

Knowledge of the infringing activity without substantial involvement is not enough to amount to contributory infringement. A contributory infringer must at least engage in conduct that participates in the infringing activity, such as aiding or encouraging the infringement.¹¹¹

3. Damages and Remedies. A variety of damages awards and remedies are available to a copyright owner who successfully proves an infringement action. With regard to damages, the copyright holder may choose between recovering actual damages suffered plus defendant's profits from the infringing activity, or he may select to recover statutory damages.¹¹² The Copyright Act sets as statutory damages minimum and maximum award amounts, depending on whether the infringement was willful or nonwillful.¹¹³ Concerning equitable remedies available to a copyright owner, the Copyright Act permits preliminary and permanent injunctions against an infringing activity, and impoundment or destruction of infringing copies held by a defendant.¹¹⁴ Finally, costs and attorney's fees may be available to a copyright owner who is a prevailing party in a copyright infringement action.¹¹⁵

4. United States Government Liability. While the federal government used to enjoy immunity for copyright infringement, since 1960, the federal government has waived sovereign immunity and may be sued in the U. S. Court of Federal Claims, whether the infringement is committed by the Government or by someone acting on its behalf.¹¹⁶ However, recovery for copyright infringement against the Federal Government is limited to compensation of damages, and injunctive relief. Attorneys fees and costs are not available in infringement actions against the Government.¹¹⁷

B. Criminal Infringement

Under some circumstances, infringers of copyrights may suffer criminal liability in addition to civil penalties and remedies. The Copyright Act specifically states that it is a crime to infringe a copyright “willfully and for purposes of commercial advantage or private financial gain.”¹¹⁸ Violators of this provision can face up to five years in prison and fines of up to \$250,000 per occurrence.¹¹⁹ An example of criminal infringement would be copying a copyrighted work for the purpose of marketing the infringing copies (e.g., selling pirated copies). In addition to penalties for criminal infringement, the Copyright Act makes it a criminal offense to fraudulently place a copyright notice on any article; to fraudulently remove a copyright notice from any article; and to knowingly make a false representation in a copyright registration application.¹²⁰

C. Infringement Contrasted with Contractual Issues

As was discussed previously, Section 117 of the Copyright Act provides that “owners” of computer software have the right to copy software in connection with loading it into a computer; the right to make backup and archival copies of software; and the right to adapt or modify the software they have purchased. An important distinction to be made concerning Section 117 rights is that they only apply to “owners” of copies of computer programs.¹²¹ In order to obtain Section 117 rights, one must ordinarily purchase the copy of the software. Mere possession of software with the right to use it pursuant to a software license, does not necessarily convey rights under the copyright law.¹²²

1. Software Licenses. Possessors of computer software pursuant to a software license agreement, generally obtain only those rights conveyed by the terms and conditions of the license agreement. The applicable software license, then, must be reviewed to determine what rights or capabilities the possessor has with regard to use of the software. In such situations, the possessor will not enjoy any Section 117 rights provided under copyright law. By licensing vice selling a copy of the software, the software distributor can retain ownership over the distributed copies of software. In essence, by licensing rather than selling software, developers are trying to gain better protection of their proprietary rights, exercise more control over actual use of the software, and prevent unauthorized exploitation of the software.

2. Shrink-wrap License Issues. One of the ways software developers and distributors attempt to license software is through the use of "shrink-wrap" licenses. Many issues surround the use of these purported shrink-wrap software licenses, which are most prevalent in the personal computer software market. Typically, a shrink-wrap license involves a pre-printed form agreement, which is affixed or printed on the packaging (usually shrink-wrap or an envelope) containing the software disks. Software developers utilizing shrink-wrap software licenses do not require the signature of the software user. Rather, a conspicuous notice on the shrink-wrap or envelope encasing the disks states that the user will be bound by the terms and conditions of the attached or enclosed software license by merely opening or breaking the seal of the package. Despite the widespread use of shrink-wrap licenses, considerable doubt as to their legal validity exists. In fact, a few courts have suggested that this type of license agreement may not even be enforceable.¹²³

3. Government Acquisition Provisions and Regulations. As if this topic were not already complex enough, when software is purchased by the Federal Government, additional rules and regulations come into play. For instance, many of the problems that can arise with regard to shrink-wrap licenses will not have a bearing on software acquired through a Department of Defense contract, since Federal Acquisition Regulation (FAR) provisions and Defense supplemental regulations provide specific license and other rights, which must be obtained when contracting for the purchase of computer software. In such instances, if problems or issues arise, the Judge Advocate's office should be consulted.¹²⁴

D. *Infringement Issues Relating to Software and Multimedia*

1. Look and Feel. In terms of copyright case law, "look and feel" is an issue relating to how the computer program "looks" and "feels" to the user and whether a copyright owner can prevent another software developer from writing an original software program that looks and feels like the other author's program. This issue was recently addressed in litigation between Apple Computer and Microsoft. In that litigation and the subsequent appeals, the courts held that, while certain portions of Apple's software programs were copyrightable, other features of the program (such as menus and icons which designate computer functions or commands) could not be protected because the expression of those features had merged with their idea.¹²⁵ In other words, since there are only a certain number of ways to express a computer function graphically, one software developer cannot use a copyright to attempt to monopolize a particular idea.

2. Digital Sampling. The issues relating to digital sampling are particularly relevant to infringements of software and multimedia copyrights. Digital sampling

involves the “borrowing” of small clips of video, musical recordings, or other pre-existing works of authorship and incorporating them into a new software program or multimedia product. When determining whether the borrowing and use of the samples amounts to infringement, courts will apply the four factor analysis of the fair use doctrine and the qualitative and quantitative tests for *de minimis* copying.

Cases involving digital sampling are not easy for courts to resolve, and there are no definitive rules concerning them. For the most part, it seems easy to say that an instance of sampling involving only a single pixel of a digitized photograph would not constitute infringement. Likewise, borrowing a couple of notes from a musical recording would not amount to a copyright violation. These types of cases, however, are not likely to instigate infringement litigation. Consequently, there are no clear lines delineating what sampling will be found to infringe and what “borrowing” will violate a copyright.

3. Use in Excess of Software License Rights. As previously discussed, a software license is a contractual document which specifies the terms and conditions for using a particular piece of software. A license may allow a possessor to use software in a manner that would otherwise violate the copyright owner’s exclusive rights. Thus, where a possessor of software exercises rights in excess of those extended by the license, that conduct will constitute copyright infringement.¹²⁶

4. Transferring a Work from One Medium to Another. Infringement issues may arise where parts or all of a copyrighted work are used in creating a work in a different medium. For the most part, simply changing the medium in which a work appears will not protect one from a finding of copyright infringement.¹²⁷ For example, excerpting video clips, samplings of a musical recording, or digitizing portions of a

magazine photograph for inclusion in a CD-ROM multimedia product would all be determined to infringe the copyrights of the original authors. Additionally, a licensee who has authority to republish a photograph in a magazine would infringe the photographer's copyright by including a digitized version of the picture in a different medium, such as an electronic bulletin board.

VII. Conclusion

The use of software and multimedia products has increased exponentially in recent years. Air Force software users and developers are frequently provided computer resources and associated software programs with little training, especially with regard to copyright and intellectual property laws. As a result, there is a vital need for basic copyright law guidance for users of software and multimedia products.

This project provides basic information and principles regarding intellectual property and copyright law. It also discusses various uses of software and multimedia products and how copyright law protections apply to their use. In many instances, specific provisions or exceptions in copyright law have been made with relation to computer software. This project elaborates upon copyright law applicable to software and multimedia without utilizing extensive jargon and legalese.

As has been discussed, copyright law has changed significantly in recent years. Furthermore, as advances are made in multimedia products and computer software technology, additional changes to the copyright laws can be expected. Utilizing this project as basic copyright law guidance will assist Air Force software users from engaging in infringing conduct, thereby avoiding potential personal and Government liability. As with any legal matter, specific guidance and advice regarding new or complex issues should be sought from the appropriate Judge Advocate's office.

Notes

¹U.S. Const., Art. I, Sect. 8, Cl. 8.

²15 U.S.C. §1127.

³Trademark law as it relates to the use and development of software and multimedia is beyond the scope of this project. Users and developers who face issues regarding trademarks should consult the appropriate Judge Advocate's office.

⁴35 U.S.C. §154. Patent law applicable to software and multimedia is also beyond the purview of this paper, and Judge Advocate advice should be sought when such issues arise.

⁵Uniform Trade Secrets Act §1(3) (1985). Laws and issues pertaining to trade secrets are also outside the coverage of this project and demand individual advice from a legal advisor.

⁶See *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, (3d Cir. 1986).

⁷Copyright Act of 1976, 17 U.S.C. §§101, *et seq.*

⁸Berne Convention Implementation Act, Pub. L. 100-568, 102 Stat. 2853 (1988).

⁹Act of December 12, 1980, Pub. L. 96-517, 94 Stat. 3028 (1980).

¹⁰Act of November 8, 1984, Pub. L. 98-620, 98 Stat. 3347 (1984).

¹¹Act of December 1, 1990, Pub. L. 101-650, 104 Stat. 5134 (1990).

¹²Act of December 1, 1990, Pub. L. 101-650, 104 Stat. 5128 (1990).

¹³Act of November 15, 1990, Pub. L. 101-553, 102 Stat. 2749 (1990).

¹⁴Act of June 16, 1992, Pub. L. 102-307, 106 Stat. 272 (1992).

¹⁵Copyright Act of 1976, as amended, 17 U.S.C. §102(a).

¹⁶*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

¹⁷*Id.*

¹⁸*Gardenia Flowers, Inc. v. Joseph Markovits, Inc.*, 280 F.Supp. 776 (S.D.N.Y. 1968).

¹⁹*OddzOn Prods., Inc. v. Oman*, 924 F.2d 326 (D.C. Cir. 1991).

²⁰Copyright Act of 1976, as amended, 17 U.S.C. §102(a).

²¹Copyright Act of 1976, as amended, 17 U.S.C. §101 ("fixed" defined).

²²*Id.* Also see *MAI Systems Corp. v. Peak Computer, Inc.*, 991 F.2d 511, (9th Cir. 1993) (the court determined that loading software into RAM for the purpose of viewing a system error log and diagnosing the problem was sufficient to amount to a permanent or stable fixation).

- ²³*MAI Systems Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993).
- ²⁴*Williams Electronics, Inc., v. Arctic Int'l, Inc.*, 685 F.2d 870 (3d Cir. 1982).
- ²⁵*Stern Electronics, Inc., v. Kaufman*, 669 F.2d 852 (2d Cir. 1982); *Midway Mfg. Co. v. Dirkschneider*, 543 F.Supp. 466 (D.Neb. 1981).
- ²⁶Copyright Act of 1976, as amended, 17 U.S.C. §102(a).
- ²⁷Copyright Act of 1976, as amended, 17 U.S.C. §103(a).
- ²⁸Copyright Act of 1976, as amended, 17 U.S.C. §106.
- ²⁹See Copyright Act of 1976, as amended, 17 U.S.C. §§106-120.
- ³⁰Copyright Act of 1976, as amended, 17 U.S.C. §302(a).
- ³¹Copyright Act of 1976, as amended, 17 U.S.C. §101 ("created" and "fixed" defined).
- ³²Copyright Act of 1976, as amended, 17 U.S.C. §302(c).
- ³³Copyright Act of 1976, as amended, 17 U.S.C. §401(a) (effective for works published after March 1, 1989).
- ³⁴Copyright Act of 1976, as amended, 17 U.S.C. §405(b).
- ³⁵Copyright Act of 1976, as amended, 17 U.S.C. §401(b).
- ³⁶Copyright Act of 1976, as amended, 17 U.S.C. §401(c).
- ³⁷Copyright Act of 1976, as amended, 17 U.S.C. §101 ("pictorial, graphic, and sculptural works" defined).
- ³⁸37 C.F.R. §202.10(a).
- ³⁹See 17 U.S.C. §902(a)(1), (b)(1), (b)(2).
- ⁴⁰17 U.S.C. §901(a)(2).
- ⁴¹17 U.S.C. §912(a).
- ⁴²Boorstyn, *Boorstyn on Copyright*, §15.13, at 15-15 (1994).
- ⁴³Copyright Act of 1976, as amended, 17 U.S.C. §101 ("literary works" defined).
- ⁴⁴Copyright Act of 1976, as amended, 17 U.S.C. §102(a).
- ⁴⁵Act of December 12, 1980, Pub. L. No. 96-517, 94 Stat. 3028 (1980).
- ⁴⁶Copyright Act of 1976, as amended, 17 U.S.C. §101 (1980).
- ⁴⁷Copyright Act of 1976, as amended, 17 U.S.C. §117 (1980).
- ⁴⁸See *National Commission on New Technological Uses of Copyrighted Works (CONTU) Final Report to Congress* (dated July 31, 1978), which recommended enactment of a new section 117 to the Copyright Act of 1976.
- ⁴⁹Copyright Act of 1976, 17 U.S.C. §117 (1) and (2), as amended by the Computer Software Copyright Act of 1980.

⁵⁰See *Apple Computer, Inc. v. Formula Int'l*, 594 F.Supp. 617 (C.D.Cal. 1984).

⁵¹Copyright Act of 1976, as amended, 17 U.S.C. §117 (2).

⁵²Act of December 1, 1990, Pub. L. 101-650, 104 Stat. 5134 (1990).

⁵³Copyright Act of 1976, as amended, 17 U.S.C. §§107-120.

⁵⁴In law, the *de minimis* doctrine comes from the Latin phrase, *de minimis non curat lex*, or, "the law does not concern itself about trifles." The doctrine acknowledges that the law does not care to deal in insignificant or trivial matters.

⁵⁵Shareware is copyrighted computer software that is freely distributed to the public with the expectation that potential users will comply with noticed terms and conditions, which typically request payment to the copyright owner in the event that the user decides to keep the software.

⁵⁶Copyright Act of 1976, as amended, 17 U.S.C. §302(a). Works created before 1978 involve rather complex and lengthy rules and will not be discussed.

⁵⁷See *Stewart v. Abend*, 495 U.S. 207 (1990).

⁵⁸Copyright Act of 1976, as amended, 17 U.S.C. §405. The specific circumstances are lengthy and complicated and will not be listed.

⁵⁹Copyright Act of 1976, as amended, 17 U.S.C. §105.

⁶⁰Copyright Act of 1976, as amended, 17 U.S.C. §107.

⁶¹See *Campbell v. Acuff-Rose Music, Inc.*, ___ U.S. ___, 114 S.Ct. 1164 (1994), and *American Geophysical Union v. Texaco, Inc.*, 802 F.Supp. 1 (S.D.N.Y. 1992).

⁶²In law, the concept of reasonableness implies that conduct is rational, proper, fair, equitable, and moderate, all circumstances considered.

⁶³Good faith is an abstract concept applied by the law and requires one to have honest intentions, refrain from taking undue advantage of another, even through technicalities in the law, and to act with an absence of malice or intent to defraud.

⁶⁴*Television Digest, Inc. v. United States Tel. Ass'n*, 841 F.Supp. 5 (D.D.C. 1993).

⁶⁵Smedinghoff, 1 *Multimedia Legal Handbook*, §12.3, at 12-13 (1994).

⁶⁶*Warner Brothers, Inc. v. American Broadcasting Co.*, 720 F.2d 231 (2d Cir. 1983).

⁶⁷See *Smith v. Little, Brown & Co.*, 245 F.Supp. 451 (S.D.N.Y. 1965).

⁶⁸*Atari, Inc. v. North American Philips Consumer Electronics Corp.*, 672 F.2d 607 (7th Cir. 1982).

⁶⁹*Nikanov v. Simon & Schuster, Inc.*, 246 F.2d 501 (2d Cir. 1957).

⁷⁰*Baker v. Seldon*, 101 U.S. 99 (1879).

⁷¹Copyright Act of 1976, as amended, 17 U.S.C. §102(b).

⁷²*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

⁷³*Kern River Gas Transmission Co. v. Coastal Corp.*, 899 F.2d 1458 (5th Cir. 1990), and *Apple Computer, Inc. v. Microsoft Corp. and Hewlett-Packard Co.*, 799 F.Supp. 1006 (N.D.Cal. 1992).

⁷⁴*Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983).

⁷⁵See *Frybarger v. IBM*, 812 F.2d 525 (9th Cir. 1987), and *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991). The doctrine also denies protection for elements of a computer program that are necessitated by external factors such as hardware standards and mechanical specifications, software standards and compatibility requirements, computer manufacturer design standards, industry practices and demands, and computer industry programming practices. See Boorstyn, *Boorstyn on Copyright*, §11.05[2], at 11-21 (1994).

⁷⁶*Apple Computer, Inc. v. Microsoft Corp.*, 799 F.Supp. 1006 (N.D.Cal. 1992).

⁷⁷Copyright Act of 1976, as amended, 17 U.S.C. §101 ("compilation" and "collective work" defined).

⁷⁸See *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

⁷⁹Copyright Act of 1976, as amended, 17 U.S.C. §201(c).

⁸⁰*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

⁸¹See *Gilliam v. American Broadcasting Cos.*, 538 F.2d 14 (2d Cir. 1976).

⁸²Copyright Act of 1976, as amended, 17 U.S.C. §101 ("derivative work" defined).

⁸³*Id.* Also see *Litchfield v. Spielberg*, 736 F.2d 1352 (9th Cir. 1984).

⁸⁴*Id.*

⁸⁵Copyright Act of 1976, as amended, 17 U.S.C. §103(b).

⁸⁶See *Sega Enterprises, Inc. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992).

⁸⁷*Id.*

⁸⁸See *E.F. Johnson Co. v. Uniden Corp.*, 623 F.Supp. 1485 (D.Minn. 1984).

⁸⁹See *Computer Assocs., Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992).

⁹⁰Copyright Act of 1976, as amended, 17 U.S.C. §201(a).

⁹¹Copyright Act of 1976, as amended, 17 U.S.C. §101 ("work made for hire" defined).

⁹²Copyright Act of 1976, as amended, 17 U.S.C. §201(b).

⁹³Presumably, the reader has at least a general understanding of the differences between employees and independent contractors. In any event, all the specific legal distinctions between the two are rather complex and drawn out, and they will not be covered by this research project.

⁹⁴Copyright Act of 1976, as amended, 17 U.S.C. §101 ("work made for hire" defined).

⁹⁵*Id.*

⁹⁶Copyright Act of 1976, as amended, 17 U.S.C. §105.

⁹⁷Copyright Act of 1976, as amended, 17 U.S.C. §101 ("work of the United States Government" defined).

⁹⁸See *Harper & Row, Publishers, Inc. v. Nation Enterprises*, 723 F.2d 195 (2d Cir. 1983).

⁹⁹See *Public Affairs Assocs., Inc. v. Rickover*, 284 F.2d 262 (D.C. Cir. 1960), and *Jackson v. MPI Homes Video*, 694 F.Supp. 483 (N.D.Ill. 1988).

¹⁰⁰*Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983).

¹⁰¹See *Synercom Technology, Inc. v. University Computing Co.*, 462 F.Supp. 1003 (N.D.Tex. 1978).

¹⁰²*Digital Communications Assocs. v. Softklone Distrib. Corp.*, 659 F.Supp. 449 (N.D.Ga. 1987).

¹⁰³See, e.g., *Apple Computer, Inc. v. Microsoft Corp.*, 799 F.Supp. 1006 (N.D.Cal. 1992).

¹⁰⁴*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

¹⁰⁵Copyright Act of 1976, as amended, 17 U.S.C. §501(a).

¹⁰⁶28 U.S.C. §1338(a).

¹⁰⁷*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

¹⁰⁸*Respondeat superior* translates as "let the master answer." This doctrine acknowledges that there are times when a master should be liable for the acts of the servant, the employer for the employee, and the principal for the agent.

¹⁰⁹See *Shapiro, Bernstein & Co. v. H. L. Green Co.*, 316 F.2d 304 (2d Cir. 1963).

¹¹⁰*Cable/Home Communication Corp. v. Network Products, Inc.*, 902 F.2d 829 (11th Cir. 1990).

¹¹¹See *Sony Corp. v. Universal City Studios*, 464 U.S. 417 (1984).

¹¹²Copyright Act of 1976, as amended, 17 U.S.C. §504(b) and (c).

¹¹³Copyright Act of 1976, as amended, 17 U.S.C. §504(c)(1) and (2).

¹¹⁴See Copyright Act of 1976, as amended, 17 U.S.C. §§502 and 503.

¹¹⁵Copyright Act of 1976, as amended, 17 U.S.C. §505.

¹¹⁶28 U.S.C. §1498(b).

¹¹⁷28 U.S.C. §1498(b), and 17 U.S.C. §§502(a) and 505.

¹¹⁸Copyright Act of 1976, as amended, 17 U.S.C. §412.

¹¹⁹18 U.S.C. §§2319 and 3571ff.

¹²⁰Copyright Act of 1976, as amended, 17 U.S.C. §506(c), (d), and (e).

¹²¹*Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988).

¹²²See *SOS, Inc. v. Payday, Inc.*, 886 F.2d 1081 (9th Cir. 1989).

¹²³For example, see *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988).

¹²⁴Government procurement laws and regulations, as they apply to the acquisition of computer software, are beyond the scope of this research project.

¹²⁵*Apple Computer, Inc. v. Microsoft Corp.*, 799 F.Supp. 1006 (N.D.Cal. 1992), *aff d*, ___ F.3d ___ (9th Cir. 1994).

¹²⁶*S.O.S, Inc. v. Payday, Inc.*, 886 F.2d 1081 (9th Cir. 1989).

¹²⁷See *Rogers v. Koons*, 960 F.2d 301 (2d Cir. 1992).

Vita

P. E. Van Maldeghem: Major Paul E. Van Maldeghem received his commission as a Distinguished Military Graduate in the United States Army ROTC program at Rensselaer Polytechnic Institute in 1981. Following an educational delay, he received his Juris Doctor degree from Stetson University College of Law in 1984 and entered active duty in the United States Air Force in 1985. Initially assigned to Pease Air Force Base, New Hampshire, he served as Chief of Military Justice and Chief of Civil Law. He was subsequently assigned as the Chief of Telecommunication and Acquisition Law at the Standard Systems Center, Gunter Air Force Base, Alabama in 1987. During that assignment, he was selected by the American Bar Association as the Outstanding Young Military Lawyer of the Air Force for 1989/90. In 1991, he was assigned to the Office of the Staff Judge Advocate, Electronic Systems Center, Hanscom Air Force Base, Massachusetts, where he served as Deputy Division Chief for the Contract Support Division and Chief of the MILSTAR Programs Branch. In 1992, he was selected as the Outstanding Judge Advocate of the Year for Air Force Materiel Command. Major Van Maldeghem has taught numerous business law and Government contract law courses as adjunct faculty for Hawthorne College, New Hampshire (1986) and Western New England College, Massachusetts (1992-1994). In 1994, Major Van Maldeghem was competitively selected as a Judge Advocate attendee and entered Air Command and Staff College (ACSC) at Maxwell Air Force Base, Alabama. Following graduation from

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