

# INTERNET BASICS AND COPYRIGHT LAW

by **Jon D. Grossman and Cyrill P. Rigamonti**

Revolutions in technology have often led to evolution in copyright law.<sup>1</sup> Such advances have challenged the constitutional balance<sup>2</sup> between the interests of copyright owners in the exploitation of their works and society's interest in the free flow of information. The printing press, motion pictures, cable and satellite television, audio and video tape recorders, computer technology, and digital audiotapes are only a few illustrative examples.<sup>3</sup> Today, the Internet era challenges the law once again.

The Internet has yielded at least two significant technological advances: (1) the replacement of tangible objects for the transfer of information with electronic transmission as made possible by a new form of embodiment (digital works); and (2) the capacity to create exact copies at little to no cost.<sup>4</sup>

Many businesses and private persons are presenting themselves to the international public through their individual Internet "Web pages." A wide range of information is presented this way, including copyrighted "works of authorship." Recent technological developments offer new possibilities to use, exploit, and infringe those copyrights. Although the first lawsuits have been filed, there exist no guidelines for approaching these newly raised issues due to the lack of a consensus on the legal implications of basic and widespread activities on the Internet, such as browsing, linking, framing, and caching.<sup>5</sup> The purpose of this article is, therefore, to address these Internet activities and the issues they raise in terms of copyright law.

## THE FACTUAL BACKGROUND

### THE INTERNET AND THE WORLD WIDE WEB

The *Internet* is a decentralized worldwide network connecting over one million computers. The transmission of data is based on a technique known as *packet switching*, which uses protocols that divide the data into smaller units sent individually, and possibly on

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## INTERNET LAW

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different routes, to their destination where they are recompiled by the receiving computer.<sup>6</sup> The most significant part of the Internet is the World Wide Web (WWW), a system of Internet servers<sup>7</sup> that supports specially formatted documents written in a language known as Hypertext Markup Language (HTML).<sup>8</sup> These documents, also referred to as Web pages, may contain text, image, video, and audio files, as well as links to other documents. In order to be located and displayed by special software applications known as Web browsers, every Web page must have an identifying address containing the protocol used<sup>9</sup> and the domain name<sup>10</sup> of the Web site to which the Web page belongs, called the Uniform Resource Locator (URL).<sup>11</sup>

## BASIC INTERNET ACTIVITIES

## BROWSING

The most basic activity on the Internet, apart from creating Web pages and uploading them on a server, is browsing, which entails the viewing of Web pages with a Web browser. In order to retrieve a document, the Web browser needs the unique URL of the document.<sup>12</sup> The user can provide the Web browser with the appropriate URL either by typing it into a "URL window" offered by the browser or by using a pre-existing link on a pre-existing Web page.

## HYPERTEXT REFERENCE LINKS

Web pages can contain "links" to other Web pages. A link is a specific HTML code<sup>13</sup> that includes the URL of the document to be retrieved upon activation of the link. Once activated by the click of a user's mouse, the Web browser retrieves and displays exclusively the document to which the link points by replacing the page containing the link.<sup>14</sup> Compared to typing the URL of a document, links are user-friendlier since they are activated by the simple click of a mouse, and therefore, allow the user to switch easier between Web pages.

In general, linking is achieved by the use of Hypertext Reference (HREF) links. Although an HREF link must include the URL of the document to which it points, there is an infinite variety of "structures" that might symbolize the link as shown within the browser, including random texts, fonts, and images, which may or may not reveal the URL.

Anybody can link to a Web page that has a URL. Therefore, it is possible to link not only to sections within the same document (intra-page link) or to another document within the same Web site (intra-system link), but also to a document located on a remote server (inter-system link), whether this be the home page of a Web site or any other document below the home page level (known as "deep linking").

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## “EMBEDDING” LINKS

Another group of HTML codes is used to retrieve multimedia applications stored in separate files, and to embed them into an HTML document.<sup>15</sup> These codes are also referred to as “links,” but they serve a different purpose than HREF links. The purpose of these “embedding links” is to incorporate pictures, sound recordings, and video clips into one single document, rather than having to switch between different documents. Due to the automatic retrieval and display,<sup>16</sup> the user neither realizes that there is a link nor understands where the linked files are located. Since this group of links serves an entirely different purpose than HREF links, it must be treated separately in legal analysis.

**Web pages written in HTML can be considered “computer programs.”**

## FRAMING

Framing refers to an HTML code<sup>17</sup> that allows Web page creators to divide the browser window into separate sub-windows, usually called “frames.” The content of each frame is taken from a different Web page, allowing the display of more than one Web page at once. Usually, this technique is used to display one static frame with ownership information, advertisements, and a table of contents, and one dynamic frame containing the actual information of interest to the user, which will exclusively be updated if new information is retrieved.<sup>18</sup>

## CACHING AND MIRRORING

Most of the information retrieved from the Internet must be transmitted to the user through analog phone lines not designed for high-speed transmission favorable to graphically rich Web pages. Transmission bandwidth limitations, combined with the increasing number of Internet users, have considerably slowed down the retrieval of information over the Internet. In order to reduce congestion resulting from repeated downloading of the same data, copies of material from the original source are made either at the user level (local caching) or at the server level (proxy caching). Thus, in the case of local caching, if the user wants to access the same data again, the Web browser loads it from the random access memory<sup>19</sup> (memory caching) or from the hard disk (disk caching), rather than retrieving it again from the original source.<sup>20</sup> In the case of proxy caching as used by many Internet service providers, once a user has downloaded data from the original site, it remains available to other users connected to the same server without downloading it again from the original site.

The storing of the content of an entire Web site is

usually referred to as “mirroring.” This technique is used not only for reducing congestion, but also generally for backing up information stored on one server.

## COPYRIGHT LAW — THE ISSUES

### WEB PAGES AS WORKS OF AUTHORSHIP—ORIGINALITY

A basic requirement for any claim of copyright infringement is that the allegedly infringed work qualifies as a protected work of authorship as defined in 17 U.S.C. § 102 *et seq.* In fact, lack of originality and noncopyrightable subject matter are two basic grounds for a defense based on *invalidity* of a copyright.<sup>21</sup> This, of course, applies to any work, no matter whether it is embodied in digital form or not. The remainder of this article will therefore assume that originality is given to the work in question.

### WEB PAGES AS COMPUTER PROGRAMS

Web pages written in HTML can be considered “computer programs,” defined by statute as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.”<sup>22</sup> Indeed, HTML codes are instructions used indirectly (via the Web browser) in a computer to build the page as the user views it. Web pages are applications written for other applications, namely Web browsers. Unlike the *source code*<sup>23</sup> of most other computer programs, the source code of Web pages is not secret and can be accessed with the help of any Web browser. Source code and object code are “literal elements”<sup>24</sup> of a program which are protected as “literary works”<sup>25</sup> as set forth in 17 U.S.C. § 102(a)(1). In addition, not only the code itself, but also the computer screen displays, as nonliteral elements generated by the underlying code, may be independently protected by copyright.<sup>26</sup> Since Web pages are stored permanently on a server, they are also “fixed in [a] tangible medium of expression” as required by 17 U.S.C. § 102(a).<sup>27</sup>

### WEB PAGES AS CARRIERS FOR DIGITAL WORKS

Web pages may contain text, images, audio, and video clips. These elements may independently qualify for copyright protection as literary or audiovisual works or sound recordings. Even though Web pages are computer programs and are protected as such, they are mostly used as “carriers” for copyrighted works that happen to be stored in digital format. For instance, an article can be either printed on paper or incorporated into a Web page. In the latter case, HTML codes are used only because the standard protocols and formats that enable the display of the work on the Internet require these codes. Of course, these works are protected themselves, no matter whether they are incorporated in a Web page in digital format or whether they are embodied in any other medium.



## BROWSING THE WORLD WIDE WEB

The analysis of this section is limited in three ways. First, it solely concerns the act of viewing and does not include printing or saving the content of the viewed Web page. Second, it assumes that viewing does not include any kind of disk caching whatsoever.<sup>28</sup> Third, it furthermore assumes that it is the user who provides the Web browser with the specific URL of the Web page to be retrieved, i.e. that the user does not use a pre-established link on another Web page.

### THE BASIC CONCEPT

Browsing is viewing. Viewing a Web page does not differ from viewing a page of any printed book that is publicly accessible. However, the passive act of viewing a copy of a copyrighted work has never implicated the copyright laws, as copyright protection was never intended to provide complete control over all possible uses of a work.<sup>29</sup> Accordingly, viewing is not one of the enumerated exclusive uses assigned to the copyright owner by 17 U.S.C. § 106. One rationale for this is the copyright owner's ability to control "viewing" indirectly, because he or she can control the making, the distribution, the public performance, and the public display of the copy being viewed. As a result, someone is always liable for copyright infringement when "unauthorized" viewing occurs; however, that someone is not the viewer, but rather the person who provides the copy.

The fact that viewing does not involve copyright laws has two important implications. First, it is irrelevant *what* is viewed, i.e. whether the copy being viewed is authorized or not. Even in the case of an unauthorized public display of a copy, it is not the person who privately views the copy who is liable for copyright infringement, but the person who displays the copy. In the Internet context, it is the person who uploads a copy who is liable for copyright infringement, not the person who views it. Second, it is equally irrelevant *how* the viewing occurs, i.e. what technology is used. Whether the bare eyes, binoculars, microscopes, or computers are used to view the copy makes no difference. As a matter of consistency, the same activity should not be treated differently just because a different viewing technology is used. Applied to the Internet, this means that viewing Web pages should not implicate the copyright laws at all. Whether this approach is consistent with current copyright law will be examined in the following section.

### VIEWING A DIGITAL WORK

#### THE REPRODUCTION RIGHT —VIEWING AND DUPLICATING

As a matter of technology, a computer program can only be "run" if it is loaded as a whole or in part from a

permanent storage device<sup>30</sup> into the RAM of the computer in question. For this purpose, the permanently stored copy is temporarily duplicated in RAM. Since Web pages are computer programs, this also applies to them. The only difference between a Web page and other computer programs, such as Web browsers, is that the copy loaded into the RAM is not stored on the hard drive of the same computer but, rather, on a remote server. This is typical for any network. Thus, an additional transmission through the RAMs of several other computers is necessary in order to retrieve the Web page and to load it into the RAM of the user's computer for display. That is why the requested Web page, either in part or as a whole, is duplicated several times before being displayed on the viewer's computer terminal.<sup>31</sup> According to their purpose and their nature, these duplications are only temporarily made to enable transmission and display, and they are simply a consequence of the technology used for display of the document: *no display without duplication*. This is a novelty in the history of copyright, because the mere act of viewing a digital work requires that the work be duplicated. Whether these duplications are also "copies" in the sense of the Copyright Act is the question at issue.

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**The passive act of viewing a copy  
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implicated the copyright laws.**

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#### HOW PERMANENT IS A COPY IN RAM?

The reproduction right as set forth in 17 U.S.C. § 106(1) guarantees to the copyright owner the exclusive right "to reproduce the copyrighted work in copies," wherein "copies" are defined as "material objects . . . in which a work is fixed by any method . . . , and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."<sup>32</sup> A work is "fixed in a tangible medium of expression when its embodiment in a copy . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration."<sup>33</sup> Since the transmission and display of a Web page requires its duplication in the RAM of different computers, the question is whether a "RAM copy" is permanent enough to be considered a "copy" under the Copyright Act. Without further analysis of this issue, the Ninth Circuit in *MAI Systems Corp. v. Peak Computer, Inc.*<sup>34</sup> explicitly held that "the loading of software into the RAM creates a copy under the Copyright Act,"<sup>35</sup> which was followed in *Advanced Computer Services of Michigan, Inc. v. Mai Systems Corp.*,<sup>36</sup> *Triad Systems Corp. v. Southeastern Express*,<sup>37</sup> and *Marobie-FL Inc. v. National Association of Fire Equipment Distributors*.<sup>38</sup>



## REJECTION OF THE MAI HOLDING

Unlike data stored on a hard drive, data stored in RAM is "designed to maximize speed at the expense of storage ability"<sup>39</sup> and is lost when the electricity is turned off.<sup>40</sup> Therefore, even if the loading of data into RAM creates a duplication of the original, the legal issue here is whether or not a RAM duplication is of a "transitory duration" only. In this interpretation, the purpose of the fixation requirement in the context of copyright infringement must be explored. Merely transitory copies are excluded from the exclusivity of exploitation reserved for the copyright owner, because as there is no market for these copies, such copies do not harm the copyright owner. Indeed, the copyright owner can control the making of RAM copies through the exclusive right to make permanent copies, because there must be a permanent copy in order for it to be duplicated in RAM.<sup>41</sup> Hence, the copyright owner does not suffer an economic loss due to the existence of RAM copies, which is an argument for considering RAM copies as transitory under the intent of the statute.<sup>42</sup> In the Internet context, another aspect to be considered is consistency in the application of the law. As described above, there is no difference between reading a book, watching TV, or viewing a Web page, except for the use of a different viewing medium. Indeed, a deeper technical view reveals similarity between the temporary duplicating that a computer performs and the way that modern television sets store TV signals. More centrally, the fact that modern computer technology necessitates a temporary duplication every single time a computer program is run or a Web page is viewed does not change the nature of the activity involved, namely viewing. Therefore, the only consistent way to keep the balance between the copyright owner and the copyright user at its current state is to deny "RAM duplication" the status of a "copy" under the Copyright Act. If a shift of the balance in light of development of technology is desired, it is up to Congress to take action, since it is Congress that is charged with making the law,<sup>43</sup> not Microsoft or IBM. Consequently, the MAI holding must be rejected, and it should be held that viewing a Web page does not involve the reproduction right.<sup>44</sup>

## AN AFFIRMATIVE DEFENSE IS NOT ENOUGH

Equally unsatisfied with the MAI holding, others propose defenses based on the implied license, fair use, and copyright misuse doctrines,<sup>45</sup> or 17 U.S.C. § 117 of the Copyright Act.<sup>46</sup> Even though these defenses serve the purpose of limiting the consequences of the MAI decision, they are inconsistent with the application of the Copyright Act in other cases involving the mere act of viewing. In addition, highly fact-specific defenses such as fair use are not the adequate legal "tools" or bright lines

for addressing such basic activities as browsing, because they do not provide enough reliable guidance for those who want to exercise these activities.<sup>47</sup> Furthermore, defenses are exceptions to the rule and should not replace the rule. Accordingly, defense arguments should be saved for application in cases where copies may harm the economic interests of the copyright owner and threaten the successful exploitation of the work. For these reasons, a rejection of the MAI holding on the grounds of affirmative defenses is not enough.

## THE RIGHT OF PUBLIC DISTRIBUTION

The distribution right established by 17 U.S.C. § 106(3) reserves the right to "distribute copies . . . of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending" to the copyright owner. As long as loading a Web page into the RAM of the end user does not constitute a "copy" under the Copyright Act, the distribution right is not triggered.

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## PUBLIC DISPLAY AND PERFORMANCE

Under 17 U.S.C. § 106(4), the copyright owner has the exclusive right to perform the work publicly, wherein "to perform" means to "recite, render, play, dance, or act it, either directly or by means of any device or process or, in the case of a motion picture or other audiovisual work, to show its images in any sequence or to make the sounds accompanying it audible."<sup>48</sup> Similarly, 17 U.S.C. § 106(5) grants the copyright owner the exclusive right to display the work publicly, wherein "to display" means to "show a copy of it, either directly or by means of a film, slide, television image, or any other device or process or, in the case of a motion picture or other audiovisual work, to show individual images nonsequentially."<sup>49</sup> Therefore, if the Web page contains images or video clips, those images or video clips will be "displayed" or "performed" on the user's computer, when the user views the page. However, in analogy to watching TV at home, this performance or display is not public as required by 17 U.S.C. §§ 106(4) and 106(5) and defined by 17 U.S.C. § 101.50 Consequently, the rights of public display and public performance not implicated in the act of viewing the page once it is uploaded.

## ADAPTATION RIGHT

According to 17 U.S.C. § 106(2), the adaptation right is reserved to the copyright owner to "prepare deriv-



ative works based upon the copyrighted work," wherein a "derivative work" is a "work based upon one or more pre-existing works" in any "form in which a work may be recast, transformed, or adapted."<sup>51</sup> Because the simple act of viewing a Web page does not change the viewed page at all, the adaptation right is not involved.<sup>52</sup>

#### "DEEP VIEWING"

What if the user types a URL into the browser that retrieves a Web page below the home page level? Some Web page creators may not like that, because their home page, which contains ownership information and advertisements, is bypassed. The copyright owner could argue that the Web site was designed to consist of different Web pages as a whole and that the access to the site through any page other than the home page would change the way the user perceives the page and, therefore, prepares a derivative work. The grounds for such a claim are fairly weak, since, as in the case of a traditional book, it goes beyond the scope of the exclusive rights assigned to the copyright owner to prescribe the copyright user's method of use of that copy, i.e. whether to start browsing at the beginning, in the middle, or at the end. If the copyright owner wants to control this, such duties would have to be established on a contractual basis by a license agreement, but they are not inherent to the exclusive rights enumerated in 17 U.S.C. § 106 and cannot be imposed on the viewer based on copyright law. Therefore, if the copyright owner does not want users to access a page below the home page level, this direct access has to be "blocked" by technological means. Otherwise, even if a derivative work were created, a copyright infringement claim could probably be barred by a defense based on assumption of risk.

#### CONCLUSION

Notwithstanding the opposing case law, the viewing of Web pages uploaded with or without authorization of the copyright owner is beyond the scope of the copyright statute and, therefore, should not trigger any of the exclusive rights reserved to the copyright owner. Indeed, it is up to the author of a Web page whether or not a copy of the work is made available to the Internet community by uploading it onto a server.<sup>53</sup> The sole purpose of uploading is to make a copy of the work available for viewing. It is no different than displaying a book in a bookstore. Just as the author of a work embodied in a book can shrink-wrap the book and subject any browsing to the terms of a shrink-wrap license, the author of a work embodied in a Web page can protect the access to the Web page with passwords,<sup>54</sup> and subject any browsing to the terms of a point and click license agreement. If the copyright owner decides not to do so, viewing alone should not implicate the copyright laws. This finding, of course, does not mean that the Internet user can print and save the Web pages

free of copyright implications. Although these activities are not discussed in this article, it should be noted that this is where the affirmative defenses would apply.

#### RELIGIOUS TECHNOLOGY V. NETCOM

Lacking any other authorities regarding browsing, many commentaries refer to *Religious Technology Center v. Netcom On-line Communication Services, Inc.*,<sup>55</sup> a case concerning the copyright liability of an Internet access provider for the uploading of infringing materials to Usenet<sup>56</sup> by a subscriber. In a footnote,<sup>57</sup> the court briefly addresses some aspects of browsing, which will be discussed in light of the aforementioned findings.

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**It is up to the author of a  
Web page whether or not  
a copy of the work is made available.**

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Returning to the plaintiff's theory that every Internet access provider should be liable when a user posts an infringing work to the Internet, the defendant argues that the application of this theory would have a "chilling effect on users, who would be liable for merely browsing infringing works."<sup>58</sup> Using this argument as a starting point, the court develops its analysis, however, without explicitly differentiating between browsing authorized works and browsing infringing works. Referring to the MAI holding, the court observes: "The temporary copying involved in browsing is only necessary because humans cannot otherwise perceive digital information. It is the functional equivalent of reading, which does not implicate the copyright laws . . ."<sup>59</sup> It appears, however, that the court does not conclude that the MAI holding should be rejected for that reason, because it goes on to evaluate the fair use defense,<sup>60</sup> which would not be necessary if the reproduction right were not triggered at all. Regarding the fair use defense, the court states:

Absent a commercial or profit-depriving use, digital browsing is probably a fair use; there could hardly be a market for licensing the temporary copying of digital works onto computer screens to allow browsing. Unless such a use is commercial, such as where someone reads a copyrighted work online and therefore decides not to purchase a copy from the copyright owner, fair use is likely. Until reading a work online becomes as easy and convenient as reading a paperback, copyright owners do not have much to fear from digital browsing and there will not likely be much market effect.<sup>61</sup>

While it may be true that, if an exclusive right were involved, a fair use defense would apply to browsing, the



court's concrete example is still inappropriate. Viewing cannot be "commercial" or "noncommercial" by nature. It is evident that fewer people will buy a paperback if the same book is available on the Internet for free. However, if the uploaded copy is authorized, the copyright owner knows that it has been uploaded and cannot blame the user for reading it online, when the only purpose of uploading a work is to encourage others to view and read it. If the uploaded copy is not authorized, however, online reading is a part of the damages caused by the person who put the material on the server, not infringement on the part of the user. Furthermore, copyright infringement should not depend on the convenience of online reading, as the court states, it should depend on whether or not browsing involves the making of a copy.

The court assumes, without further explanation, that viewing an infringing work constitutes copyright infringement because it invokes the innocent infringer doctrine to protect the user:

Additionally, unless a user has reason to know, such as from the title of a message, that the message contains copyrighted materials, the browser will be protected by the innocent infringer doctrine, which allows the court to award no damages in appropriate circumstances. In any event, users should hardly worry about a finding of direct infringement; it seems highly unlikely from a practical matter that a copyright owner could prove such infringement or would want to sue such an individual.<sup>62</sup>

Even though these factual observations of the court may be true, the mere lack of enforcement or evidence does not make an unlawful activity lawful. Therefore, if the court is manifestly willing to protect the user, it should conclude that viewing alone does not implicate any of the exclusive rights reserved to the copyright owner and should provide the user with a legal, instead of a "factual," protection. Since the court's discussion is only dicta, the repercussions of this footnote remain to be seen.

#### **HYPERTEXT REFERENCE LINKS<sup>63</sup>**

##### **THE STRUCTURE OF A HYPERTEXT REFERENCE LINK**

The issue discussed in this section is not whether or not linking infringes copyrights, but whether the structure of the link itself as it appears within the browser constitutes infringement.

##### **COPYRIGHT PROTECTION FOR THE URL?**

In order to link to a Web page, the unique URL of the Web page must be copied and incorporated into the source code of the linking page. One could argue that the URL itself qualifies as a "work of authorship," because the

file name of the Web page and in most cases<sup>64</sup> also the domain name can be freely chosen. On the other hand, one can say that a URL is simply an address, and addresses cannot be copyrighted since they are simple facts<sup>65</sup> and no one may claim originality as to facts,<sup>66</sup> even though they are inherently unique due to the purpose they serve. Another argument against copyright protection of URLs is that words and short phrases such as titles are generally not copyrightable due to their lack of originality.<sup>67</sup>

Even if a URL were copyrightable, one could argue that its incorporation into a link is authorized under an implied license doctrine, because the only purpose of uploading a Web page is to make it available to the public for viewing, and this purpose cannot be achieved if the address of the Web page, its URL, cannot be used without copyright infringement. Furthermore, if typing the URL is lawful, its incorporation into a link, as a symbol for the URL, must be too. In addition, the domain name is only a means to better remember the underlying numeric address, which is, in fact, an arbitrary designation for a specific numerical sequence<sup>68</sup> called *Internet Protocol (IP)*.<sup>69</sup> Since it is a random string of numbers assigned to the owner of the server, an IP address is not an original expression of an idea, and therefore, is not copyrightable subject matter. Thus, even if the use<sup>70</sup> of a domain name constituted copyright infringement, the user could simply use the numeric IP address to access the Web page without infringing any copyrights.<sup>71</sup> Consequently, any copyright protection for the alphanumeric domain name would be ineffective.

#### **IMAGES AND TEXT AS STRUCTURES**

Even though the source code must contain the URL of the linked page, the structure of the link as it appears within the browser might be different; a random text with random font can be chosen as well as an image. As far as copyright protection is concerned, the reproduction right could be violated if a copyrighted image were used to represent the link. Here, the general rules of copyright law apply.

Two recent cases dealt with these issues. In *Shetland Times Ltd. v. Wills*,<sup>72</sup> a Scottish case, the defendants used the headlines of the plaintiffs' stories as links to the plaintiffs' newspaper articles published on the Internet. The question was whether headlines were copyrightable subject matter. A preliminary injunction was granted, and the case settled on November 11, 1997. In *The Washington Post Co. v. Total News, Inc.*,<sup>73</sup> a case regarding linking and framing discussed below, paragraph 4 of the settlement allows the defendants to link to the plaintiffs' Web site, but only by using the full URL. Both settlements show that the companies involved agree that the use of the plain URL in a link should be allowed; howev-



er, the use of another structure to represent the URL in a link may pose a copyright problem.

### **PLAIN HYPERTEXT REFERENCE LINKS<sup>74</sup>**

#### **DIRECT INFRINGEMENT**

Because it is the user who retrieves and views the Web page, the creator of a link to that page is only liable for direct infringement if linking violates the copyright of the owner of the linked page. This is hardly conceivable, because the link only provides the user with an address, and its only purpose is to facilitate the access to a document by providing the user with an alternative to typing the URL of the page.<sup>75</sup> Moreover, if typing a URL does not constitute copyright infringement because it is a necessary part of viewing a Web page, then neither does providing a link. In fact, instead of activating a certain link by clicking on it, the user could also simply type the URL into the browser with the same result. Obviously, by creating a link, the content of the linked page is not reproduced, distributed, publicly performed, or displayed.

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**One could argue that by linking to an infringing page, the creator of the link encourages the further infringing distribution of copyrighted material.**

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One could argue, however, that a link itself prepares a derivative work because it virtually incorporates the content of the linked page into the linking page. However, since the link itself does not reveal any part of the linked page, the user cannot possibly know the content of the linked page, and the supposedly underlying work (the linked page) is not recast, transformed or adapted in the sense of 17 U.S.C. § 101. The mere virtual presence ("one click away") of the linked page does not change this fact. Indeed, a link simply appears to be an electronic version of a reference to another work, like a citation in a law book, for instance. No one has ever reasonably argued that a citation "incorporates" the cited work. The technologically-improved accessibility of the cited work does not change the nature of the citing work and, therefore, linking does not involve the adaptation right. For the same reasons, deep linking does not constitute copyright infringement, even though it might be actionable on other grounds such as unfair competition and trademark law. Since linking does not involve any of the rights exclusively assigned to the copyright owner and therefore does not constitute copying,<sup>76</sup> it is irrelevant whether or not the linked page contains infringing material. Therefore, a plain HREF link does not directly infringe any of the exclusive rights assigned to the copyright owner.

#### **INDIRECT INFRINGEMENT**

As far as contributory infringement is concerned, the creator of the linking page could only be held liable if linking was considered participation in an infringing activity or if a link was considered a means to infringe.<sup>77</sup> Since viewing a Web page does not implicate the exclusive rights assigned to the copyright owner, the only infringing activity in which the creator of the linking page could possibly participate is the act of unauthorized uploading. Thus, only linking to a page that contains infringing material has to be examined. One could argue that by linking to an infringing page, the creator of the link encourages the further infringing distribution of copyrighted material. This is only true under the MAI holding, since distribution requires that a copy be made. As noted above, however, the authors of this article believe that the MAI holding must be rejected because viewing does not implicate the distribution right and, as a consequence, linking cannot contributorily infringe the distribution right.<sup>78</sup> Also, viewing "encompasses" linking in the sense that the viewer either has to click on a link or has to type the appropriate URL to retrieve an infringing page. Linking as a simple means of providing an address is "less" than viewing and a prerequisite thereof. That is why it is inconsistent to allow viewing, but outlaw linking. Furthermore, linking does not contribute anything to the infringing activity, namely uploading a Web page with infringing content. The unauthorized copy will still be publicly displayed or performed (or distributed<sup>79</sup>) if there is no link to this copy, and the fact that there is a link does not increase the harm done, if the viewer could alternatively just type the URL into the browser and not infringe any copyrights. As a result, linking should not be considered contributory infringement.<sup>80</sup>

#### **CONCLUSION**

Even though linking is not an "inevitable consequence"<sup>81</sup> of the way the WWW operates, it is true that the "power of the Web stems from the ability of a link to point to any document, regardless of its status or physical location."<sup>82</sup> Therefore, the result of the analysis provided above, namely that linking does not implicate copyright laws, is also justified from a policy-based point of view.

#### **TICKETMASTER CORPORATION V. MICROSOFT CORPORATION**

HREF links are the source of controversy in the pending *Ticketmaster Corporation v. Microsoft Corporation*<sup>83</sup> lawsuit in the Central District of California. Microsoft operates a Web site designed to be a city guide, providing numerous links to Ticketmaster's Web site which allows users to obtain information on upcoming events and to purchase tickets to these events. Some of the links on Microsoft's site are deep links as described above, by-pass-



ing Ticketmaster's home page which contains advertisements. Ticketmaster alleges that, due to its popularity, a link to its site adds value to linking sites by "allowing them to increase their viewership and, thus, their advertising revenue."<sup>54</sup> Even though not stated explicitly, it is likely that Ticketmaster aims at the fact that search engines will not only list their own Web site in response to a query searching for "Ticketmaster," but also Microsoft's Web site, if Microsoft's link incorporates Ticketmaster's domain name. Since it is the use of its name and trademark that Ticketmaster finds objectionable, its allegations are mainly based on trademark and unfair competition law, which will not be discussed in this article. However, Ticketmaster also alleges that Microsoft makes "unauthorized use" of Ticketmaster's Web site by linking to it. Here is where the copyright issues apply. Ticketmaster's basic argument is that Web sites are for personal, noncommercial use only and that Ticketmaster determines certain conditions and understandings of this use.<sup>55</sup> On the other hand, Microsoft argues that it does not "use" Ticketmaster's Web site, since it does not access, incorporate, or redistribute Ticketmaster's Web pages, but that it only provides the user with the URL for Ticketmaster's Web site.<sup>56</sup> Additionally, Microsoft lists the affirmative defenses of assumption of risk, estoppel, fair use, and unclean hands.<sup>57</sup> In a copyright context, it is indeed not easy to understand how linking could be a "use" of a Web page. Also, Ticketmaster's distinction between a commercial and a noncommercial "use" presumes that at least one of the exclusive rights is implicated and that there is no implied license. As discussed above, this argument is unlikely to succeed as far as plain HREF links are concerned, which might explain why Ticketmaster's allegations are mainly based upon trademark and unfair competition law.

## EMBEDDING LINKS AND FRAMING

### EMBEDDING, FRAMING, AND LINKING

The activities earlier described as embedding and framing are substantially similar to each other, in that they result in retrieving and incorporating material into a pre-existing Web page. While embedding involves the retrieval of one single multimedia file that is a portion of a Web page, framing generally involves the retrieval of a whole Web page.<sup>58</sup>

Both framing and embedding can be done "automatically" or "manually." Usually, embedding links are activated automatically, but if the browser settings are set for manual retrieval, the multimedia applications are only loaded upon request of the user. Framing, on the other hand, usually requires the manual activation of an HREF link, but it is also possible that a remote Web page is incorporated into the framing page "by default" and is dis-

played the first time the framing page is loaded. Thus, generally, framing tends to be more "interactive" than embedding, since the user has the option of selecting the page to be framed according to the amount of available links on the framing page. The difference between manual and automatic retrieval is not relevant, however, because even in the case of manual retrieval, the retrieval itself is intended and expected by the creator of the Web page in question. The user only executes what the Web page creator sets up to be executed. Therefore, a manual retrieval is nothing other than a "delayed automatic retrieval."

HREF links reveal the source of the Web page being viewed, because upon activation of an HREF link, the linked page replaces the linking page, whose URL is then displayed. Framing and embedding, however, often conceal the origin or URL of the retrieved material, because the embedding/framing page is not replaced, but incorporated "within" another page. In fact, the user usually does not or cannot realize that the source of origin of a framed page or an embedded multimedia application is different from the source of origin of the framing/embedding page.<sup>59</sup> Only a savvy user will find out the source of origin based on an analysis of the source code.

Considering these minor factual differences, which are irrelevant in the context of copyright law, one could say that embedding and framing serve the same purpose of incorporation, are functionally equivalent, and therefore, require the same legal treatment.

## THE PROBLEMS

There are two problems originating from the use of embedding links and framing. First, the retrieved copyrighted material (either a multimedia application or a whole Web page) is not viewed as it is intended to be viewed. This problem could involve the adaptation right, which will be further explored below. Second, the original source is not revealed. This is not first and foremost a problem of copyright, because it does not affect the exploitation of original expressions of ideas, but rather the correct attribution of information. Nonetheless, embedding and framing could raise problems regarding unfair competition and trademark law, which will not be discussed in this article.

### THE DISTINCTION BETWEEN RETRIEVING AND INCORPORATING

Both framing and embedding involve two separate actions: retrieving and incorporating. As in the case of browsing, the Web page (framing) or the multimedia application (embedding) must be retrieved from a remote server. Whether the information is retrieved to be incorporated into another page or just to be viewed does not change the nature of the retrieval itself and does not



implicate copyright law. In other words, the person who provides the framing/embedding page does not participate in the transmission of the framed/embedded materials. With respect to these materials, the transmission takes place exclusively between the user and the owner of the framed page.<sup>90</sup> After the retrieval, the information is incorporated into the retrieving Web page, and it is this incorporation that is crucial. As mentioned above, it raises the question of whether the adaptation right, which is violated if an unpermitted derivative work is prepared based upon the copyrighted work,<sup>91</sup> is involved.<sup>92</sup> Looking at the source code, a substantial similarity is not likely to be found, because the HTML code of the framing<sup>93</sup> or embedding page only contains the address of the file to be retrieved. However, the incorporated digital material is loaded into the RAM and is fully duplicated on the computer screen display. Therefore, it could be argued that the incorporating page is based upon the incorporated page by using its parts. In fact, the screen display of the retrieved page is altered,<sup>94</sup> and that is why this display could be considered an unauthorized derivative work.

#### WHO IS LIABLE?

If the use of embedding links and frames may constitute copyright infringement, the question arises of who is liable for the infringement. In the case of automatic retrieval, it seems to be clear that the creator of the framing/embedding Web page may be liable for direct infringement, because nobody else is involved in the creation of the derivative work. When it comes to manual retrieval, however, one could argue that it is the user who activates the link, causes the concrete act of incorporation, and is thus liable for direct infringement, whereas the liability of the Web page creator would only be germane in the context of "contributory infringement." A better argument however is, that what the user does (activating the link that causes framing or hitting the browser button that activates the embedding links) is only a pre-ordained step already prepared by the creator of the incorporating page. The Web page creator actually chooses which page to frame by inserting the corresponding address of the framed page into the source code of the framing page; and the creator determines how the user will view the page. In other words, the user only passively views the derivative work already prepared by the Web page author. It is necessary for the user to activate the link in order to access the page, but activating and viewing the derivative work<sup>95</sup> neither directly nor contributorily<sup>96</sup> infringes the copyright of the incorporated page. This is consistent with the finding that the viewing of infringing material alone does not involve the copyright laws.

#### CONCLUSION

Consequently, the creator of an unauthorized framing

or embedding page could be held liable for copyright infringement due to a violation of the adaptation right,<sup>97</sup> as long as no fact-specific defense applies. However, the finding that only the adaptation right is implicated and probably infringed poses a couple of theoretical problems. Based on the premise that a duplication in RAM is too transitory to qualify as a "copy" under the Copyright Act, the reproduction right is not implicated. Therefore, the adaptation right fills the gap left behind by the inapplicability of the reproduction right, due to the fact that an infringing derivative work does not have to be fixed.<sup>98</sup> Framing and embedding, thus, can be considered the rare cases where the adaptation right takes on substantive significance because neither the reproduction nor the public performance and display rights are infringed. Since this interpretation of the adaptation right seems to encompass rights usually covered by an *integrity right*, it would probably meet resistance by "courts oriented against moral rights."<sup>99</sup> It has to be noted, however, that the integrity right discussed here is not a moral right, protecting the author's honor and reputation, but the copyright owner's economic right to make changes. Therefore, the question is not whether to allow moral rights, but how to determine the scope of infringement of the adaptation right. Extending the scope of the adaptation right to a "right to make changes" is the only consistent way of applying copyright law to the new technological phenomenon of framing and embedding.

#### WASHINGTON POST CO. V. TOTAL NEWS, INC.

Framing was "at the heart of Defendants' wrongful conduct"<sup>100</sup> in *Washington Post Co. v. Total News, Inc.*<sup>101</sup> The plaintiffs had been placing their news stories on their individual Web sites, along with advertisements paid for by the plaintiffs' advertisers. The defendants retrieved the news stories from the plaintiffs' Web site and placed them into a frame surrounded by the defendants' logo and advertising, while the plaintiffs' advertisements were not displayed. Among other allegations, the plaintiffs alleged that the defendants were "republishing" their news stories, "making it available without Plaintiffs' consent," and making "unauthorized use of the content of the Plaintiffs' websites."<sup>102</sup> The case was settled before the defendants answered the complaint. The settlement does not allow any framing whatsoever,<sup>103</sup> not even indirectly; the defendants are prohibited from framing or linking to a page that frames the plaintiffs' material.<sup>104</sup> Additionally, the defendants are not allowed to frame or to link to a page that includes copyrighted material, even if the page is not operated by any of the plaintiffs.<sup>105</sup>

#### FUTURE DONTICS, INC. V. APPLIED ANAGRAMICS, INC.

Framing was a key issue in the recent *Future DONTICS*,



*Inc. v. Applied Anagramics, Inc.*<sup>106</sup> The defendant's Web site includes a link that, if clicked on, frames the plaintiff's Web page, surrounding it with the defendant's logo, information and other links. The plaintiff claimed copyright infringement based upon the premise that framing creates an unauthorized derivative work, while the defendant contended that its Web page only "provides a 'lens' which enables Internet users to view the information the plaintiff itself placed on the Internet."<sup>107</sup> The court distinguished *Mirage Editions v. Albuquerque A.R.T. Co.*,<sup>108</sup> invoked by the plaintiff as well as *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*<sup>109</sup> invoked by the defendant, and held that neither case determines whether a framed page constitutes a derivative work. The court then denied both the defendant's motion to dismiss the copyright infringement claims and the defendant's alternative motion for judgment on the pleadings with respect to that claim. Even though this case seems to be a "pure" framing case, it may be complicated by the pre-existing legal relationship between the parties, because Anagramics owns a service mark exclusively licensed to Futuredontics. It is therefore unclear whether the case, if tried on the merits, would be decided on the grounds of this pre-existing relationship or on the grounds of copyright law.

**Unlike browsing, caching is not a necessary consequence inherent to uploading copyrighted material on the WWW.**

## CACHING & MIRRORING

### EXCLUSIVE RIGHTS INVOLVED

Caching and mirroring include the making of permanent copies on either the server or the user's hard drive. Therefore, the reproduction right is involved. In the case of *proxy caching*, the server might distribute this copy to the users again, along with performing or displaying the copy. Thus, the rights of distribution, public performance and public display are involved, and the question is whether the use of the copyrighted work is covered by a license or by a defense.

### CACHING —IMPLIED LICENSE?

A defense based on an implied license is not easy to construe because, unlike browsing, caching is not a necessary consequence inherent to uploading copyrighted materials on the WWW.<sup>110</sup> Moreover, caching can be detrimental to the copyright owner, and it may therefore be difficult to convince a court of an implied license. Notwithstanding the technological benefit of speeding up the retrieval of documents from the Internet, there are disadvantages as well. Most of the disadvantages are due

to the time-sensitivity of information and, since the copyright owner loses the control over the cached copy, there is no guarantee that the current version will be distributed.<sup>111</sup> Additionally, cached copies reduce the access to the original copy, since this is exactly how the increased speed is achieved. This leads to a decrease of "hits" on the original page and, since advertisement charges are often calculated based on these "hits," caching may cost the Web page owner advertisement revenue.

### FAIR USE?

The rules in 17 U.S.C. §§ 107(1)–(4) provide factors used for determining whether a fair use defense may be successful. As far as the nature of the copyrighted work<sup>112</sup> is concerned, it can be said that any work uploaded on the Internet can be cached, and that usually the whole content of the copyrighted work<sup>113</sup> is cached. The character of the use,<sup>114</sup> however, is different depending on whether proxy caching or local caching is concerned. In the case of proxy caching, one could argue that it is done for a commercial purpose, since caching occurs in the context of providing commercial services to the end users, or one could say that it facilitates the dissemination of creative works and contributes to the well-functioning of the Internet, which could be characterized as a noncommercial goal. The effects on the potential market for the original copy<sup>115</sup> cannot easily be predicted. The decrease of page "hits" could have a potentially negative impact on the marketing of the Web page to the advertising industry. This is especially true in the case of proxy caching, since there is more than one copy that the user accesses. In the case of local caching, the user has to access the original page at least once, so that the loss of "hits" is less substantial. This shows that, potentially, proxy caching and local caching may be treated differently under the fair use market impact factor. In addition, local caching is similar to home video taping for the purpose of time-shifting, which in *Sony*<sup>116</sup> was considered fair use, since one purpose of local caching could be to allow the user to visit the page again later, as if it were "recorded." Also, caching might be only a temporary problem, until a practical technological solution emerges to prevent browsers from caching the page.<sup>117</sup>

### MIRRORING

Mirroring is different from caching in that it is more permanent. While caching is made only based on a user's request and only temporarily, mirroring systematically establishes an identical Web site. Even though the display of the Web site under the auspices of a different URL may be especially problematic with regard to trademark law (dilution, likelihood of confusion, reverse passing off), the copyright implications are the same as in the case of caching. Under the fair use doctrine, the courts will have



to decide whether the public benefit of reducing congestion on the Internet prevails over detriments of the exercise of exclusive copyrights.

### SUMMARY AND CONCLUSION

Based on the rejection of the MAI holding, the authors believe that browsing the Internet and viewing its contents does not implicate the copyright laws, as long as the Web pages loaded into the user's computer RAM are neither printed nor saved to a permanent storage device. Similarly, linking to other Web pages, using the plain URL only, does not involve any exclusive copyrights.<sup>118</sup> However, embedding links and framing could infringe the copyright owner's adaptation right, and the Web page creators should seek permission from the respective copyright owner prior to framing or embedding copyrighted material. Caching and mirroring also fall within the scope of certain exclusive copyrights, and Internet service providers should be aware of the potential that liability proxy caching implies.

How future legislation and case law will balance the spirit of the Internet as the medium of free flow of information against the interests of intellectual property owners remain to be seen.

### NOTES

1. Cf. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 430 ("From its beginning, the law of copyright has developed in response to significant changes in technology."), *reh'g denied*, 465 U.S. 112 (1984).
2. See U.S. Const., art. I, § 8, cl. 8: "Congress shall have Power . . . [t]o promote the progress of science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."
3. See James M. Jordan III, *Copyrights in an Electronic Age*, 2 J. Tech. L. & Pol'y 3, ¶¶ 2-9 (1996) <<http://journal.law.ufl.edu/~techlaw/2/jordan.html>>; see also Information Infrastructure Task Force, Working Group on Intellectual Property Rights, *Intellectual Property and the National Information Infrastructure* (Sept. 1995) (hereinafter "White Paper"), at 7.
4. Cf. White Paper, *supra* note 3, at 12. See also Anne K. Fujita, *The Great Internet Panic: How Digitization is Deforming Copyright Law*, 2 J. Tech. L. & Pol'y 1, ¶ 20 (1996) <<http://www.journal.law.ufl.edu/~techlaw/2/fujita.html>>.
5. Other common activities such as meta tagging and the use of copied hidden text are not discussed in this article, because copyright law plays a rather marginal role in these contexts, where trademark law and unfair competition law are far more important. Internet service provider liability will not be discussed here either.
6. See Alan Freedman, *The Computer Desktop Encyclopedia*, 624 (1996).
7. A Web server is a computer which delivers Web pages. See Freedman, *supra* note 6, at 937 & 320.
8. For a definition of HTML, see also White Paper, *supra* note 3, at 182.
9. This is most commonly the Hypertext Transfer Protocol (HTTP), which defines how data must be formatted and transmitted through the WWW, enabling Web servers and Web browsers to communicate. See also White Paper, *supra* note 3, at 182.
10. A domain name represents an Internet Protocol address, and it is used as a part of a Uniform Resource Locator identifying a specific Web page. See Neal J. Friedman & Kevin Siebert, *The Name is not always the same*, 20 Seattle Univ. L. Rev. 631, 633 (1997).
11. See White Paper, *supra* note 3, at 182; Freedman, *supra* note 6, at 897.
12. Cf. Freedman, *supra* note 6, at 897.
13. E.g., <A HREF="http://www.dsmo.com">DSM&O Home Page</A> (a Web page containing this link would display the words "DSM&O Home Page" within the Web browser, and when clicked on, it would take the user to the Web page with the URL "http://www.dsmo.com"); see Aaron Weiss et al., *Web Authoring Desk Reference 102-103* (1997).
14. The document or Web page containing the link will be referred to as the linking page, while the document or Web page to which the link points will be referred to as the linked page.
15. E.g., for an image: <IMG SRC="picture.jpg"> (a Web page containing this code would display the picture stored in a file called "picture.jpg"); see Weiss et al., *supra* note 13, at 424.
16. The automatic retrieval can be disabled in the settings of the most common Web browsers in order to allow the user to save time. In this case, the user requests the retrieval of the multimedia applications. This is not, however, the intended use of the Web page and, indeed, the difference between automatic and manual retrieval is only a difference in time, and therefore not relevant to the issues discussed later in this article.
17. E.g., for a page divided horizontally into two equally large frames, one containing the Web page stored in a file called "page1.htm," the other containing the Web page stored in a file called "page2.htm": <FRAMESET COLS="50%,50%"> <FRAME SRC="http://www.dsmo.com/page1.htm"> <FRAME SRC="http://www.dsmo.com/page2.htm"> </FRAMESET>; see Weiss et al., *supra* note 13, at 367-368.
18. One must note, however, that this result cannot be achieved by the use of the simple HTML codes described *supra* note 17. In order to frame remote Web pages into a dynamic frame by clicking on a link in a static frame, additional codes have to be inserted.
19. Random access memory (RAM) is a type of physical computer memory used in most personal computers to temporarily store data in electronic form. It can be accessed randomly, and it is volatile, thus losing its content when the electricity is gone. See *Advanced Computer Services of Michigan, Inc. v. MAI Sys., Corp.*, 845 F. Supp. 356, 362 (E.D. Va. 1994).
20. Cf. Freedman, *supra* note 6, at 100-101.
21. See Donald A. Gregory et al., *Introduction to Intellectual Property Law* 193 (1994).
22. 17 U.S.C. § 101.
23. The source code refers to the instructions written in a human-readable computer language (like HTML or Javascript), in contrast to the object code which refers to the instructions expressed in computer-readable binary strings.
24. See, e.g., *Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 836 (10th Cir. 1993); *Computer Associates Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 702 (2d Cir. 1992).
25. See Kent D. Stuckey, *Internet and Online Law*, § 6.02[2] (1997); White Paper, *supra* note 3, at 36.
26. See, e.g., *Broderbund Software, Inc. v. Unison World, Inc.*, 648 F. Supp. 1127, 1132-33 (N.D. Cal. 1986); *Computer Associates*, 982 F.2d at 703.
27. See also Stuckey, *supra* note 25, § 6.03[1]; White Paper, *supra* note 3, at 26.
28. This means that browser caching is disabled and that no proxy caching takes place. Simple memory caching, i.e. loading the materials into RAM according to the specific computer architecture, is not excluded. Memory caching does not implicate the reproduction right and, therefore, does not raise the problems of disk caching, which will be discussed below.
29. See *Sony*, 464 U.S. at 432. See also 2 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 8.01[A] (1997) ("Thus, privately reading a literary work or privately performing a dramatic or musical work constitute uses of a copyrighted work that do not infringe the rights granted to the copyright owner.").
30. Such as hard disks, floppy disks, CD-ROM drives, etc.
31. Usually, one speaks of "running" a computer program. In the case of a Web page, however, "running" is equivalent to "displaying" because the purpose of the computer program of which the Web page consists is only to build and display a page.



32. 17 U.S.C. § 101.
33. *Id.*
34. 991 F.2d 511 (9th Cir. 1993).
35. *Id.* at 519.
36. 845 F. Supp. at 362-364 (E.D. Va. 1994).
37. 64 F.3d 1330, 1335 (9th Cir. 1995), *cert. denied*, 516 U.S. 1145 (1996). In this case, however, permanent copies were also included in the court's discussion, *id.* at 1333, n.4.
38. 45 U.S.P.Q.2d 1236 (N.D. Ill. 1997).
39. See Kristen J. Mathews, *Misunderstanding RAM: Digital Embodiments and Copyright*, 1997 B.C. Intell. Prop. & Tech. F. 041501 ¶ 13.
40. See *id.* ¶ 9 ("Data in RAM . . . is stored electronically, not magnetically as on a hard disk. In other words, the zeros and ones that compose digital data are merely high or low electronic field states. Once the electricity is gone, the registers can no longer sustain the high field states and the data is lost.")
41. See *id.* ¶ 39.
42. The *Advanced* court stated that the computer could be left on eternally, and that whether the work is fixed or not depends on the amount of time it is displayed. 845 F. Supp. at 363. This argument misses the point, however, because it disregards the purpose of the fixation requirement as well as the fact that the copyright owner already controls RAM duplications indirectly. The statute's purpose is not to arbitrarily draw a time line, but to exclude duplications from the copyright owner's monopoly that do not harm the exploitation of the work and that could not be deposited with the Library of Congress anyway. Otherwise, an image projected on a screen should be considered a copy, too, for the same reasons, contradicting the opinion of Congress that images on a screen or tube would not be fixed. H. R. Rep. No. 1476 at 62.
43. Indeed, among the several proposed bills introduced in Congress with respect to the implementation of the recent WIPO Copyright Treaty, two bills involve, *inter alia*, the issue of duplications in RAM. Both the Technology for Educators and Children (TECh) Act (S. 1146) and the Digital Era Copyright Enhancement Act (H.R. 3048), if adopted, would amend 17 U.S.C. § 117 by adding a new subsection (b) which, under certain circumstances, allows the making of copies of digital works to the extent that they are necessary for the use of such works. The Computer Maintenance Competition Assurance Act (H.R. 72) and the recent Digital Millennium Copyright Act of 1998 (S. 2037) take a similar approach. The problem with these approaches to duplications in RAM is that they implicitly admit that such duplications qualify as "copies" under the Copyright Act. Therefore, they do not reject but support the MAI holding, and merely limit its effects.
44. See also Jessica Litman, *The Exclusive Right to Read*, 13 *Cardozo Arts & Ent. L.J.* 29, 42 (1994) ("[T]he better view of the law is that the act of reading a work into a computer's random access memory is too transitory to create a reproduction within the meaning of section 106(1).")
45. See the discussion of the MAI holding in David Nimmer, *Brains and Other Paraphernalia of the Digital Age*, 10 *Harv. J.L. & Tech.* 1 (1996).
46. A defense based on 17 U.S.C. § 117 may be applicable for "normal" computer programs stored on the hard disk of the user, but the defense does not apply to browsing, because the user is not the "owner" of the copy stored on the remote server. See also White Paper, *supra* note 3, at 96-97.
47. Even though it is true when the White Paper, *supra* note 3, at 80 n.256 says that the "inability of our common law system to provide guidance covering every possible permutation of behavior is not necessarily a weakness," that does not mean that one should not strive to elaborate such guidelines for very basic activities such as the simple viewing of digital data.
48. 17 U.S.C. § 101.
49. *Id.*
50. See *Sony*, 464 U.S. at 469 ("watching television at home with one's family and friends is now considered a performance [ . . . ]. Home television viewing nevertheless does not infringe any copyright — but only because 106(4) contains the word 'publicly.'") (citations omitted) (Blackmun, J., dissenting).
51. 17 U.S.C. § 101.
52. Sometimes a Web page has to be adjusted to fit in the browser window or to match the resolution of the user's computer screen. These minor "modifications" should be considered de minimis, and if not, they should be covered by an implied license.
53. This is why *unauthorized uploading* is copyright infringement.
54. See White Paper, *supra* note 3, at 183 & n.507.
55. 907 F. Supp. 1361 (N.D. Cal. 1995).
56. The case involves the uploading of infringing material to Usenet (User Network) instead of the WWW as discussed here. Nevertheless, the issues are the same because, aside from their different purposes, there is practically no technical difference in the context of viewing posted material.
57. 907 F. Supp. at 1378 n.25.
58. *Id.*
59. *Id.* The court also compares digital browsing to reading a book in a library, concluding that the effects are not the same, because a single copy in cyberspace can be viewed by millions of people at the same time. This is true, of course, but what the court does not mention is that (1) it is up to the copyright owner to decide whether or not to allow digital browsing, and (2) this fact does not change the nature of the activity, namely viewing.
60. The court does not even consider the implied license doctrine as a defense. This indicates that the court only talks about the viewing of infringing works.
61. *Id.*
62. *Id.*
63. This section will exclusively discuss standard HREF links and does not include any other specific use of these links, such as in the case of framing, which will be discussed below.
64. This assumes that the Web page author owns the server. And even if this is the case, not any domain name can be chosen due to several technical and conventional restrictions that are not of further importance in this context.
65. See Matt Jackson, *Linking Copyright to Homepages*, 49 *Fed. Com. L.J.* 731, 742 (1997).
66. *Cf.* 17 U.S.C. § 102(b).
67. See Marshall Leaffer, *Understanding Copyright Law* § 2.7[C] & n.50 (1995); Stuckey, *supra* note 25, § 6.09[7] n.26; 37 C.F.R. § 202.1(a).
68. The domain name of Dickstein Shapiro Morin & Oshinsky LLP is "dsmo.com" and it is equivalent to the numeric Internet Protocol address "204.241.143.200."
69. See Friedman & Siebert, *supra* note 10, at 633.
70. In this context, it does not matter whether the URL is used as part of a link or whether the viewer types the URL in the appropriate browser window. Both "uses" are concerned.
71. The domain name owner's translation right would not be infringed, because the IP address is not a derivative work with respect to the domain name since there is no copying of original expression. In fact, the connection between the IP address and the domain name is purely random and any domain name could be used as an equivalent for a specific IP address.
72. *Shetland Times Ltd. v. Wills*, Scot. Sess. Cas. (10/24/96), 1 *EIPLR* 723 (11/1/96).
73. No. 97 Civ. 1190 (S.D.N.Y. 1997).
74. This paragraph is limited to the analysis of plain HREF links. Embedding links and special HREF links that lead to framing are discussed below.
75. *Cf.* Stuckey, *supra* note 25, § 6.09[7] ("Hyperlinks obviate the need to access the Linked Page by typing in its full address.")
76. Upon activation of a link, the browser stops communicating with the linking page and starts communicating with the linked page. *Cf.* Stuckey, *supra* note 25, § 6.09[7] ("Under these circumstances, it is difficult to identify which, if any, of the exclusive rights of a copyright owner would be infringed directly by the Linking Site.")
77. See 3 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 12.04[A][2], at 12-72 (1997).
78. See Nimmer & Nimmer, *supra* note 77, § 12.04[A][3][a], at 12-87



- ("[T]he rule should prevail that third party liability, as its name implies, may exist only when direct liability, i.e., infringement, is present.") (footnote omitted).
79. If the user saves or prints the infringing page.
  80. Vicarious infringement has to be considered only in the case of a right and ability to supervise the infringing conduct, which is the uploading of an infringing Web page. This could be the basis for an infringement claim against Internet service providers, which will not be discussed here, but it does not provide a basis for outlawing linking.
  81. As Stuckey, *supra* note 25, § 6.09[7] says.
  82. See *ACLU v. Reno*, 929 F. Supp. 824, 837 (E.D. Pa. 1996), *aff'd*, 117 S.Ct. 2329 (1997).
  83. No. 97 Civ. 3055 (C.D. Cal. 1997).
  84. First Amended Complaint ¶ 12, *Ticketmaster* (No. 97 Civ. 3055).
  85. *Id.* ¶ 18 & Plaintiff Ticketmaster Corporation's Reply to Microsoft Corporation's Counterclaim ¶ 46.
  86. Answer to First Amended Complaint, Affirmative Defenses and Counterclaims ¶ 45, *Ticketmaster* (No. 97 Civ. 3055).
  87. *Id.* ¶¶ 52-70.
  88. It must be noted, however, that single image files also can be incorporated by using an HTML code for framing.
  89. As a matter of fact, the browser displays the URL of neither the multimedia application nor the framed page, but displays the URL of the incorporating page. The display of this URL is not even necessary, because the purpose of embedding and framing is not to transport the user to a different Web page, but to incorporate the application into the document whose URL is displayed.
  90. That is why the creator of the framing/embedding page cannot possibly infringe the distribution, the public performance, or the public display right; it is still the owner of the framed/embedded materials who distributes, publicly performs, or displays these materials. Since the author of the framing/embedding page does not receive and then re-transmit the copyrighted work, there is no secondary transmission and the doctrine of multiple performances does not apply.
  91. 17 U.S.C. § 106(2).
  92. The "advantage" of the adaptation right is that in order to infringe, the derivative work does not have to be fixed (only to be protected), unlike the reproduction right which requires that a copy be made.
  93. It is usually an HREF link combined with a special code that tells the browser in what frame the linked page has to be displayed. Therefore, framing is in most cases combined with linking and could also be treated as a special variation of an HREF link.
  94. The same argument could be used if, instead of adding a frame, a framing link were established that retrieves only one particular page (assuming that the framed page itself consists of frames) and displays it. Even though the operation is similar to a plain HREF link, it is a "framed link" and it causes the omission of parts of the framed page, and therefore, creates a work that is based upon the framed work.
  95. As explained above, as far as the viewer is concerned, it does not matter whether this derivative work is authorized or whether it is infringing.
  96. Since the derivative work is already prepared before it is accessed and (privately) displayed by the user, the latter cannot possibly participate in the infringing activity of the author of the unauthorized derivative work.
  97. Based on the MAI holding, one could also argue on the basis of a violation of the reproduction right if the multimedia application itself is copyrightable, which is likely to be the case.
  98. See *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, 964 F.2d 965, at 968 (9th Cir. 1992) ("A derivative work must be fixed to be protected under the Act, see 17 U.S.C. § 102, but not to infringe.").
  99. *Id.*
  100. Complaint ¶ 30, *Washington Post Co. v. Total News, Inc.*, No. 97 Civ. 1190 (S.D.N.Y. filed Feb. 20, 1997).
  101. No. 97 Civ. 1190 (S.D.N.Y. filed Feb. 20, 1997).
  102. *Id.* ¶¶ 70, 71.
  103. Stipulation and Order of Settlement and Dismissal ¶ 3, *Washington Post* (No. 97 Civ. 1190).
  104. *Id.* ¶ 4.
  105. *Id.* ¶ 2.
  106. 45 U.S.P.Q.2d 2005 (C.D. Cal. Jan. 30, 1998).
  107. *Id.* at 2010.
  108. 856 F.2d 1341 (9th Cir. 1988), *cert. denied*, 489 U.S. 1018 (1989). On the same grounds as in *Mirage*, the court also distinguishes *Munoz v. Albuquerque A.R.T. Co.*, 829 F. Supp. 309 (D. Alaska 1993) *aff'd*, 38 F.3d 1218 (9th Cir. 1994).
  109. 964 F.2d 965 (9th Cir. 1992), *cert. denied*, 507 U.S. 985 (1993).
  110. This may be different as far as another part of the Internet, the Usenet, is concerned. Usenet only works because it is based on mirroring. Without mirroring, Usenet would not properly function. Implied license or assumption of risk may be valuable defenses in this case.
  111. If the Web page owner has contracts concerning the timed display of certain advertisements, caching could interfere with these contractual obligations, because the Web page owner cannot determine what content is displayed at what time.
  112. See 17 U.S.C. § 107(2).
  113. See 17 U.S.C. § 107(3).
  114. See 17 U.S.C. § 107(1).
  115. See 17 U.S.C. § 107(4).
  116. 464 U.S. 417.
  117. The Digital Millennium Copyright Act of 1998, which recently passed Senate, would amend the Copyright Act by adding a new § 512 which, *inter alia*, limits the liability of an Internet service provider with respect to proxy caching.
  118. It has to be noted, however, that copyright law is not the only legal battlefield with respect to basic Internet activities; trademark law, unfair competition, and torts must be considered as well.