The growing use of digital transmission of information over computer networks and the Internet affects the balance of rights achieved under copyright law. The Internet and electronic bulletin boards provide means for rapid and inexpensive reproduction and transmission of information. On-line users can infringe more cheaply and easily than in print media, raising issues as to the proper standard for copyright infringement of works transmitted electronically. Copyright law presently provides no clear answers as to the extent of liability for Internet service providers (ISPs) and electronic bulletin board services (BBSs) when users infringe copyrights. The few cases that have dealt with on-line infringement have analyzed the issues under different frameworks and have come to conflicting results. While some cases have found ISPs and BBSs liable under a direct infringement theory, either for copying or distributing copyrighted material, other cases have analyzed the activities under contributory and vicarious liability infringement theories.

In Sega Enterprises, v. MAPHIA,1 a district court examined these issues in the context of a BBS. The court found that a bulletin board operator had not copied any Sega computer games, but nonetheless found the operator, Chad Sherman, contributorily liable for willful infringement based on his material contribution to the users' infringement.2 The court also found Sherman liable for trademark infringement, unfair competition, state law trade name infringement, and false designation of origin.3 While Sega involved the activities of a BBS operator and its subscribers, these issues apply equally to ISPs because courts have found both ISPs and BBSs liable as service providers based on the infringing activity of their users.
I. BACKGROUND ON BULLETIN BOARD SERVICES AND INTERNET SERVICE PROVIDERS

The Internet is not a single computer or computer network; instead, it "is an international network of interconnected computers."\(^4\) It is many separate networks that link together to form one large network of information. Approximately 40 million people used the Internet in 1996, and that number is expected to grow to 200 million people by 1999.\(^5\) Millions of documents are available on-line. Individuals can access the Internet in many ways. One popular route is to use an ISP, such as America Online or Prodigy. Some ISPs act simply as conduits to access the Internet; others also provide content available only to subscribers of their service. While some ISPs monitor and control for content, others do not.

A BBS consists of electronic storage media such as computer hard drives, connected by phone lines. A BBS operator provides access to information contained on the BBS, often in exchange for a fee.\(^6\) BBSs sometimes link to the Internet. Generally, however, users only connect to the BBS to which they dial up or to a specific network of BBSs. The owner of a BBS may provide the information available on its BBS; other times, users upload information to the BBS, making it available for other users. Also, users may download files from the BBS, which entails copying the information from the BBS machine onto the user's own computer.

II. SUMMARY OF THE CASE

Plaintiff Sega manufactures and sells video games.\(^7\) These games have two components: a console and individual game cartridges. The consoles play only Sega cartridges, and the consoles cannot be used to copy games. Sega sells the consoles and cartridges under the SEGA logo, its registered trademark, and owns copyrights to the game programs it develops.\(^8\) Sega does not authorize copying of its game programs.\(^9\)

Defendant Sherman operated an electronic bulletin board, called MAPHIA.\(^10\) This bulletin board was open to the public and had approxi-
mately 400 regular users who uploaded and downloaded files, including Sega game programs, to and from the BBS. At the time the BBS was seized pursuant to a court order, it contained 28 Sega games, including two with registered copyrights and six in pre-release, also known as beta versions. Sherman knew that users uploaded and downloaded Sega games, and Sherman used the bulletin board as a marketplace for his business, Parsec Trading, to sell "Super Magic Drives." The Super Magic Drive is both an adapter and copier. The adapter copies Sega game programs from cartridges to floppy disks, and allows the user to play Sega games using floppy disks, instead of Sega cartridges. Users thus can play Sega games using the adapter and floppy disks, instead of using Sega's console and cartridges.

Sega claimed that Sherman had infringed its copyright in Sega's game programs. In considering the case, the court analyzed Sherman's activities under both direct and contributory infringement.

A. Direct Infringement

To establish direct infringement under section 106 of the Copyright Act, Sega needed to show: (1) it owned a valid copyright in the games on the BBS; and (2) Sherman copied the games. The Copyright Act provides that a certificate of copyright registration establishes a presumption of validity in a copyright. Accordingly, the court presumed that Sega owned valid copyrights in Jurassic Park and Sonic Spinball, the video games it had registered.

The court found, following MAI Systems Corp. v. Peak Computer, Inc., that copying occurs when information is "transferred from a permanent storage device to a computer's random access memory." Using this test, it determined that copies were made when Sega's copyrighted game files were uploaded or downloaded from the BBS. Many have criticized the MAI Systems test because of a belief that making a temporary copy in random access memory (RAM) is not sufficiently fixed to implicate the

11. See id.
12. See id. at 928.
13. See id. at 928-29.
14. See id. at 929.
15. See id. at 926.
16. See id. at 931; see also Sid & Marty Krofft Television Productions, Inc. v. McDonald's Corp., 562 F.2d 1157, 1162 (9th Cir. 1977).
19. 991 F.2d 511 (9th Cir. 1993).
Copyright Act. 21 However, the act of uploading or downloading files produces copies on floppy drives as well as RAM copies. Copying thus occurred in the present case whether one considers making RAM copies or making copies onto a more permanent storage device to constitute reproduction.

In determining that Sherman's activities did not constitute direct infringement, the court found that Sherman neither copied nor caused the copying to occur. 22 Because the Copyright Act is a strict liability statute, 23 the court could have used the MAI Systems test to find direct copying by Sherman. In fact, the court earlier granted a preliminary injunction against Sherman based on probable success on the merits, stating in the earlier decision that Sega had established a prima facie case of direct infringement. 24 However, the court ultimately found no direct copying by Sherman, despite both the presence of a copy of Sega's games on Sherman's BBS and the fact that the computer automatically makes RAM copies on the BBS whenever users download files from the BBS.

Instead, the court determined that there "should be some element of volition or causation which is lacking where a defendant's system is merely used to create a copy by a third party." 25 The court interpreted the statute as requiring more than the use of one's system to make copies, and found that knowledge of infringing activities and solicitation to infringe is insufficient to find that Sherman caused the copying. Under this interpretation, Sherman's actions do not implicate direct infringement. 26 The court further found that the contributory infringement doctrine provides a better framework for analyzing defendant's activities. 27

B. Contributory Infringement

Although the Copyright Act does not expressly impose liability for another's infringement, courts have found copyright liability for contributing

22. See Sega, 948 F. Supp. at 932.
26. See id. at 932.
27. See id.
to infringing activity. One who "induces, causes or materially contributes to the infringing conduct of another," may be liable for contributory infringement. Unlike direct infringement, contributory infringement requires knowledge of infringing activity. Accordingly, the court considered whether Sherman: (1) knew of the users' infringing activity; and (2) "induced, caused, or materially contributed" to this activity.

Sherman acknowledged that he knew users copied the games, thus satisfying the first element. The court then analyzed the second element. It noted that the test for contribution has traditionally been "substantial participation," although the Ninth Circuit recently used a more lenient "participation" test, stating that "providing the cite and facilities for known infringing activity is sufficient to establish contributory infringement." The court here found that under either test, Sherman was liable because he "actively solicited users to upload authorized games, and provided a road map on his BBS for easy identification of Sega games available for downloading." The court based its finding on Sherman's participation in the users' infringement. It also noted that Sherman sold the Super Magic Drives through the BBS, and that another court has found selling such copying devices to constitute contributory infringement.

The court rejected Sherman's fair use defense, in which Sherman argued that the users simply played the games in their homes, and there was no indication of further distribution of the games. The court analyzed the four fair use factors, considering: (1) the purpose and character of use; (2) the nature of the work; (3) the extent of the work copied; and (4) the effect on the market. The court analyzed both Sherman's and the users'
activities. If the users’ actions constituted fair use, then the users did not directly infringe and Sherman could not be liable. Similarly, if Sherman’s actions were fair use, he would not be liable.\(^{38}\)

The court found that all four statutory factors weighed against a finding of fair use for both Sherman and the users. First, it found the character of the use to be commercial for both. Sherman’s activities were commercial because he induced downloading in order to sell the Super Magic Drives.\(^ {39}\) The users’ activities were commercial because downloading the games allowed them to avoid buying Sega’s game cartridges.\(^ {40}\) With respect to the nature of the copied work, the court found it to be at the core of intended copyright protection because it is creative as opposed to informational.\(^ {41}\) As for the third element, because users copied the entire work, they necessarily took the “heart” of the creative work.\(^ {42}\)

Finally, the court considered whether the use would have a substantially adverse effect on the market for the copyrighted games. Courts generally consider this factor the most important of the four factors.\(^ {43}\) The court found that the Super Magic Drives made it possible for users to avoid buying Sega cartridges, thus adversely impacting Sega’s sales.\(^ {44}\) If the drives had other uses, they could not serve as the basis for finding Sega’s market to be diminished. However, the court rejected Sherman’s argument that the drives had significant non-infringing uses.\(^ {45}\) The court also rejected the argument that the user’s copying was de minimis. It considered the aggregate of users’ copying and found that widespread copying would substantially affect Sega sales.\(^ {46}\) The court did not distinguish whether this finding implicated fair use by the users or Sherman, stating simply that Sherman’s conduct facilitated the users’ conduct. It is likely that this factor weighs against both Sherman and the users, but the court’s rejection of the fair use defense is supported in the decision even if the court intended only to implicate one or the other.

\(^{38}\) See Sega, 948 F. Supp. at 933.
\(^{39}\) See id. at 934.
\(^{40}\) See id.
\(^{41}\) See id.
\(^{42}\) See id. at 934-35.
\(^{43}\) See id. at 935 (citing Harper & Row Publishers, Inc. v. Nation Enterprises, 471 U.S. 539, 566 (1985)) (internal citation omitted).
\(^{44}\) See id.
\(^{45}\) See id.
\(^{46}\) See id. at 935-36.
Because the court found Sega established a prima facie case of contributory infringement, it did not reach the issue of vicarious liability.  

C. Other Claims

The court also held Sherman liable for trademark infringement. It based its finding on: (1) Sega’s ownership of the SEGA trademark; and (2) Sherman’s use of the mark, which “is likely to cause confusion or mistake among the public as to the origin of the goods.” The court found that the presence of the trademark was likely to confuse members of the public viewing the BBS or playing the copied game as to whether Sega was affiliated with the goods, and that Sherman knew the mark to identify Sega games and used it to identify game folders.

D. Remedies

Sega obtained a permanent injunction against Sherman under copyright, trademark, and state trade name law. This injunction prevented the return of Sherman’s computer equipment in order to minimize the threat of continued violations. Under the Copyright Act, a court has discretion to award statutory damages for infringement. The court followed Nintendo of America v. Dragon Pacific Intl., another case of willful infringement of video games, in awarding Sega $5,000 for each instance of willful infringement. Sega thus received $10,000 for Sherman’s infringement of Jurassic Park and Sonic Spinball. The court awarded monetary damages both because of the willful nature of Sherman’s infringement and in order to prevent future infringements. It also awarded Sega attorneys’ fees for its copyright infringement and other claims. The court further found that

47. See id. at 933.
48. See id. at 939.
49. Id. at 937.
50. See id. at 938. The court further found Sherman liable for false designation of origin under the Lanham Act, state law infringement under CAL. BUS. AND PROF. CODE § 14401 et seq., and state unfair competition under CAL. BUS. AND PROF. CODE § 17200 et seq. See id. at 939.
51. See id.
53. A court may award between $500 and $20,000 for each work infringed. The court may increase the amount to up to $100,000 for each work willfully infringed, and decrease the amount to as low as $200 for unintentional infringement. See 17 U.S.C. § 504(e)(2).
54. 40 F.3d 1007 (9th Cir. 1994).
55. See Sega, 948 F. Supp. at 940; Nintendo, 40 F.3d at 1010.
56. See Sega, 948 F. Supp. at 940.
57. See id. at 940-41; 17 U.S.C. § 505.
Sega was entitled to treble damages or profits on its trademark claim, but did not award any damages because Sega presented no evidence regarding damages or profits.\textsuperscript{58}

III. INCONSISTENCY IN PRESENT CASE LAW

Several cases have dealt with service provider liability in copyright, but a federal appeals court has yet to consider the issue. The cases have come to conflicting results, in part because of differing views on what constitutes copying and in part because courts have varied on their interpretations of strict liability in copyright. As a result, some courts have found service providers directly liable for activities taking place using the services' machines, while others such as Sega have found that strict liability does not adequately assess the activities of the providers.

A. Direct Liability

Courts have used two distinct theories to find direct infringement. They have grounded findings of copying either: (1) in the fact that copies were made on the defendant's system; or (2) by inference, based on access to the copyrighted information and substantial similarity.\textsuperscript{59} In a case similar to Sega, the court in Central Point Software v. Nugent\textsuperscript{60} considered the activities of a bulletin board operator who knew of and encouraged infringing use. The Nugent court, however, did not consider the defendant's participation in any copying. Instead, it focused on the fact that the software was posted on the BBS and available for downloading. The court reasoned that the software was reproduced in the computer's memory without plaintiff's permission and found this reproduction to be sufficient in finding that Nugent had copied.\textsuperscript{61}

In Playboy Enterprises v. Frena,\textsuperscript{62} one of the earliest cases to deal directly with this issue, a district court assessed whether a BBS operator had distributed and displayed copyrighted material. The display right prevents

\textsuperscript{58} See Sega, 948 F. Supp. at 941.
\textsuperscript{60} 903 F. Supp. 1057 (E.D. Tex. 1995).
\textsuperscript{61} See id. at 1059-60.
\textsuperscript{62} 839 F. Supp. 1552 (M.D. Fla. 1993).
unauthorized transmission of a display from one place to another, including showing a copy of a work. The court used a traditional two-part analysis to determine whether Frena had copied Playboy photographs, considering: (1) whether Frena had access to the allegedly infringed work; and (2) how similar the works were. The court determined that the Playboy photographs were widely accessible and thus presumed access by the defendant; it further found that the copies were substantially similar to the original photographs. It then decided that Frena "supplied a product containing unauthorized copies of a copyrighted work," and found unpersuasive Frena’s argument that he did not make the copies himself.

In Playboy Enterprises v. Webbworld, a district court found copying because the owner of a web page sold access to copyrighted photographs he obtained from users on the web. Using the same two-part test as the court in Frena, the Webbworld court found that the defendant had copied because photographs substantially similar to the plaintiff’s were on Webbworld’s system. This case is different from the others in which there was direct infringement because the owner controlled the images he sold. However, the court found that such control, as in Frena, was not necessary.

In Religious Technology Center v. Netcom, an earlier case that informed the Sega court, a plaintiff sued both a BBS operator, Klemesrud, and the ISP, Netcom, that gave Internet access to the bulletin board. The court found no direct infringement for either the ISP or BBS operator, analogizing them to owners of a photocopier who allow people to copy on the machine. Photocopier owners are not directly liable for users’ copying because they do not cause the copying, though they may be liable as contributory infringers.

The Netcom court’s holding was not in direct opposition to the Frena decision because the Frena court looked at the right to distribute, not reproduce, copyrighted works. However, the reasoning of the courts is incompatible. The Netcom court determined that a finding of public dis-

64. See Frena, 839 F. Supp. at 1556.
65. See id.
66. Id.
68. See id. at 1174.
69. See id.
70. 907 F. Supp. 1361 (N.D. Cal. 1995).
71. See id. at 1369.
72. See id.
73. See id.
tribution by an ISP or BBS would have the same problems as a finding of copying.\textsuperscript{74} It found that only the subscriber who uploaded or downloaded the information should be directly liable because the activity of the ISP and BBS is automatic and indiscriminate.\textsuperscript{75} Furthermore, the court in \textit{Frena}, unlike \textit{Netcom}, found copying to be a prerequisite to finding that Frena had distributed copyrighted material.\textsuperscript{76}

B. Contributory and Vicarious Liability

Once it found no direct infringement by the service provider, the \textit{Netcom} court analyzed the ISP’s and BBS’s liability under contributory and vicarious infringement. The court found that the defendants would be liable for contributory infringement if they: (1) had knowledge of the infringing activity; and (2) “induce[d], cause[d] or materially contribute[d]” to the user’s infringing conduct.\textsuperscript{77} It denied summary judgment because it identified a genuine issue of fact as to whether Netcom and Klemesrud knew that the user had infringed.\textsuperscript{78} Plaintiff had notified the defendants of the alleged infringement, but it was unclear to the court whether they knew or should have known that the material actually infringed because it may have been beyond defendants’ ability to verify a claim of infringement.\textsuperscript{79} Furthermore, the court found that, assuming defendants knew of the infringement and could have taken “simple measures” to prevent further infringement, Netcom and Klemesrud had substantially participated in the user’s infringement and would be liable for contributory infringement.

\textit{Netcom} is the only court that has considered vicarious liability in the context of ISPs and BBSs. Vicarious liability occurs when the service provider “(1) has the right and ability to control the infringer’s acts, and (2) receives a direct financial benefit from the infringement.”\textsuperscript{80} Thus the plaintiff in \textit{Netcom} would need to show that Netcom or Klemesrud could control postings either before or after posting. The court found that a genuine issue of fact existed as to both defendants’ ability to control the information. It nonetheless dismissed the vicarious infringement claims with leave to amend. With regard to Klemesrud, the court dismissed because the plaintiff failed to allege that Klemesrud directly benefited finan-

\begin{itemize}
\item \textsuperscript{74} See \textit{id.} at 1371-72.
\item \textsuperscript{75} See \textit{id.} at 1372.
\item \textsuperscript{76} See \textit{id.}
\item \textsuperscript{77} \textit{Id.} at 1373 (quoting Gershwin Publishing Corp. v. Columbia Artists Management, Inc., 443 F.2d 1159, 1162 (2d Cir. 1971)).
\item \textsuperscript{78} See \textit{Netcom}, 907 F. Supp. at 1374-75, 1382.
\item \textsuperscript{79} See \textit{id.} at 1374.
\item \textsuperscript{80} \textit{Id.} at 1375.
\end{itemize}
cially by having infringing works on his BBS.\textsuperscript{81} And the court dismissed the claim against Netcom because Netcom’s regulation-free policy, although it may attract copyright infringers, was insufficient as a matter of law to constitute a direct financial benefit.\textsuperscript{82}

There is no requirement of knowledge or contribution in vicarious liability. With regard to the right or ability of service providers to control infringement, the analysis may be the same as with contributory infringement. Because the volume of material passing through an ISP’s system is so great, an ISP is unable to control infringing acts unless it receives notice of the infringement. Thus courts may interpret “right and ability to control” as requiring knowledge of infringement. The same may not be true of BBSs, however, because the volume of content is often much smaller. Although BBS operators, like ISPs, often do not control the information, courts may be more willing to say they have the ability to control the information.

In many cases, it may be harder to prove vicarious than contributory infringement because of the direct financial benefit requirement. A court could find direct financial benefit in a case like \textit{Sega}, in which the BBS operator earned money directly because users infringed. If other courts accept the approach in \textit{Netcom} and require that plaintiffs show more than a market advantage as a result of allowing copyright infringement, courts will not find vicarious infringement in many cases. This doctrine will only apply in extreme cases, and will not implicate the activities of most ISPs. It is unclear how courts will apply vicarious infringement to cases of ISPs and BBSs, however, because no case has fully analyzed their activities under the doctrine.

\textbf{IV. DISCUSSION}

The willfulness of the defendant’s acts in \textit{Sega} makes it an easy case for the court to find infringement. The bulletin board operator knew of and encouraged infringement, and he used his business to sell a device that allowed users to play Sega games using the infringing game programs. While the court found contributory infringement on a theory of substantial contribution to the infringement of another, it could have ruled on the ground that the Super Magic Drives were not capable of any substantial noninfringing uses. Were the court to deny the infringement claim, the decision would bode poorly for the copyright scheme’s ability to protect copyrighted works. The case is instructive, however, in demonstrating an

\begin{flushleft}
\textsuperscript{81} See id. at 1382. \\
\textsuperscript{82} See id. at 1376. 
\end{flushleft}
An effective approach to liability for service providers when the infringement occurred because of the acts of another.

The United States Constitution empowers Congress to "Promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."\(^8\) Copyright law exists to balance incentives to authors with dissemination of information.\(^4\) Alternatively stated, the purpose of the Copyright Act is to encourage creativity ultimately to benefit the public.\(^8\)

Proponents of stronger protection for copyright argue that service provider liability is necessary because new technology has made it easier to infringe a copyrighted work. As a result, many have concluded that the monopoly over the work must increase to compensate.\(^6\) This view is reflected in the Report of the Working Group on Intellectual Property Rights, commonly known as the White Paper.\(^8\) The White Paper contains recommendations on how to adapt copyright law to account for the changed copyright dynamic that has occurred with digital information transmission.\(^8\) For example, proposals include treating temporary copies of digital works as copies and making service providers strictly liable for the copying done by its users.\(^9\) In fact, the White Paper suggests that service providers are already liable under current copyright law, regardless of whether or not they know of infringing activity or take steps to prevent infringement.\(^9\)

The promulgation of the White Paper has not resulted in any substantial changes in copyright law.\(^9\) Furthermore, these recommendations, which the United States also brought forth as proposals for the WIPO

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85. See Twentieth Century Music Corp. v. Aiken, 422 U.S 151, 156 (1975).
88. See id. at 211-21.
89. See id. at 218-20.
91. See Calvert, supra note 86 at 568.
Copyright Treaty, were not included in the final version of the treaty. Nonetheless, the debate about the proper level of protection is still raging.

For example, there is no consensus on whether and how to apply strict liability. Courts have been concerned that, without strict liability, parties could shield themselves from damages "by merely refraining from making inquiry." Yet this justification for strict liability does not apply in the context of service provider liability. With the millions of messages traveling over the Internet, service providers cannot monitor every transmission over their services; it would be prohibitively expensive and probably impossible. Thus, a strict liability system cannot achieve its goal of encouraging inquiry. In fact, such a system would greatly inhibit the dissemination of information over the Internet if service providers restricted messages in order to insulate themselves from liability. Such an effect would directly contravene the purposes of copyright law. Furthermore, it would have First Amendment consequences, as restricting the flow of information over the Internet would have a chilling effect on speech.

Cases such as Sega and Netcom take a functional approach to service provider liability. Under a formalistic interpretation of copying, courts could find the defendants in these cases strictly liable for direct infringement because a copy was made on the service provider's system. However, such an interpretation does not account for how differently reproduction occurs in the digital environment as compared to print media. It also fails to acknowledge that the act of making a work publicly available on-line affects the rights of copyright holders, while the actual reproduction in RAM may not. Moreover, service provider liability is more appropriately analyzed under contributory or vicarious infringement because these paradigms focus on responsibility for actions taken by users who publicly post copyrighted information.

Sega and Netcom followed MAI Systems in finding that the making of a RAM copy constitutes reproduction. The Netcom court, however, dis-

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92. For example, Article 7(2), which would have put temporary copies within protected reproduction right, was not included in the final version of the treaty. This proposal was rejected, many criticizing it for being so broad as to give patentlike protection to copyright holders. See Pamela Samuelson, The U.S. Digital Agenda at WIPO, 37 VA. INT'L L.J. 917, 923 (1997); WIPO Copyright Treaty, adopted Dec. 20, 1996, WIPO Doc. CRNR/DC/94; see also Julie Sheinblatt, The WIPO Copyright Treaty, 13 BERKELEY TECH. L.J. 535 (1998).

93. Shapiro, Bernstein, & Co, Inc. v. H.L. Green Co., Inc., 316 F.2d 304, 308 (2d Cir. 1963) (quoting De Acosta v. Brown, 146 F.2d 408, 413 (2d Cir. 1944)).

tiquished *MAI Systems* by noting that the user in *MAI Systems* had caused the RAM copy to be made by pulling up the file, while in *Netcom* a copy was made incidentally on the system and the user caused the copying to occur. As in *MAI Systems*, the *Netcom and Sega* courts placed direct liability on the user who initiated the reproduction, regardless of whether the operator of the system knew of the infringement. They reject the conclusion reached in *Nugent* that the mere setting up a system is sufficient to find that a service provider or operator has reproduced or distributed copyrighted material.

These courts furthermore reject the approach, used in the *Playboy* cases, of finding that access plus substantial similarity proves copying. While the test used in the *Playboy* cases makes sense in such areas as print media and music compositions, it does not translate well in the realm of electronic transmissions, where it is very common for users, instead of the ISP or BBS, to post information. The test is useful for determining whether copying has occurred, but not whether the service provider made the copies.

The lower protectionist approach, suggested here and used in *Sega*, rejects strict liability. However, service providers would still be liable when they learn of infringing activity and fail to take affirmative action. One problem with this lower protectionist approach is that, as noted in *Netcom*, it is difficult to verify an allegation of infringement. Verification will become less of a concern as copyright owners begin to embed digital watermarks or serial numbers onto their works. These marks identify copyrighted material, are difficult to remove, and make it possible for owners to trace copies to a particular source. However, few works today have embedded marks.

Furthermore, service providers will still have the difficult task of determining whether a use constitutes infringement, such as when its use is fair. As a result, in the absence of legislation that would minimize the number of false accusations of infringement, service providers should only

96. *See id.* at 1374.
97. An electronic watermark is digital information encoded in the data that produces a document. It acts like a fingerprint, allowing a copyright owner to recognize copies of his or her document, and is invisible to viewers. *See Sheldon Burshtein, Surfing the Internet: Copyright Issues in Canada*, 13 SANTA CLARA COMPUTER & HIGH TECH. L.J. 385, 394 (1997).
99. *See Burshtein, supra* note 97, at 394.
be liable when they fail to take action once they have verified an infringement. They should have the responsibility, once they learn of infringement, to take reasonable actions to verify infringement and remove infringing materials.  

The courts, as well as Congress, have begun to address issues surrounding service provider liability in other areas of tort law. The court in *Zeran v. America Online, Inc.* discussed the chilling effect strict liability would have on electronic media. While it is unclear how companies would protect themselves from suit, the *Zeran* court stated, “Faced with potential liability for each message republished by their services, interactive computer service providers might choose to severely restrict the number and type of messages posted.” To combat this potential problem, Congress passed section 230 of the Communications Decency Act of 1996, which protects service providers to avoid such restrictions on communication.

Congress has yet to pass a similar statute with regard to copyright infringement, resulting in significant inconsistencies in the case law. Because of these inconsistencies, and because of the difficulties involved in determining whether material is infringing, legislation is needed to establish a standard for the level of responsibility service providers have and provide penalties for false accusations of infringement. A new bill, entitled the Digital Copyright Clarification and Technology Education Act of 1997, was introduced in the Senate on September 3, 1997. This bill would add section 512 to the Copyright Act. Section 512(a)(1) would explicitly state that parties who provide electronic communications network services or facilities are not liable for direct, contributory, or vicarious copyright

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100. The technology exists to remove individual postings without removing every message from the same computer or group of computers, as indicated by a recent agreement of ISPs. At the Internet Online Summit, industry groups covering 95% of home users agreed to remove postings of child pornography from their bulletin boards and services. See *Internet measures to protect children announced* (last modified Dec. 2, 1997) <http://www.cnn.com/TECH/9712/02/internet.smut/index.html>; *Internet Online Summit: Focus On Children* (last modified Dec. 3, 1997) <http://www.kidsonline.org>.

101. 129 F.3d 327 (4th Cir. 1997).

102. See id. at 333 (holding that an ISP is not strictly liable for defamatory content posted by a user).

103. Id.


105. See *Zeran*, 129 F.3d at 333. The section states that service providers are not publishers or speakers of information provided by others, making service providers immune from liability “for its exercise of a publisher’s traditional editorial functions[.]” Id. at 330; 47 U.S.C. § 230(c)(1).
infringement when they do not control the information.\textsuperscript{106} Under section 512(b)(1), parties would not be liable for information posted by users even when they can control the information. They would, however, be liable when they fail to remove, disable, or block access to the material to the extent it is feasible and economically reasonable within ten days of receiving notice of the infringing activities, or after a court order.\textsuperscript{107}

This bill is problematic because it presumes allegations of infringement are true, and requires removal of the information. When an ISP removes allegedly infringing material, it is likely to sometimes remove noninfringing material, restricting the free flow of information. However, the bill provides specific requirements for notice and penalties for misrepresentation of an infringement.\textsuperscript{108} This provision should help to minimize false accusations and the resulting removal of noninfringing works.

This legislation provides an alternative solution to the one suggested above and, if passed, will help clarify service providers' responsibilities and liability. Its future, however, is unclear, since it was only recently introduced, and the Judiciary Committee has not yet taken any action on the bill.\textsuperscript{109}

V. CONCLUSION

The U.S. Supreme Court has stated, "When technological change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of [its] basic purpose [of stimulating artistic creativity for the general public]."\textsuperscript{110} The cases finding direct infringement overlook this important principle of statutory construction, taking rules from print media and applying them to the digital transmission context. Such formalism leads to overprotection and liability at the hands of those who do not control users' posting of infringing materials. To treat the copies made automatically on a system as infringing reproduction by the service provider mischaracterizes service providers' role. These copies are necessary for the functioning of a system responsible for vast dissemination of information, and should not form the basis of liability in the absence of knowledge of infringement and an ability to control the information. \textit{Sega} is one of the first cases to properly interpret the role that service providers play in

\begin{itemize}
\item \textsuperscript{106} See S. 1146, 105th Cong. § 102(a) (1997).
\item \textsuperscript{107} See id. § 102(b).
\item \textsuperscript{108} See Id.
\item \textsuperscript{109} See Bill Summary and Status for the 105th Congress (visited Jan. 29, 1998) <http://thomas.loc.gov/cgi-bin/bdquery/z?d105:SNO1146:@@@I>.
\item \textsuperscript{110} Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975).
\end{itemize}
contributing to the infringing acts of users, and provides guidance on the level of responsibility to which service providers should be held.