

Linking Copyright to Homepages

Matt Jackson*

Introduction 732

I. Surf's Up! A Technology Primer 735

II. Does Linking Infringe on Copyright? 740

A. *The Reproduction Right* 742

1. Direct Infringement 742

2. Contributory Infringement 742

B. *The Adaptation Right* 746

1. Direct Infringement 746

2. Contributory Infringement 747

C. *The Distribution Right* 748

1. Direct Infringement 748

2. Contributory Infringement 749

D. *The Public Performance and Public Display Rights* 750

1. Direct Infringement 750

2. Contributory Infringement 751

E. A Word About New Web Page Design Features 752

III. Compiling Links For Fun and Profit 753

A. *Creating Copyrightable Links* 753

B. *How Thin is Thin?* 756

Conclusion 757

Introduction

Mary just started her own business. She created a Web page where users can follow her links to the coolest sites on the World Wide Web (WWW or Web). It took her weeks of searching to find the best sites and then a few more days to create all the links—which she plans on updating once a week. She set up a password system so that anyone who wants to use her Web page has to pay her ten dollars a month. In her first four months she made almost five thousand dollars. Now the author of one of the pages she has linked to is suing her for copyright infringement. He wants her to either share her profits or stop linking to his document. That's not her only headache. She's thinking of filing her own copyright infringement suit against a former friend who is setting up a business similar to hers. He's created links to many of the same documents.

How will these cases turn out? Can Mary create links to a Web site without getting the author's permission?

Can she stop her competitor from copying her links? Many law reviews, trade journals, and daily newspapers have published articles concerning copyright in the digital age, but only a handful have discussed one of the most common potential forms of copyright infringement—that of "linking" different documents on the Internet.¹

The justification for copyright law in the United States is to provide an incentive for the creation of new works. Article I, section 8 of the Constitution provides: AThe Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to "uthors and Inventors the exclusive Right to their respective Writings and Discoveries."² Any U.S. copyright statute which does not promote the progress of science and useful arts is presumably unconstitutional.³

The economic rationale for copyright is based on the following assumptions: (1) granting property rights in a work will allow the author to earn a profit from her labor, (2) the ability to earn a profit will provide the author with the necessary incentive to create, and (3) the more works that are created, the greater the benefit to the public and the greater the advancement of science. The paradox is that the public can only benefit if it has access to the work. Access is restricted by granting the author property rights in her work, for only by restricting access can the author charge users and earn a profit. Copyright law is designed to resolve this tension in as equitable a manner as possible. Hence, copyright is of limited duration, only certain categories of expression are protected, and facts are not copyrightable.⁴ These are just a few of the limits placed on the author.

Currently, a heated debate is centered around the proposition that the Internet and the World Wide Web have upset the sensitive balance between authors and users. Copyright owners, with the backing of the Clinton administration, claim that unless copyright law is strengthened, content will not be made available on the Internet and the network will fail.⁵ Internet users claim that if their current practices are restricted, the Internet will fail to live up to its potential as a democratic, interactive medium of communication and social interaction.⁶ This paper examines one of the most unique and important characteristics of the Internet: the ability to create links between various documents.

One reason links have received such little copyright attention is that linking documents is still a relatively new phenomenon and there is only one current court case in the United States involving links.⁷ However, these issues will become more important as publishers seek to assert their property rights in information available on the Internet. A recent issue of a business journal framed the question succinctly: "If I create a home page and I have my copyrighted material on that page with my trademark, and someone unilaterally links up to it, this raises the question of whether they're publishing and they're violating my copyright."⁸

Linking documents is similar, but not directly analogous, to placing references to other works in a printed text. For example, a new, printed article might refer to an already published article in *Wired* magazine. The reader of the new article would have to find the correct issue of *Wired* magazine in order to see the original article. The World Wide Web makes it possible for an electronic version of the new article to be linked to the on-line version of the *Wired* article. When the reader reaches the point in the article where the *Wired* article is referenced, the reader could select the link and immediately see the *Wired* article. It has been widely noted that this ability to link documents is revolutionizing both information retrieval and the act of reading itself.⁹

This Article will examine two related copyright questions involving links: (1) does linking to a document constitute copyright infringement, and (2) are links copyrightable? After a brief discussion of the technology involved, this Article will argue that linking does not infringe on an author's copyright.¹⁰ It will then discuss to what extent links are protected by copyright.

In our hypothetical scenario, Mary may be liable for copyright infringement in two distinct ways. If the links she creates violate any of the author's exclusive rights, Mary may be liable for direct infringement. If, on the other hand, Mary's customers violate any of the author's rights by following the link, then Mary may be liable for contributory infringement. The basic conclusion of this article is that it is the author of the document, not

Mary, who reproduces the article for Mary's customers. Links are simply addresses designating the location of a document. Therefore, Mary is not committing either direct or contributory copyright infringement.

Because links are addresses, Mary is providing her customers with a database. The United States Supreme Court limited the scope of copyright with regard to databases in *Feist Publications, Inc. v. Rural Telephone Service Co.*,¹¹ so Mary's links enjoy very thin copyright protection. Mary may copyright the selection and arrangement of her links, but not the links themselves.

I.Surf's Up! A Technology Primer

Few Americans over the age of five could have survived 1996 without hearing at least one reference to the Internet or the Information Highway.¹² Some researchers estimate that in the United States alone, as many as fifteen million adults already have access to the Internet,¹³ and the number of users is expected to grow exponentially in the next year alone.¹⁴

The fundamentals of the Internet and the World Wide Web are fairly straightforward. The Internet is both the hardware which connects thousands of computer networks worldwide,¹⁵ and the protocols which allow these networks to communicate with each other.¹⁶ The Internet includes e-mail, discussion groups, chat groups, and information resources.¹⁷

Each individual network that is connected to the Internet usually consists of a host computer (the server) and a number of remote computers or terminals (the clients).¹⁸ For example, most universities have computer networks whereby hundreds of personal computers (clients) are connected to a large mainframe computer (the server) via fiber optic cable. Users often can connect to the server from a remote location using a modem and a telephone line.¹⁹

The Internet is the interconnection of thousands of these servers, each with its own Internet Protocol (IP) address.²⁰ Every document has its own "address" on the server, similar to the way files are stored in a personal computer.²¹ A user can access a document by specifying its address, which is known as its Uniform Resource Locator (URL).²² A primary purpose of servers is to transmit documents to whomever requests them.

There are a variety of protocols, such as ftp, telnet, and gopher, that allow a client to search for, and request documents from a server.²³ The World Wide Web is a newer set of protocols that utilizes HyperText Transmission Protocol (HTTP) for communication between the server and the client.²⁴ Client programs, such as Netscape's Navigator and Microsoft's Explorer, request information from servers. These programs are known as Web browsers.

One advantage of HTTP is that it can "read" older protocols such as ftp and gopher. Another advantage is that HTTP lets the author use graphics, video, and audio in her documents. A third advantage (the topic of this paper) is that the programming language of HTTP allows documents to be linked together-even if they are stored on different servers.²⁵ This language, known as HyperText Markup Language (HTML), is how Web sites (home pages) are typically created.²⁶

Documents which include HTML codes are known as Web documents. An author who creates a Web document can create links by inserting a special code into the text or graphics. The code contains the URL of whatever document the author wishes to link to her own document. When a user "clicks on" (selects) the text or graphic, the browser requests whatever document is specified by the URL.²⁷ The server where the document is located then transmits the information to the Web browser.

There are three different types of links: intra-page, intra-system, and inter-system.²⁸ Intra-page links connect different parts of the same document. For example, a long document may have a link at the end which takes the

user back to the beginning. Intra-system links connect different documents on the same server. An intra-system link on a university's server might connect the home pages of two different departments. An inter-system link connects documents on different servers. Thus, a document concerning intellectual property law on a university's server might be connected to the home page of the United States Patent Office. Millions of documents can be linked together through the World Wide Web. In addition, links can be created in two distinct ways. The most common form of link is a HREF link. A HREF link is activated when it is selected, usually by clicking on it with the computer mouse. A second way to create a link is with an IMG command. An IMG link is automatically activated when the Web page is first loaded. Typically, this is used by the author to "call up" a graphic image stored in a separate file. When the user looks at the Web page, the graphic is automatically loaded into the page.

Home pages do not have a standard form.²⁹ They range from a single screen containing only text and no links, to elaborate multiscreen documents with audio, video, and hundreds of links. Many individuals have home pages where they include biographical data and links to some of their favorite Web sites. For example, an individual may include her name, e-mail address, and a photograph of herself on her home page. If her hobbies included kayaking, she might include a link to a home page created by a regional kayaking club.

Businesses, universities, and other organizations often have home pages that include extensive links to other documents maintained by the organization and related organizations. Thus, the local kayaking club's home page might be linked to its membership list, a calendar of upcoming events, a description of the club's history, and photos from a recent kayaking trip. It might also be linked to the home pages of other kayaking clubs around the world.

The World Wide Web is only a few years old,³⁰ yet its growth has been phenomenal. One survey estimates that the Web grew from one million users in 1994 to eight million users in 1995.³¹ The recent CommerceNET/Nielsen survey estimates that, as of January 1997, more than 37 million users could access the World Wide Web in the United States and Canada alone.³² As of February 1997, there were more than fifty million home pages on the Web.³³

Most universities allow their faculty, staff, and students to create Web sites on the university's server for free. Many businesses have also established their own Web sites, either by purchasing their own server, or by leasing space on an existing server. Anyone who wants to create his or her own home page can rent space on servers from one of countless Internet service providers.³⁴

Before exploring the copyright issues involved in creating links, a few important technical aspects of links need to be noted. First, Document *A* can be linked to Document *B* without the author of *B*'s knowledge or consent. However, *A* cannot link to a specific word or picture in *B* unless that word has its own URL address.³⁵ Thus, links generally go to the beginning of a document or to a link within the document that has its own URL address.

Second, the link is a one way street-sort of. Someone browsing through *A* can follow *A*'s link to *B*. That user can backtrack from *B* to *A* because her Web browser "remembers" the path that was taken. However, a user who starts at *B* has no way to connect to *A*, and furthermore, doesn't even know a link exists from *A* to *B*. So if the author of document *A* wants to link to a specific section of *B* or have there be a two-way link, she must contact the author of document *B* to arrange the link.

The third important technical note is that for a user to "view" a document, a "copy" of that document must be loaded into the random access memory (RAM) of the user's computer. Otherwise, no image will appear on the user's monitor.³⁶ Whether this temporary copy in RAM should be considered a reproduction under the Copyright Act is currently the subject of the heated debate.

Finally, the author of document *B* can use a variety of security measures to prevent anyone from viewing (or linking to) her document. These measures include encryption of the document, or various levels of passwords to

prevent unauthorized access. In this way, the author of *B* can charge users each time they access the document.³⁷

Two recent developments in Web page design have further complicated the legal analysis. The first is a practice sometimes known as "mirroring."³⁸ The author of *A* can create an IMG link to a part of *B*, such that when a user first looks at *A*, that portion of *B* is displayed on *A*'s page. For example, *A* might contain a link to a particular graphic image on *B*. When a user looks at *A*, the graphic image will be displayed on *A*'s page, even though the image technically is stored on *B*.

The second development is a design technique known as "frames." A frame allows the author of *A* to create a "window" within her page so that when a user follows a link to *B*, *B* appears within the window. In this way, the border of *A* "frames" *B*, and the user always sees the outer portion of *A*'s page. Typically, *A* will create a wide border on the left side of the page with links to other portions of *A*'s Web site. The user could follow a link to *B* and beyond, and still return to any portion of *A*'s page instantly, without having to retrace all the links that she has followed. Though frames can be programmed to display *B* in various ways, typically, *B* is not altered to fit the "window." Therefore, portions of *B* are obscured by the frame. The user must use scroll bars to view those portions of *B*.

II. Does Linking Infringe on Copyright?

Copyright as a legal concept was partially a result of the development of the printing press in the fifteenth century, and it has been adapting to new communication technologies ever since.³⁹ The rapid expansion of the Internet has led to many proposals for modifying the current law,⁴⁰ including a recent proposal by the Clinton administration's Information Infrastructure Task Force.⁴¹ The Task Force's proposal would codify recent controversial court decisions regarding the Internet and computers that are discussed below.⁴² Some scholars feel these modifications to copyright law will favor the copyright industries at the expense of the general public.⁴³ They argue that the current law is adequate to protect the copyright owner's interests.

The 1976 Act grants the owner of a copyrighted work certain exclusive rights, which are themselves subject to limitations contained elsewhere in the statute. The most important limitation is that copyright protects only original expression, not facts or ideas.⁴⁴ The copyright owner has the exclusive right to (1) reproduce the work, (2) prepare derivative works, (3) distribute copies of the work, (4) perform the work publicly (excepting pictorial, sculptural, or graphic works, sound recordings, and architectural works), and (5) display the work publicly (excepting sound recordings and architectural works).⁴⁵ Because these rights may overlap, someone may infringe on more than one right at the same time.⁴⁶

To successfully sue for copyright infringement, the plaintiff must prove: "(1) ownership of a valid copyright, and (2) copying of constituent elements of the work that are original."⁴⁷ For the purposes of this article, we will assume that Document *B* consists of copyrightable subject matter and that its author holds a valid copyright in the work.

The author of *A* may be liable for infringement in one of three ways: (1) direct infringement, (2) vicarious infringement, or (3) contributory infringement. Direct infringement occurs if the link itself violates one of *B*'s five exclusive rights. Vicarious or contributory infringement may result if, by selecting the link, the *user* (of *A*'s document) violates any of *B*'s exclusive rights.

Vicarious infringement occurs when the third party (the author of *A*) has the ability to supervise or control the direct infringer (the user), and the third party benefits from the infringement.⁴⁸ Contributory infringement occurs when the third party knows the infringement is taking place and "induces, causes, or materially contributes to the infringing conduct . . ."⁴⁹ One court summed up the distinction between the two by saying, "[J]ust as benefit and control are the signposts of vicarious liability, so are knowledge and participation the

touchstones of contributory infringement."

While the author of *A* may benefit from a user selecting her link to *B*, she cannot supervise or control the user. Therefore, a link from *A* to *B* does not involve vicarious infringement. However, by providing a link, the author of *A* is inducing the user to view *B*. If viewing *B* violates any of the copyright owner's exclusive rights, the author of *A* may be liable for contributory infringement.⁵¹ But there can be no contributory infringement without direct infringement.⁵²

Contributory infringement is an important concern for the development of the Internet. Internet service providers, who run the servers that make up the Internet, are justly concerned about contributory liability. Courts have found bulletin board operators to be liable for infringing actions committed by their users.⁵³ This section will analyze the author's exclusive rights in terms of both direct and contributory infringement.

A. The Reproduction Right

1. Direct Infringement

The first enumerated right is the right to reproduce the work.⁵⁴ The reproduction right is violated when a copy is made of the original work. According to the 1976 Act, a copy is a material object "in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."⁵⁵ The link from *A* to *B* only contains the URL address of *B*. In creating the link, the author of *A* has not reproduced any part of *B* except for *B*'s URL. A URL is a "fact," and as such, it is not protected by copyright.⁵⁶ One could argue that since the URL for *B* includes whatever name *B*'s author gives to the document, it contains protected expression.⁵⁷ However, short phrases such as titles and names are generally not copyrightable.⁵⁸ Thus, *A* has not directly infringed *B*'s reproduction right.

2. Contributory Infringement

When a user selects a link from *A* to *B*, the information contained in *B* is downloaded into the random-access memory (RAM) of the user's computer.⁵⁹ When the computer is turned off, all the information in RAM is lost. Keep in mind that a copy must be fixed in a tangible medium.⁶⁰ A series of controversial cases have suggested that loading a computer program into RAM for viewing creates a fixed copy and therefore may constitute copyright infringement.

The most important of these cases is *MAI Systems, Corp. v. Peak Computer, Inc.*,⁶¹ in which the defendant was a service company that repaired computers that were manufactured by MAI. When the service technicians turned on the MAI computer, the operating software was automatically loaded from the computer's hard drive to the same computer's RAM. The Court of Appeals for the Ninth Circuit held that loading the software into RAM created a copy. The court cited the report of the National Commission on New Technological Uses of Copyrighted Works (CONTU), which stated that, "the placement of a work into a computer is the preparation of a copy . . ."⁶² As the *MAI* court duly noted, neither the prior cases which it cited for support, nor the CONTU report itself, distinguished between placement in RAM or read-only memory (ROM).⁶³

The context of the CONTU statement was ensuring that the rightful possessor of a copyrighted computer program would be able to use the program on her computer.⁶⁴ In this sense, the Report seemed to be contemplating the right of the user to load a copy of the program into the computer *from a floppy diskette*. There is no indication that the authors of the report believed that once a program was in the computer, its transfer from ROM to RAM would also be considered a copy.

The *MAI* court stated that, "[S]ince we find that the copy created in RAM can be `perceived, reproduced, or otherwise communicated,' we hold that the loading of software into the RAM creates a copy under the

Copyright Act."⁶⁵ The court argued that since the computer may be left on indefinitely, the copy in RAM is "fixed in a tangible medium" as required by the 1976 Act.⁶⁶ This interpretation of the 1976 Act has been endorsed by *MAI*'s progeny,⁶⁷ and the Information Infrastructure Task Force.⁶⁸ By this reasoning, a slide projector which projects an image on a screen is making a copy. After all, the image on the screen can be "perceived, reproduced or otherwise communicated" for as long as the slide projector is left on.⁶⁹ Loading a document into RAM for the purpose of displaying on a monitor is directly analogous to projecting a slide onto a screen.

The *MAI* decision, and its endorsement by the Information Infrastructure Task Force have been roundly criticized by leading copyright scholars.⁷⁰ The *MAI* decision appears to be at odds with the legislative history of the 1976 Act. The House Report accompanying the Act states, "[T]he definition of fixation would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen, shown electronically on a television or other cathode ray tube, or *captured momentarily in the 'memory' of a computer*."⁷¹ The report went on to distinguish between a reproduction and a display:

"Reproduction" under clause (1) of section 106 is to be distinguished from "display" under clause (5). For a work to be "reproduced," its fixation in a tangible form must be "sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration." Thus, *the showing of images on a screen or tube would not be a violation of clause (1)* [the reproduction right], although it might come within the scope of clause (5) [the public display right].⁷²

Thus, the legislative history suggests that Congress did not intend for a document temporarily stored in RAM to be considered a reproduction. If viewing *B* does not create a copy, then there is no direct infringement by the user.

Even if their interpretation of the law is wrong, one must accept that the courts have held that a document in RAM is a copy.⁷³ Does this mean the viewer has infringed *B*'s reproduction right? To answer this question one must determine who made the copy that resides in the user's RAM. The author of *B* placed the document on a server. When a user who is viewing *A* clicks on (selects) the link to *B*, the user's Web browser requests the document from *B*'s server. It is *B*'s server that actually generates the "copy" which is sent to the user.⁷⁴ Thus it is *B*, not *A*, that authorizes the reproduction.

A leading Supreme Court case involving contributory infringement offers insight as well. In *Sony Corporation of America v. Universal City Studios, Inc.*,⁷⁵ the issue was whether Betamax videotape recorders (VTRs) sold to consumers by Sony were being illegally used to record broadcast television programs. Universal argued that Sony was knowingly supplying the means by which consumers were committing copyright infringement, and therefore Sony should be liable for contributory infringement. Universal relied heavily on *Kalem Co. v. Harper Bros.*,⁷⁶ in which the producer of an unauthorized film dramatization of a copyrighted book was held liable for selling the film to distributors, thereby contributing to the infringement of the author's public performance right.

In rejecting Universal's argument, the *Sony* Court distinguished *Kalem*, stating, "The producer in *Kalem* did not merely provide the 'means' to accomplish an infringing activity; the producer supplied the work itself, albeit in a new medium of expression. *Sony* in the instant case does not supply Betamax consumers with respondents' works; respondents do."⁷⁷ As in *Sony*, it is *B*'s author who is supplying the user with the work. *A* is simply providing the user with an alternative method for viewing *B* (just as time-shifting in *Sony* provided the viewer with an alternative method for viewing Universal's programs).

In *Sony*, the case turned on whether or not there were "substantial, non-infringing uses" for a Betamax videocassette recorder. Clearly, there are substantial, noninfringing uses of linking technology in general. The more important question is whether a link from *A* to *B* is capable of substantial, noninfringing uses. This brings us back to the question of whether reading *B* (which entails loading *B* into RAM) is a noninfringing use of the

link.

Recently, the *MAI* decision was applied to Internet documents for the first time in *Religious Technology Center v. Netcom On-Line Communication Services, Inc.*⁷⁸ In *Netcom*, an Internet user posted Religious Technology Center (RTC) documents on a USENET discussion group. Netcom operated one of the servers which stored and distributed the discussion group. In a footnote, the court said that under *MAI*, "Browsing technically causes an infringing copy of the digital information to be made in the screen memory"⁷⁹ However, later in the same footnote, the court said that, "[Browsing] is the functional equivalent of reading, which does not implicate the copyright laws and may be done by anyone in a library without the permission of the copyright owner. [Even if one rejects the reading analogy], [a]bsent a commercial or profit-depriving use, digital browsing is probably a fair use."⁸⁰ Since viewing a document does not infringe the reproduction right, providing a link does not constitute contributory infringement.

B. The Adaptation Right

1. Direct Infringement

The copyright owner's second exclusive right is the right to prepare derivative works, the adaptation right.⁸¹ According to the 1976 Act, a derivative work is "a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which [the preexisting] work may be recast, transformed, or adapted."⁸² The purpose of the adaptation right is to allow the copyright owner to control more than simply verbatim forms of copying.⁸³

Generally, to violate the derivative right, the infringing work must copy part of the underlying work.⁸⁴ As discussed in the previous section regarding the reproduction right, a link from A to B does not incorporate or copy any portion of B. Thus, a link does not create a derivative work.

2. Contributory Infringement

One commentator has suggested that linking documents may create a derivative work by creating a "literary >add-on."⁸⁵ An add-on modifies an existing work and is used in conjunction with that work. If A contains links to specific sections of B, one could argue that A modifies the way a user views B. In effect, A is creating an abridged version of B. With printed texts, A would need to copy the desired sections of B to be an abridgment and hence a derivative work. But with links on the World Wide Web, A can create an abridged version of B without copying. Thus, the notion is that A is an add-on (i.e., a supplementary work). The "add-on" concept has appeared in recent court cases involving computer programs.

In *Midway Manufacturing Co. v. Artic International, Inc.*,⁸⁶ the Court of Appeals for the Seventh Circuit ruled that a computer chip manufactured by Artic to speed up a Galaxian video game manufactured by Midway infringed on Midway's copyright. The court ruled that the speeded up version of the video game constituted a derivative work. Artic argued that speeding up the video game was like speeding up a phonograph record and so should not be considered a derivative work. The court rejected this argument based on the fact that there is a market for speeded up video games while there is no market for speeded up phonograph records.⁸⁷

Almost a decade later, a similar case was heard in the Ninth Circuit. In *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*,⁸⁸ Galoob manufactured a device, a "Game Genie", to be inserted between a Nintendo home video game cartridge and the Nintendo home video game control unit. The device could be programmed to change certain characteristics of Nintendo video games. The court ruled this was not a derivative work and distinguished it from *Midway* by pointing out that the earlier case involved substantial copying of a ROM chip while Galoob's device involved no direct copying. The court also noted that the device manufactured by Artic was used in the commercial setting of a video arcade, while Galoob's device was used in a noncommercial home

setting.⁸⁹

The *Galoob* court stated in dicta that derivative works should not encompass works whose sole purpose is to enhance the underlying work. Neither a spellchecking program used in conjunction with a word processor, nor a kaleidoscope that allows one to view a work in a new way should be considered a derivative work. The court said, "The Game Genie is useless by itself, it can only enhance, and cannot duplicate or recast, a Nintendo game's output . . . Such innovations rarely will constitute infringing derivative works under the Copyright Act."⁹⁰ The *Galoob* court went on to state that even if the Game Genie were a derivative work, its use should be considered a fair use.⁹¹

The *Galoob* court ruled that a computer add-on that does not incorporate any part of the underlying work is not a derivative work. Under the same reasoning, a "literary add-on," such as a series of links, should not be considered a derivative work either.⁹² The links from *A* to *B* cannot exist independently of *B*. Unlike a printed abridgment or adaptation of a work, the links do not duplicate the original work or act as a substitute for it.

C. The Distribution Right

1. Direct Infringement

The copyright owner has the exclusive right to "distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending."⁹³ The distribution right allows the copyright owner to sue a distributor of unauthorized copies even if that distributor did not make the copies himself. This has been an especially important right with regard to the Internet, since the person who distributes a document on the World Wide Web does not necessarily make a copy.

In *Netcom*, where a user placed an RTC document on the Netcom computer, the court rejected RTC's argument that Netcom should be liable for direct infringement of RTC's distribution right. The court reasoned that only the person who uploads the document to the server should be liable for direct infringement.⁹⁴ Similarly, in *Sega Enterprises, Ltd. v. MAPHIA*,⁹⁵ a bulletin board operator was found liable for contributory infringement rather than direct infringement for allowing users to upload and download copyrighted Sega video games. These cases suggest it is the person who places the document on the server who is liable for direct infringement of the distribution right.⁹⁶ Since *A* merely provides a link to the server where *B* is located, the author of *A* should not be liable for direct infringement.

A useful analogy is a telephone answering system. One can program a number into speed dial and then call the number to reach a business's answering machine and listen to their outgoing message.⁹⁷ *B*'s server is like an answering machine. When *B*'s author places *B* on the server, it is akin to placing an outgoing message on the answering machine. The URL that designates *B*'s location is the "phone number" used to reach the answering machine. When the author of *A* creates a link to *B*, she has essentially put *B*'s phone number (the URL) into a speed dial memory.⁹⁸ When the user selects the link, the user's Web browser "calls" *B*'s server. *B*'s answering machine (the server) then transmits the outgoing message (*B*) to the user's Web browser for the user to view. The crucial point is that *A* does not control the distribution of *B*. If *B*'s author no longer wants to distribute *B*, she can take the document off the server or restrict access with encryption or passwords. So even if a copy of *B* has been distributed, the distribution is being made by the author of *B*, not *A*.

2. Contributory Infringement

As long as the copyright owner of *B* has placed it on the server, its distribution is authorized and *A* cannot be held liable for contributory infringement. But suppose the author of *A* creates a link to a document that has been placed on a server without the copyright owner's authorization. If the author of *A* has knowledge of the direct infringement, she may be liable for contributory infringement, since her link encourages the further distribution of the document.

In *MAPHIA* and in *Playboy Enterprises, Inc. v. Frena*,⁹⁹ bulletin board operators were found liable for allowing users to upload and download copyrighted materials on their systems. In both cases, the defendants knew that the material was being uploaded without the copyright owners' permission. Contributory infringement requires knowledge of the infringing activity. In *Netcom*, the defendant argued that it cannot "know" of an infringement when it cannot determine whether a subscriber is making fair use of copyrighted material. The court agreed, noting:

Where a BBS operator cannot reasonably verify a claim of infringement, either because of a possible fair use defense, the lack of copyright notices on the copies, or the copyright holder's failure to provide the necessary documentation to show that there is a likely infringement, the operator's lack of knowledge will be found reasonable and there will be no liability for contributory infringement for allowing the continued distribution of the works on its system.¹⁰⁰

This same standard should apply to individuals who create links as well as online service providers.¹⁰¹ If a court followed the *Netcom* reasoning, the author of *A* would not be held liable unless the copyright owner had contacted her with proof that *B* contained infringing material.

Of course, documents on the Web are constantly being updated. The author of *A* might link to *B*, and later find that *B* has added unauthorized material. A court would have to decide if it is reasonable to hold the author of *A* liable in this situation.

D. The Public Performance and Public Display Rights

1. Direct Infringement

The copyright owner has the exclusive right to display or perform her work publicly. According to the 1976 Act:

To perform or display a work "publicly" means- (1) to perform or display it at a place open to the public . . .; or (2) to transmit or otherwise communicate a performance or display of the work . . . to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times.¹⁰²

A display or performance can occur without a copy of the work being made.¹⁰³ Like the distribution right, the performance and display rights are heavily implicated by the transmission of documents on the World Wide Web. On the Web, a work can be displayed or performed or both. For example, a Web site may include text and pictures which are displayed on a monitor, and moving images and audio which are performed. The differences between a display and a performance are inconsequential for the purposes of this discussion.¹⁰⁴

When viewing *A*, *B* is not being displayed or performed. Therefore, the author of *A* is not directly infringing under clause (1) of the definition. However, the author of *A* may be liable under clause (2), which includes the transmission of a work.

Courts have viewed public displays over the Internet much like a distribution. In *Frena*, the court held that the public display right was implicated as well as the distribution right.¹⁰⁵ The court stated that "[T]he display right precludes *unauthorized* transmission of the display from one place to another, for example, by a computer system."¹⁰⁶ When a user views *B*, a transmission is clearly taking place, but it is the author of *B* who has displayed (or performed) the document by placing it on the server.¹⁰⁷ Listening to the transmission of an answering machine's outgoing message over a telephone line would also be considered a public performance. If someone lets you use their phone and dials the answering machine for you, they have not violated the performance right. By the same token, *A* is not directly infringing on the display or performance rights.

2. Contributory Infringement

Under the current law, establishing links from *A* to *B* should not be considered copyright infringement. In fact, if the author of *A* wanted to charge users for using her links to *B*, she could. This would be true even if she did not share any of her profits with the author of *B*, and even if the user could access *B* directly for free. But can the author of *A* copyright her links to protect her profits?

E. A Word About New Web Page Design Features

To this point, we have been discussing standard HREF links between *A* and *B*. As mentioned at the beginning of this paper, in the last year some new design features such as "mirroring" and "frames" have become popular on many Web pages. To what extent do these new features change the legal analysis for copyright infringement?

"Mirroring," whereby portions of document *B* are automatically displayed on *A*'s page by using an IMG link, clearly violates *B*'s display and/or performance rights. Some participants on discussion list argued recently that since *A* does not actually contain a copy of the displayed portions, but rather simply follows its own link to *B*, that no infringement is involved.¹⁰⁸ While it is true that there is no infringement of the reproduction right, the "mirror image" clearly violate the public display right by displaying the image "at a place open to the public."¹⁰⁹

A more difficult analysis is required to determine if frames violate the copyright act. With frames, when a user follows a link from *A* to *B*, *B* appears inside a window "framed" by *A*. As with mirrors, the reproduction right is not implicated since no part of *B* is reproduced by *A*. The question becomes whether or not a derivative work is created in violation of the adaptation right.¹¹⁰

In *Mirage Editions, Inc. v. Albuquerque A. R. T. Co.*,¹¹¹ the defendant was found to have violated the plaintiff's adaptation rights when he purchased the plaintiff's book of photographs, mounted the individual photos on tiles, and resold them. One could argue that frames have the same effect by "remounting" *B* in a frame created by *A*. As stated earlier, a derivative work is one in which the "[original] work may be recast, transformed or adapted."¹¹² Whether framing results in the creation of a derivative work depends on the court's definition of "recast." The legislative history of the 1976 Act does not offer any insight into what Congress intended by "recast." If one assumes that to recast means to alter in some fashion, then framing does not appear to qualify. When placed within a frame, *B* is not altered in any manner. Rather, a portion of *B* is simply hidden from view (depending on how the frame is configured). While more work is required of the user to view *B* in its entirety, the complete document remains intact. Thus, frames should not be considered an infringement of *B*'s derivative rights.

As with contributory infringement of the distribution right, *A* may be liable if it is linked to an unauthorized display or performance.¹¹³ But as long as *B* does not infringe on someone's display or performance right, viewing *B* (and therefore, linking to *B*) does not constitute infringement.

III. Compiling Links for Fun and Profit

A. Creating Copyrightable Links

An author who creates links from *A* to *B* or other Web sites may wish to be compensated for her effort in searching for appropriate documents and establishing the links.¹¹⁴ For example, there are millions of Web sites on the Internet and a particular user interested in movies may find only a few of these sites to be of interest. Searching through all the sites, or even using a search program,¹¹⁵ can be tedious. If there is enough demand, the author of *A* may want to establish links to all the Web sites relevant to movies and then charge users who want to use *A* as a starting point. Can the author of *A* prevent someone else for setting up a competing Web site with its own links to the same movie Web sites?

Because links are facts, they are not copyrightable.¹¹⁶ However, a compilation of facts (i.e., a database) can be

copyrighted.¹¹⁷ "A `compilation' is 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."¹¹⁸

The copyright in a compilation extends only to the material contributed by the author, and does not extend to any preexisting material.¹¹⁹ For example, an anthology of poems is a compilation. The author of the anthology can copyright the arrangement and selection of the poems as well as any original expression that the author adds. But the author cannot copyright the poems themselves. A database is a compilation consisting of noncopyrightable facts. If *A* has links to *B*, *C*, *D*, et cetera, then *A* has compiled a database consisting of the URLs for the documents to which it is linked.

The leading copyright case involving compilations of facts is *Feist Publications, Inc. v. Rural Telephone Service Co.*¹²⁰ In *Feist*, a local telephone company which published its own telephone directory sued a publisher for copying some of its listings. The Supreme Court ruled that factual compilations must entail some originality as to the selection or arrangement of the facts they contain.¹²¹ Indeed, the Court repeated this test throughout its opinion: A[I]f the selection and arrangement are original, these elements of the work are eligible for copyright protection¹²² . . . " factual compilation is eligible for copyright if it features an original selection or arrangement of facts. . . ."¹²³ The *Feist* Court rejected lower court cases which had held that factual compilations deserved protection because of the effort that went into collecting and compiling the data.¹²⁴

Any expression which the author adds to the facts is, of course, copyrightable: "Thus, if the compilation author clothes facts with an original collocation of words, he or she may be able to claim a copyright in this written expression. Others may copy the underlying facts from the publication, but not the precise words used to present them."¹²⁵ So if *A* includes original descriptions of the links, those descriptions are copyrightable. However, that protection would not extend to the links themselves.

The difficult question is what is the requisite level of originality required in the selection and arrangement of the facts. *Feist* states that:

The compilation author typically chooses which facts to include, in what order to place them, and how to arrange the collected data so that they may be used effectively by readers. These choices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimum degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws. Thus, even a directory that contains absolutely no protectable written expression, only facts, meets the constitutional minimum for copyright protection *if it features an original selection or arrangement . . .*¹²⁶ [O]riginality is not a stringent standard; it does not require that facts be presented in an innovative or surprising way. It is equally true, however, that the selection and arrangement of facts cannot be so mechanical or routine as to require no creativity whatsoever. The standard of originality is low, but it does exist.¹²⁷

Feist held that a typical telephone directory white pages, with its selection of basic subscriber information arranged alphabetically, does *not* possess enough creativity to qualify for copyright protection.¹²⁸ The *Feist* ruling has been extended by lower courts to business directories as well.¹²⁹

However, in *Key Publications, Inc. v. Chinatown Today Publishing Enterprises, Inc.*,¹³⁰ the Second Circuit Court of Appeals found that a telephone directory for businesses located in Chinatown, New York was copyrightable. The court defined selection as, "the exercise of judgment in choosing which facts from a given body of data to include in a compilation."¹³¹ Because the publisher chose which businesses to include in its listings and created the categories the businesses would be listed under, the court found that the directory was copyrightable. The *Key* case is important for our discussion because, like most Web pages, it was not a comprehensive listing of all the phone numbers that could have been included in a database.

A should be copyrightable as a compilation unless it contains a link to every Web site relevant to a topic and lists them in alphabetical order. Any expression A contains (including descriptions of the Web site each link is connected to) is also protected by copyright. The more difficult question is whether someone else can set up a similar series of links.

B. How Thin Is Thin?

As the *Feist* Court noted, "[C]opyright in a factual compilation is thin. Notwithstanding a valid copyright, a subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement."¹³² Thus, another author is free to use some of the same links as A.

In *Key*, the Court of Appeals found that a competing telephone directory did not infringe on Key's copyright—even though they shared many of the same listings—because the competing directory grouped its listings into different categories and not all of the listings were identical.¹³³ In explaining its ruling, the court wrote:

There are a finite number of businesses that are of special interest to a sizable segment of the New York Chinese-American community, and some substantial overlap among classified business directories compiled for that community is inevitable. The key issue is not whether there is overlap or copying but whether the organizing principle guiding the selection of businesses for the two publications is in fact substantially similar .

...¹³⁴

Under the *Key* analysis, two documents could both be linked to many of the same Web sites as long as the two documents do not share the same selection and arrangement.

While the court acknowledged that within a particular category some listings will overlap, the listings cannot be identical: "If the Galore Directory had exactly duplicated a substantial designated portion of the 1989-90 Key Directory—for example, all its listings of professionals such as medical doctors, lawyers, accountants, engineers and architects, an infringement action would succeed."¹³⁵

The *Key* court cautions, however, that simply adding or subtracting a single fact (or link) will not prevent a finding of infringement.¹³⁶ Similarly, if A contains links arranged as the "Top 100 Web sites," B cannot avoid infringement by simply using A's selection to create the "Top 50 Web sites." This is exemplified by the *Key* court's reflection on its earlier decision in *Eckes v. Card Prices Update*:¹³⁷

In that case, we held that a guide to baseball cards infringed a previously published guide, even though the copyrighted guide listed over 18,000 cards and the infringing guide listed only 5000 cards. Essential to our finding of infringement was the fact that the 5000 listings duplicated in the infringing guide were the same 5000 designated as "premium" cards by the copyrighted guide. . . . The copyrighted guide selected within the 18,000 a designated group of 5000 that it described as A premium A cards. The infringing guide then copied that portion wholesale based upon the same principle of selection.¹³⁸

Finally, two documents may be able to share the same links because sometimes there are so few ways of expressing an idea that the idea and its expression merge. To grant copyright to the expression would eliminate the idea/expression distinction which is the foundation of copyright law.¹³⁹

In *Skinder-Strauss Associates v. Massachusetts Continuing Legal Education, Inc.*,¹⁴⁰ two publishers printed competing legal directories for the state of Massachusetts. The district court used the merger doctrine in its analysis, stating: "[T]he merger doctrine applies here because there are so few ways of compiling listings of attorneys. This is because, by definition, any directory of lawyers for a given locale will include virtually the same information."¹⁴¹ The *Skinder-Strauss* court held that the alphabetical listing of Massachusetts attorneys was not copyrightable, but that other elements of the individual directories and their overall structure were

copyrightable.¹⁴² This suggests that, depending on the subject matter, two documents can share identical links but that the second document may infringe the copyright of the first if it copies other elements as well. For example, if *A* and *B* both attempted to create links to all the Web sites that contained information about movies, they might share many of the same links. But *A* might be arranged by movie genres while *B* is arranged by director. A closer case would be if *A* and *B* both created links to all the Academy Award-winning movies. In that case, the merger doctrine might apply.

Conclusion

Anyone who has used the World Wide Web knows that links between documents are ubiquitous. Fortunately, copyright law suits involving links are not yet. To understand the legal implications of links, one must appreciate both the technical processes involved and the current interpretation of copyright law.

Links are like telephone numbers; when a user selects a link, she is calling a computer as if it were an answering machine. When the author of Document *B* puts *B* on a server, it is like placing an outgoing message on an answering machine. Anyone who calls can listen to the message. And just as it is the owner's answering machine that transmits the message to the caller, it is *B*'s server that transmits the document to the user.

If Document *A* contains links to Document *B*, none of *B*'s exclusive rights are being infringed, since *A* simply contains *B*'s "phone number." Even if one accepts the court cases that have held that a document in RAM creates a copy, no rights are being violated. This is because the author of *B* has authorized the distribution and/or display/performance of *B* by placing *B* on a server.

The author of *A* can charge the user for access to *A*'s links to *B* even if access to *B* is free. The trade-off is that *A* only enjoys a thin copyright in her selection and arrangement of links. Furthermore, the links themselves are not copyrightable.

All of this is to the public's benefit. That anyone can create or follow a link gives the public the widest possible access to information. The thin copyright offered to *A* encourages the development of useful links since the author of *A* can be compensated for her effort. At the same time, the limited nature of the copyright prevents *A* from creating a monopoly in links and charging exorbitant prices.

So what about the hypothetical situation presented at the beginning of this article? Mary will not have to pay the author of the document she has linked to, but he can reconfigure his document so as to require a password. He would then be able to charge Mary every time someone selects that link. And unless Mary's competitor is using her selection and arrangement to organize his own links, she will not be able to prevent him from competing with her. Which means Mary will have to lower her prices or offer a superior service. Either way, her customers win.

The legal analysis used in this article includes the assumption that *B* does not contain any infringing material of its own. If *B* does not contain any infringing material, then linking to *B* does not constitute infringement. However, many Web pages, both personal and professional, do contain infringing material. A great deal of uncertainty remains as to whether linking to these pages constitutes contributory infringement.¹⁴³

I argue elsewhere that the framework for contributory infringement laid out in *Netcom*, if applied in the light most favorable to online service providers, would serve national policy goals best.¹⁴⁴ The same framework should also be applied to authors who create links to infringing documents. The author of *A* should not be liable for the infringing actions of *B* unless: (1) the author of *A* has knowledge of the infringing action, and (2) there is absolutely no reasonable fair use defense.

As Congress debates altering the current copyright law, it would do well to note that the phenomenal growth of the Internet is due in large part to the *free* flow of information through the World Wide Web. Authors who place their documents on the Web know full well that others may link to the document and download it for viewing. That is its whole purpose. The information industries now see the Web as a potential marketplace to be

exploited. Changing copyright law to suit these *private* industries would significantly alter the development of the Internet as a *public* forum dedicated to the free exchange of ideas.

* M.A., University of Florida, 1995; B.A., University of Florida, 1992; Ph.D. candidate, Department of Telecommunications, Indiana University. The author thanks Professor Marshall Leaffer, University of Toledo College of Law, and Professor Fred H. Cate, Indiana University School of Law-Bloomington, for their helpful comments. An earlier version of this Comment was presented at the Annual Conference of the Association for Education in Journalism and Mass Communication (August 1996, Anaheim, CA).

1. See, e.g., Maxine Lans Retsky, *The Internet: Answers or More Questions?*, Marketing News, Dec. 4, 1995, at 7;

Pamela Samuelson, *Intellectual Property Rights and the Global Information Economy*, Comm. of the ACM, Jan. 1996, at 23; Pamela Samuelson, *Fair Use For Computer Programs and Other Copyrightable Works in Digital Form: The Implications of Sony, Galoob and Sega*, 1 J. Intell. Prop. L. 49 (1993) [hereinafter *Fair Use For Computer Programs*]; Jenevra Georgini, *Through Seamless Webs and Forking Paths: Safeguarding Authors' Rights in Hypertext*, 60 Brook. L. Rev. 1175 (1994); Lance Rose, *World Wide Web Can Ensnare Unwary Users; Potential Copyright Problems Abound*, N.Y.L.J., Feb. 27, 1995, at S3.

2. U.S. Const. art. I, § 8, cl. 8.

3. "The primary objective of copyright is not to reward the labor of authors, but `to promote the Progress of Science and useful Arts'." *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340, 349 (1991); "The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived from the public from the labors of authors." *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932).

4. 17 U.S.C. §§ 102, 302, 303 (1994).

5. "[U]nless the framework for legitimate commerce is preserved and adequate protection for copyrighted works is ensured, the [Internet] will not reach its full potential as a true, global marketplace." *Information Infrastructure Task Force, Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* 16 (1995) [hereinafter White Paper].

6. Pamela Samuelson, *The Copyright Grab*, Wired 4.01, <<http://www.hotwired.com/wired/whitepaper.html>>; John Perry Barlow, *The Economy of Ideas*, Wired 2.03, reprint at <<http://www.swiss.ai.mit.edu/6095/barlow-economy-of-ideas.html>>.

7. As this article was going to press, some of the nation's major media corporations, including the Washington Post Co., Time Warner/CNN, and Dow Jones Co. filed suit against TotalNEWS Inc., a Phoenix-based Web site that includes links to major news sites on the World Wide Web. The suit, which was filed in district court in New York, alleges that TotalNEWS is committing copyright infringement and trademark dilution, among other charges. Todd Woody, *Media Heavyweights Cry Foul Over Frame-Up*, The Recorder, Mar. 13, 1997, at 4. The TotalNEWS site uses frames to sell advertising around its links. The copyright implications of frames are briefly discussed in this article. Last year in Scotland, the Shetland Times sued the Shetland News for creating links to its Web site. A Scottish court granted the Shetland Times a temporary injunction against the News. Tim Jackson, *Outlaw Links*, Fin. Times (London), Jan. 27, 1997, at 15. The Shetland case is not directly applicable to this discussion because it turns on the specifics of English law. However, it does point out that the concern over links is becoming an increasingly important issue worldwide.

8. Joanne Wojcik, *Internet Publishing Raises Legal Questions; Copyright Violations Are Possible*, Bus. Ins., Feb. 26, 1996, at 21 (quoting William Lard, general counsel for SunSoft Inc.). This question has recently led to a heated debate among legal scholars on Internet e-mail discussion groups. See CNI Copyright Archives, <<gopher://gopher.cni.org:70/11/cniftp/forums/cni-copyright>> (archiving listserv's archives).

9. See George Landow, *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (1992); Theodor Nelson, *Computer Lib/Dream Machines* (rev. ed. 1987).

10. Previous commentators have tended to rely on a fair use argument to justify links. See, e.g., Samuelson, *Fair Use For Computer Programs*, *supra* note 1; Georgini, *supra* note 1. Fair use is an affirmative defense that places the burden of proof on the defendant. Because it is based on an equitable rule of reason and is case-specific, the outcome is often uncertain. While fair use presents many valid arguments applicable to this topic, they are beyond the scope of this paper. This author argues that a fair use defense is not necessary to escape liability for copyright infringement.

11. *Feist*, 499 U.S. 340 (1991).

12. The hyperbole surrounding this new technology has quickly led most commentators to uncritically accept the *super* superlative. Thus, the de facto reference is now "Information Superhighway."

13. Daniel Akst, *Postcard From Cyberspace*, L.A. Times, Nov. 6, 1995, at D4.

14. The most recent scientific survey, conducted by CommerceNET/Nielsen Media Research in December 1996 and January 1997, estimates that more than 50 million U.S. and Canadian citizens 16 years or older have access to the Internet in 1997. Of these, 37 million use the World Wide Web. This is more than double the number of users estimated in the first CommerceNET/Nielsen survey conducted in Fall 1995. "Startling Increase" in Internet Shopping Reported in New CommerceNET/Nielsen Media Research Survey, Bus. Wire, Mar. 12, 1997, available in LEXIS, News Library, CURNWS File [hereinafter *Startling Increase*]. In 1996, 89 million people around the world were expected to use the Internet.

15. Brent Heslop & Larry Budnick, *HTML Publishing on the Internet For Windows 4* (1995).

16. Paul Gilster, *Finding It on the Internet 21* (1994).

17. There are a number of reference books that describe the various services available on the Internet. See, e.g., Harley Hahn & Rick Stout, *The Internet Complete Reference* (1994).

18. *Id.* at 13.

19. *Id.* at 35.

20. *Id.* at 47.

21. In fact, new technology permits personal computers to function as servers, eliminating the need for costly mainframe computers. Heslop & Budnick, *supra* note 15, at 332. One Web survey estimates that as of January 1997, there were more than 16 million host computers connected to the Internet. Network Wizards, *Internet Domain Survey*, <<http://www.nw.com/zone/www/report.html>> (visited March 2, 1997).

22. Heslop & Budnick, *supra* note 15, at 9. A typical URL may read: <http://www.indiana.edu/~libweb/index.html>. The URL consists of various segments: the protocol used to retrieve it, the server on which it is located, and the file extension where the document is stored in the server's memory. *Id.* at 12.

23. *Id.* at 9. For detailed information on the various protocols and software programs used to search the Internet, see Hahn & Stout, *supra* note 17.

24. Heslop & Budnick, *supra* note 15, at 6-7.

25. *Id.* at 97.

26. Another option is to use a portable document program that allows the user to download the file and the software required to view it. This way the user can view the file after disconnecting from the Internet. *Id.* at 15.

27. *Id.* at 9.

28. *Id.* at 97.

29. For a description of different types of home pages, see *id.* at 300-13.

30. The first Web browser was called Mosaic. It was made available to the public by the National Center for Supercomputing Applications (NCSA) in November 1992. *Id.* at 5.

31. Bob Metcalfe, *From the Ether: Do the Numbers Add Up to an Intoxicated Internet Facing a Hangover?*, InfoWorld, Mar. 11, 1996, at 55.

32. See *Startling Increase*, *supra* note 14.

33. *Top Web Search Engines*, PC/Computing, Mar. 1997, at 301. This is just the number of Web pages identified by search engines. One company claims there are actually more than 150 million total Web pages. *Clever Country Software: Copyright Archive Registers and Protects Web Pages*, M2 Presswire, Feb. 26, 1997, available in LEXIS News Library, CURNWS file.

34. Heslop & Budnick, *supra* note 15, at 315-24. The cost for renting space on a server can be as low as ten dollars per month. *Id.* at 16.

35. *Id.* at 109. Typically, URL addresses refer to the "top" of a Web page. However, "anchors" are a specific type of address often used to place images within a document and create links to subsections of a document. Document A can be linked to any anchor within B.

36. *Id.* at 7.

37. *Id.* at 10-11.

38. Mirroring is also used in the context of placing a copy of a popular Web page on a different server to reduce congestion at the original server. "Cacheing" occurs when this copy is created automatically by a server. Many servers are configured to automatically cache popular Web pages to reduce Internet congestion. This raises important copyright issues which are beyond the scope of this article.

39. Marshall Leaffer, *Understanding Copyright Law* § 1.2 (2d ed. 1995).

40. The last major revision of the copyright statute occurred in 1976 with the passage of the Copyright Act of 1976, 17 U.S.C. §§ 101-803 (1994) [hereinafter 1976 Act].

41. White Paper, *supra* note 5.

42. The White Paper's proposed changes to the 1976 Act were incorporated into a bill before the 104th Congress. S. 1284, 104th Cong. (1995); H.R. 2441, 104th Cong. (1995). That legislation died in committee and has not yet been taken up again by the 105th Congress.

43. See, e.g., Jessica Litman, *The Herbert Tenzer Memorial Conference: Copyright in the Twenty-First Century: The Exclusive Right to Read*, 13 Cardozo Arts & Ent. L.J. 29 (1994); Samuelson, *Intellectual Property Rights and the Global Information Economy*, *supra* note 1.

44. "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b).

45. 17 U.S.C. § 106.

46. Leaffer, *supra* note 39, § 8.2, at 222.

47. Feist Publications, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 361 (1991) (citing *Harper & Row, Publishers, Inc. v. Nation Enter.*, 471 U.S. 539, 548 (1985)). Infringement can occur without copying taking place in the literal sense, as when one unlawfully distributes or displays a work. *See Leaffer, supra* note 39, § 9.2, at n.3.

48. Shapiro, Bernstein & Co. v. H.L. Green Co., 316 F.2d 304, 307 (2d Cir. 1963) (company that leased space to record department was liable for sale of bootleg records because of beneficial relationship).

49. Gershwin Publishing Corp. v. Columbia Artists Management, Inc., 443 F.2d 1159, 1162 (2d Cir. 1971) (management firm that authorized performance of copyrighted works is liable for contributory infringement).

50. Demetriades v. Kaufmann, 690 F. Supp. 289, 293 (S.D.N.Y. 1988) (family that sold lot is not liable for copyright infringement when purchaser copied architectural plans to build house on the lot, even though family benefited from the sale and knew of the infringing activity. The court distinguished knowledge as part of the test for contributory infringement and benefit as part of the test for vicarious infringement. The court held that vicarious infringement requires benefit *and* control; contributory infringement requires knowledge *and* participation).

51. It is important to distinguish between viewing *B* and any other potentially infringing act in which the user may engage. By creating a link, the author of *A* is not inducing the user to print or store a copy of *B*, only to view it. Therefore, whether the user violates copyright law by printing a Web page is irrelevant for the discussion of *A*'s liability in creating the link.

52. Religious Technology Center v. Netcom On-line Comm. Servs., Inc., 907 F. Supp. 1361, 1371 (N.D. Cal. 1995).

53. *See infra* text accompanying notes 78-80, and discussion in parts II.C.1, II.C.2.

54. 17 U.S.C. § 106(1) (1994).

55. 17 U.S.C. § 101.

56. 17 U.S.C. § 102(b).

57. The document's author can create the name of the file extension and, if the author also owns the server, she can create its name as well. Both of these names are a part of the URL address. For a discussion on Internet addressing, see *Hahn & Stout, supra* note 17, at 47-58.

58. *Leaffer, supra* note 39, § 2.7(C) & n.50 (1995).

59. *Heslop & Budnick, supra* note 15, at 7.

60. 17 U.S.C. § 101. *See supra* text accompanying note 55.

61. *MAI*, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994).

62. CONTU, Final Report of the National Commission on New Technological Uses of Copyrighted Works 13 (1979) [hereinafter CONTU Report].

63. *MAI*, 991 F.2d at 519.

64. CONTU Report, *supra* note 62, at 13.

65. *MAI*, 991 F.2d at 519 (quoting 17 U.S.C. § 101).

66. *Id.*

67. See *Advanced Computer Servs. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 363 (E.D. Va. 1994); *Triad Sys. Corp. v. S.E. Express Co.*, 31 U.S.P.Q.2d (B.N.A.) 1239, 1243-44 (N.D. Cal. 1994) *aff'd in part, rev'd in part*, 64 F.3d 1330 (9th Cir. 1995), *cert. denied*, 116 S. Ct. 1015 (1996). Both these cases contained facts almost identical to *MAI*, and each held that a third party booting up operating system software into RAM constituted copyright infringement.

68. White Paper, *supra* note 5, at 28.

69. Even if one argued that the program in RAM represents an intermediate step between ROM and the monitor, the conclusion is the same: the slide is equivalent to the program in ROM; its projection on to the projector's lens is equivalent to the program in RAM (since it will disappear when the machine is turned off); and its projection onto the screen is equivalent to the program being displayed on the monitor.

70. See Litman, *supra* note 43, at 41; Samuelson, *Intellectual Property Rights and the Global Information Economy*, *supra* note 1, at 23.

71. H.R. Rep. No. 94-1476, at 53 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5666 (emphasis added).

72. *Id.* at 62, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5675 (emphasis added).

73. In December 1996, the issue of whether loading Web documents into RAM constituted a fixation was debated by the World Intellectual Property Organization (WIPO). In its most recent directive, WIPO dropped language which would have specified that RAM is a fixed medium. However, the United States managed to insert other language into the treaty which may have the same effect. The end result is that the muddled U.S. case law continues to provide the only guidance for whether RAM is a fixed medium. John B. Kennedy & Shoshana R. Dweck, *In Focus: Intellectual Property*, Nat'l L.J., Jan. 27, 1997, at C1.

74. Heslop & Budnick, *supra* note 15, at 7.

75. *Sony*, 464 U.S. 417 (1984).

76. *Kalem*, 222 U.S. 55 (1911).

77. *Sony*, 464 U.S. at 436 (emphasis added).

78. *Religious Technology*, 907 F. Supp 1361 (N.D. Cal. 1995).

79. *Id.* at 1378 n.25.

80. *Id.*

81. 17 U.S.C. § 106(2) (1994).

82. 17 U.S.C. § 101.

83. See Leaffer, *supra* note 39, § 8.5.

84. *Id.* In one extreme case, an answer manual was found to be an infringing derivative work of a textbook even though no part of the textbook was reproduced. *Addison-Wesley Publishing Co. v. Brown*, 223 F. Supp. 219 (E.D.N.Y. 1963). However, this decision was handed down before the passage of the 1976 Act. See *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, 964 F.2d 965, 967 (9th Cir. 1992) (stating that the legislative history of the 1976 Act "indicates that 'the infringing work must incorporate a portion of the underlying work in some form.'") (quoting H.R. Rep. No. 94-1476, at 62 (1976) *reprinted in* 1976 U.S.C.C.A.N. 5659, 5675). The House Report accompanying the 1976 Act states, "[T]o constitute a violation of section 106(2) [the right to prepare

derivative works], the infringing work must incorporate a portion of the copyrighted work in some form; for example, a detailed commentary on a work or a programmatic musical composition inspired by a novel would not normally constitute infringements under this clause." H.R. Rep. No. 94-1476, 62 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5675.

85. Georgini, *supra* note 1, at 1191-92.

86. *Midway*, 704 F.2d 1009 (7th Cir. 1983).

87. *Id.* at 1013.

88. *Galoob*, 964 F.2d 965 (9th Cir. 1992).

89. *Id.* at 969.

90. *Id.*

91. *Id.* at 972.

92. See Samuelson, *Fair Use For Computer Programs*, *supra* note 1, at 114.

93. 17 U.S.C. § 106(3) (1994). In 1995 a bill submitted to Congress would have modified the wording of Section 106(3) by adding "transmission" after "lending." This would essentially codify the court decisions discussed in this section. See *supra* note 42.

94. *Religious Technology Center v. Netcom On-Line Comm. Servs., Inc.*, 907 F. Supp. 1361, 1372 (N.D. Cal. 1995).

95. *Sega*, 857 F. Supp. 679, 686-87 (N.D. Cal. 1994).

96. But see *Playboy Enters., Inc. v. Frena*, 839 F. Supp. 1552 (M.D. Fla. 1993) (in which a bulletin board operator was found liable for direct infringement for allowing users to upload and download copyrighted photographs from Playboy magazine).

97. Many newspapers now offer a similar service whereby readers can call a local telephone extension to hear prerecorded information such as weather updates and sports scores.

98. The alternative to a link would be for the author of A to simply include B's URL in the text. The user could then manually type the URL into her Web browser to access B. Thus, the link which A creates simply speeds up this process by eliminating the need for the user to type B's URL on the command line.

99. *MAPHIA*, 839 F. Supp. 1552 (M.D. Fla. 1993); *Frena*, 839 F. Supp. 1552.

100. *Religious Tech. Center v. Netcom On-Line Comm. Servs., Inc.*, 907 F. Supp. 1361, 1372, 1374 (N.D. Cal. 1995).

101. For a discussion of what the proper liability standard for online service providers should be, see Matt Jackson, *Contributing to a Copyright Liability Standard for Online Service Providers*, Paper Presented at the 42nd Annual Conference of the Broadcast Education Association (Apr. 6, 1997) (on file with author); Wendy M. Melone, Note, *Contributory Liability for Access Providers: Solving the Conundrum Digitalization Has Placed on Copyright Laws*, 49 Fed. Comm. L.J. 491 (1997).

102. 17 U.S.C. § 101 (1994).

103. This is why commentators have argued that a document in RAM should implicate the display or performance right rather than the reproduction right. See *supra* text accompanying note 72.

104. The reader should be aware, however, that significant differences do exist. For a thorough discussion of the display and performance rights, see Leaffer, *supra* note 39, §§ 8.15-8.26.

105. *Frena*, 839 F. Supp. at 1556. *Accord Netcom*, 907 F. Supp. 1361 (N.D. Cal. 1995).

106. *Frena*, 839 F. Supp. at 1557 (emphasis added) (citing H.R. Rep. No. 94-1476, at 80 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5694).

107. See *supra* part II.C.1.

108. See CNI-Copyright Archives, <gopher://gopher.cni.org:70/11/cniftp/forums/cni- copyright>. These design features may also implicate the Lanham Act and other laws relating to trademark and unfair business practices, but this paper focuses solely on the issues related to copyright law.

109. 17 U.S.C. § 101 (1994).

110. See Woody, *supra* note 7, at 4.

111. *Mirage*, 856 F.2d. 1341 (9th Cir. 1988).

112. 17 U.S.C. § 101.

113. See *supra* part II.C.2.

114. One can hardly avoid the media discussion regarding business ventures on the World Wide Web. Where money flows, lawsuits are sure to follow.

115. These programs are known as "search engines." The most popular versions include Yahoo! and WebCrawler. The search engines are linked to thousands of Web sites. Currently, users can use most of these search engines for free, but one company is already charging users a monthly fee for access. James Coates, *Clearing A Path in Web's Clutter*, Chi. Trib., Apr. 28, 1996, Business, at 1.

116. See *supra* notes 44, 56-58 and accompanying text.

117. 17 U.S.C. § 103.

118. 17 U.S.C. § 101.

119. 17 U.S.C. § 103.

120. *Feist*, 499 U.S. 340 (1991).

121. *Id.* at 348-49.

122. *Id.* at 349.

123. *Id.* at 350.

124. This protection of the author's effort was known as the "sweat of the brow" doctrine. *Id.* at 353. In *Feist*, the Supreme Court went to great length in rejecting the "sweat of the brow" doctrine. *Id.* at 351-56.

125. *Id.* at 348.

126. *Id.* at 348 (emphasis added) (citations omitted).

127. *Id.* at 362.

128. *Id.* at 362-64.

129. *ProCD, Inc. v. Zeidenberg*, 908 F. Supp. 640 (W.D. Wis. 1996) (CD-ROM containing 95 million alphabetized telephone listings . . . is not copyrightable), *rev'd on other grounds*, 86 F.3d 1447 (1996); *BellSouth Adver. & Publ'g Corp. v. Donnelley Info. Publ'g, Inc.*, 999 F.2d 1436 (11th Cir. 1993) (alphabetized business directory for a given geographic area is not copyrightable); *cert. denied*, 114 S. Ct. 943 (1994).

130. *Key Publications*, 945 F.2d 509 (2d Cir. 1991).

131. *Id.* at 513.

132. *Feist*, 499 U.S. at 349 (emphasis added).

133. *Key Publications*, 945 F.2d at 516-17.

134. *Id.* at 516.

135. *Id.* at 517.

136. *Id.* at 514.

137. *Eckes*, 736 F.2d 859 (2d Cir. 1984).

138. *Key Publications*, 945 F.2d at 516-17 (emphasis added) (citations omitted).

139. Often referred to as the "merger doctrine," this concept owes its origin to *Baker v. Selden*, 101 U.S. 99 (1879) (holding that a bookkeeping ledger was not copyrightable). For a discussion of the merger doctrine and its focus on the distinction between patent and copyright law, see Leaffer, *supra* note 39, at § 2.12 [B][2].

140. *Skinder-Strauss*, 914 F. Supp 665 (D. Mass. 1995).

141. *Id.* at 677.

142. *Id.*

143. See *supra* discussion in section II.C.2.

144. See *Jackson*, *supra* note 101.