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COPYRIGHTS IN THE STREAM: THE BATTLE ON WEBCASTING

Eldar Haber[†]

Abstract

The Internet threatens many right holders who consistently battle against technologies that enable people to use their copyrighted materials without their consent. While copyright holders have succeeded in some cases, their main battle against peer-to-peer (P2P) file-sharing has yet to be resolved. Another technology that threatens right holders' business models, especially in the film industry, is the distribution of their content freely via webcasting. Although right holders have paid little attention to webcasting as they continue their campaign against P2P file-sharing, it poses similar threats and presents the likely possibility of a future copyright battle.

This Article examines copyright and webcasting. I analyze webcasting in comparison to past and current wars on copyright, trying to unveil major differences between the two. I argue that the current U.S. copyright régime treats webcasting inadequately and should be reexamined, especially vis-à-vis end-user's actions since courts have yet to review cache copies created during Internet transmissions. I opine that future legal solutions proposed to handle webcasting, much like past attempts in similar matters, will be futile since technology will continue to evolve at a faster rate than legislation. Finally, I argue that the best solution to the current, as well as future, legal battles to protect copyrights should be the creation of a new business model similar to that of a levy system.

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1. INTRODUCTION

The Internet opened a gateway to many activities that could enrich people's culture, including enabling the dissemination of media files, which promotes freedom of speech and information. However, it also enables unlawful activities, such as free distribution of copyrighted materials without right holders' consent and has proven to be a real problem for some right holders in the entertainment industries. These right holders have been using various methods to win their battle against Internet Service Providers (ISPs) and end-users who affect their business models negatively, so claim the right holders.¹ After many years, right holders are still combating different forms of P2P (peer-to-peer)² file-sharing. Even though they have won some battles, this war is far from over.

The current war against unlawful file-sharing of copyrighted materials is important for many right holders. However, winning this war probably will not change the inevitable outcome: end-users will keep searching—and finding—a way to consume content online for

1. There is some academic debate regarding file-sharing and the nature of impact on right holders' revenues and on the creators' incentives to make creative works in the first place. Some scholars argue that consumer access to sound and video recordings has vastly improved since file-sharing. Hence, it makes it difficult to argue that weaker copyright protection has had a negative impact on artists' incentives. See Felix Oberholzer-Gee & Koleman Strumpf, *File-Sharing and Copyright* (Harvard Bus. Sch., Working Paper No. 09-132, 2009), available at <http://www.hbs.edu/research/pdf/09-132.pdf>; Birgitte Andersen & Marion Frenz, *The Impact of Music Downloads and P2P File-Sharing on the Purchase of Music: A Study for Industry Canada* (May 4, 2007), available at

http://www.ic.gc.ca/eic/site/ippd-dppi.nsf/vwapj/industrycanadapapermay4_2007_en.pdf.

However, the majority of scholars agree that file-sharing poses some threat to the music and film industries. See Martin Peitz & Patrick Waelbroeck, *The Effect of Internet Piracy on Music Sales: Cross-Section Evidence*, 1 REV. OF ECON. RES. ON COPYRIGHT ISSUES 71 (2004); Alejandro Zentner, *File Sharing and International Sales of Copyrighted Music: An Empirical Analysis with a Panel of Countries*, 5 TOPICS IN ECON. ANALYSIS & POL'Y 1 (2005); Stan J. Liebowitz, *File Sharing: Creative Destruction or Just Plain Destruction?*, 49 J. OF L. & ECON. 1 (2006); David W. Opperbeck, *Peer-to-Peer Networks, Technological Evolution, and Intellectual Property Reverse Private Attorney General Litigation*, 20 BERKELEY TECH. L. J. 1685 (2005); Andrés Guadamuz González, *The Copyright Web: Networks, Law and the Internet*, in 4 NEW DIRECTIONS IN COPYRIGHT L. 144 (2006). See also Sangeeta Shastri, *Internet Piracy Taking Big Toll on Jobs*, REUTERS (Mar. 17, 2010),

<http://www.reuters.com/article/idUSTRE62G3BU20100317?type=technologyNews>.

2. The "peers" are computer systems connected to each other through the Internet. Users can exchange files directly, without resorting to a central server. For more on P2P, see P2P, TECHTERMS.COM, <http://www.techterms.com/definition/p2p> (last visited Aug. 21, 2012); *Definition of: peer-to-peer*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=peer-to-peer&i=49053,00.asp (last visited Aug. 21, 2012).

free as long as they possess the proper technology that enables them to do so and as long as enforcement measures continue to be relatively small-scaled and local. Hence, even if right holders win the current battle on P2P file-sharing, they will have to face newer methods of consuming free online content.

Webcasting is a digital form of transmission of media over a network that plays the media without storing a permanent copy at the recipient's end, using online streaming technologies.³ Webcasting is sometimes referred to as the technology that enables it, i.e., streaming, which can be performed either "live" or "on-demand."⁴ Through webcasting, end-users can listen to music or watch a video in "real time," instead of downloading the file and viewing or listening to it after downloading is completed. Hence, webcasting could be considered as an alternative to P2P file-sharing for end-users.

Although P2P file-sharing and webcasting share many similar features, they differ in few important aspects, especially with regard to the end-user's online activity. Whereas in the context of P2P file-sharing the end-user's sharing and/or downloading content could infringe copyright (subject to some exceptions set in the law), in the context of webcasting, it is not always clear whether end-users' actions infringe right holders' rights vis-à-vis the reproduction right. Unlike P2P file-sharing, webcasting does not involve the making of a permanent copy of the work. Webcasting involves only the temporary storage of segments of the file before and while webcasting it. The temporary storage takes place in the Random-Access Memory (RAM)⁵ of the end-user's computer or streaming device. Technically

3. For a general description of webcasting and streaming, see David L. Hayes, *Advanced Copyright Issues on the Internet*, FENWICK, 495 (last updated Apr. 2011), http://www.fenwick.com/fenwickdocuments/advanced_copyright_2011.pdf, and his previous article, David L. Hayes, *Advanced Copyright Issues on the Internet*, 7 TEX. INTELL. PROP. L.J. 1 (1998).

4. See Matt Jackson, *From Broadcast to Webcast: Copyright Law and Streaming Media*, 11 TEX. INTELL. PROP. L.J. 447, 450 (2003).

5. Random-access memory or "RAM," temporarily stores all processed data of the computer operation. This data usually disappears when the computer is turned-off. To better understand the technological process, see RON WHITE, *HOW COMPUTERS WORK* 332-33 (7th ed. 2004). See also COMPUTER SCI. & TELECOMM. BD., NAT'L RESEARCH COUNCIL, *THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE* 28-31 (2000). In fact, some courts have held that the storage of a copyrightable work in RAM violates the copyright owner's exclusive reproduction right. See *Stenograph L.L.C. v. Bossard Assocs., Inc.*, 144 F.3d 96 (D.C. Cir. 1998); *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993). See also R. Anthony Reese, *Copyright and Internet Music Transmissions: Existing Law, Major Controversies, Possible Solutions*, 55 U. MIAMI L. REV. 237, 252-53 (2001). But see *DSC Commc'ns Corp. v. DGI Tech., Inc.*, 81 F.3d 597 (5th Cir. 1996).

speaking, no copy of the material remains stored on the end-user's computer, or, at least, not stored for a long period, which leaves the possible infringement of the right of reproduction in question. Although an American court ruled that temporary storage in a computer's RAM infringes the right holders' right of reproduction, other cases have reached a different result,⁶ leaving the legal question highly controversial and in an immediate need for legal clarification.⁷

In this Article, I analyze webcasting thoroughly while examining copyright law framework. I compare webcasting to past and current wars against P2P file-sharing to unveil major differences. I argue that webcasting poses a major threat to right holders' business models, much like P2P file-sharing, especially in the film industry. However, I claim that right holders' attempts to eliminate unlawful webcasting will be futile, as technology will continue to evolve. Finally, I opine that in order to find a possible solution for right holders' claimed loss of revenues, the right holders should start by abandoning their old business models and adapting them to the new digital reality.

Part II outlines the general take of copyright law on webcasting, distinguishing between different players in the struggle. Part III describes current and past wars against technological developments, which mainly occur over the Internet. Part IV compares and distinguishes between P2P file-sharing and webcasting in an attempt to unveil right holders' agendas. Part V illustrates how a possible war against webcasting will be fought. Part VI suggests different legal solutions for current webcasting problems. Finally, Part VII summarizes the discussion and concludes that copyright law does not currently address webcasting properly and should be reexamined to achieve certainty. Moreover, I conclude that the future war on webcasting, much like current war on P2P file-sharing, is doomed to fail, and right holders should implement other solutions, such as a levy system.

6. *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008).

7. For example, the buffer copies used in webcasting, which refer to downloading a certain amount of data before starting to play the music or movie, do not possess any independent economic significance and therefore should not be considered as a reproduction in the sense of copyright law. For more on buffer copies, see *Definition of: buffering*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=buffering&i=39024,00.asp (last visited Aug. 21, 2012).

II. WEBCASTING & COPYRIGHT LAW

Webcasting is a digital transmission of creative work over a network that results in the playing of the work, without storing a permanent copy at the recipient's end (temporary storage in RAM⁸ and/or by the end-user's streaming device⁹). The data arrives in small packets that need to be received and assembled by the receiving device, and is collected in a segment of RAM that is allocated as a "buffer" for audio or visual performance/display.¹⁰ The amount of time a buffer copy is stored varies depending on the end-user's Internet connection speed, the quality of the media, and the end-user's computer's abilities.¹¹ Put simply, webcasting is listening to music or watching a video in "real time," instead of downloading a file and viewing or listening to it after the downloading is completed or at any later time.¹²

From an American copyright law perspective, which grants copyright owners a right to control certain uses of their works,¹³ webcasting protected works without the right holders' consent might be unlawful, depending on the nature of the act and the identity of the possible infringer. I begin by exploring the possible copyright infringements resulting from webcasting from the perspective of three main players involved in this process: the ISP that provides the infrastructure that enables an end-user to upload materials, the person who uploads the copyrighted content to the ISP's platform (the webcaster), and the end-user who consumes the copyrighted

8. See *supra* text and citations accompanying note 5.

9. The user's streaming device also may temporarily store/cache data on the hard drive of the user's computer. See Reese, *supra* note 5, at 252 n.49.

10. See DIGITAL MEDIA ASS'N, REPORT TO CONGRESS PURSUANT TO SECTION 104 OF THE DIGITAL MILLENNIUM COPYRIGHT ACT, at 15-16, available at http://www.scireg.org/us_copyright_registration/reports/studies/dmca/comments/Init021.pdf (Docket No. 000522150-0150-01).

11. Higher quality media will take longer to transmit, so more data will be accumulated in the buffer. More data will be accumulated where the user has a slow or congested Internet. See *id.* at 16.

12. See Jack Schofield, *What is Streaming?*, BBC WEBWISE (Sept. 9, 2010), <http://www.bbc.co.uk/webwise/guides/about-streaming>.

13. Copyright law in the United States grants the right holder the exclusive rights to reproduce the copyrighted work in copies or phonorecords, to prepare derivative works based upon the copyrighted work, to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending, in some cases, to perform and/or display the copyrighted work publicly, and in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission. See 17 U.S.C. § 106 (2006).

content (end-user).

a. Internet Service Providers

ISPs provide end-users with access to content posted on the Internet and refer to a wide range of intermediaries that facilitate access to the Internet.¹⁴ ISPs are sometimes referred to as gatekeepers with possible “deep pockets,” i.e., extensive financial wealth,¹⁵ and could play an important role in preventing infringements and enforcing copyrights on the Internet. Yet, under current U.S. law, ISPs are generally not liable for direct copyright infringement that occurs during webcasting as they provide only the infrastructure that enables an end-user to upload materials. However, they could potentially be held liable for contributory infringement.

Under the safe harbor provisions established by the Digital Millennium Copyright Act of 1998 (DMCA),¹⁶ ISPs are exempt from

14. Niva Elkin-Koren, *Making Technology Visible: Liability of Internet Service Providers for Peer-to-Peer Traffic*, 9 N.Y.U. J. LEGIS. & PUB. POL’Y 15, 16 n.2 (2006) (explaining that ISPs are divided into two main groups: access providers, which enable access by offering transmission, routing, and connectivity to digital online networks, and service providers, which enable information processing services such as search engines, chats, forums, hosting, storage, payments, marketing, and design services). ISPs could also be divided into three categories: Backbone Providers, Source ISPs, and Destination ISPs. See Ronald J. Mann & Seth R. Belzley, *The Promise of Internet Intermediary Liability*, 47 WM. & MARY L. REV. 239, 255-56 (2005). Backbone Providers operate solely at the level of transmission. *Id.* Destination ISPs provide applications such as the ability to connect to the World Wide Web. *Id.* Source ISPs provide access to the business at which the unlawful content is made available. *Id.* See also Jonathan Zittrain, *Internet Points of Control*, 44 B.C. L. REV. 653 (2003). Due to increasing convergence of communication and content in digital markets, I use the term ISP broadly to refer to all ISPs.

15. See Elkin-Koren, *supra* note 14, at 26 (arguing that ISPs often had deep pockets and their role as gateways to the online environment made them potential gatekeepers).

16. Digital Millennium Copyright Act, Pub. L. 105-304, 112 Stat. 2860 (1998), codified as 17 U.S.C. §§ 512, 1201-1205, 1301-1332 (2006); 28 U.S.C. § 4001 (2006). Under the DMCA, a service provider will

not be liable for monetary relief, or . . . injunctive or other equitable relief, for infringement of copyright by reason of the provider’s transmitting, routing, or providing connections for, material through a system or network controlled or operated by or for the service provider, or by reason of the intermediate and transient storage of that material in the course of such transmitting, routing, or providing connections, if—

- (1) the transmission of the material was initiated by or at the direction of a person other than the service provider;
- (2) the transmission, routing, provision of connections, or storage is carried out through an automatic technical process without selection of the material by the service provider;
- (3) the service provider does not select the recipients of the material except as an automatic response to the request of another person;
- (4) no copy of the material made by the service provider in the course of such

liability if they implement enforcement methods, including termination of subscriptions of repeat infringers, removal of alleged infringing materials upon receiving notice, and identification of subscribers who allegedly continued infringing copyrighted content after receiving a subpoena.¹⁷ Since I distinguish between ISPs and webcasters, I will not further discuss ISP liability as they only provide the infrastructure that enables an end-user to upload materials, but do not play a major role in this matter as long as they comply with the DMCA provisions.¹⁸ The inability to sue ISPs for webcasting infringement could result in an attempt by some right holders¹⁹ to

intermediate or transient storage is maintained on the system or network in a manner ordinarily accessible to anyone other than anticipated recipients, and no such copy is maintained on the system or network in a manner ordinarily accessible to such anticipated recipients for a longer period than is reasonably necessary for the transmission, routing, or provision of connections; and

(5) the material is transmitted through the system or network without modification of its content.

17 U.S.C. § 512. Other countries have enacted similar legal rules, e.g., Australia (*Copyright Act 2006* ss 116AA-D (Austl.)), Canada (Copyright Act, R.S.C., c. C-42, § 2.4(1)(b) 1985), France (Loi 2004-575 du 21 juin 2004 pour la confiance dans l'économie numérique [Law 2004-575 of June 21, 2004 on Confidence in the Digital Economy], JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], June 21, 2004, § 6), Germany (Gesetz über die Nutzung von Telediensten [Law on the Use of Teleservices], July 22, 1997, BGBl. I at 1870, § 9 (Ger.)),

New-Zealand (Copyright (New Technologies) Amendment Act 2008 § 92A-E (N.Z.)), Singapore (Copyright Act 1987 § 193 (Sing.)), South Korea (Copyright Act, Law No. 8101, Dec. 28, 2006, ch. 6 (S. Kor.)), and Japan (Tokutei denkitsushin ekimu teikyousha no songaibaishou sekinin no seigen oyobihasshinsha jouhou no kaiji ni kansu ru houritsu [Act on the Limitation of Liability for Damages of Specified Telecommunications Service Providers and the Right to Demand Disclosure of Identification Information of the Senders], Law No. 137 of 2001, arts. 3-4 (Japan)). See Elkin-Koren, *supra* note 14, at 17-18.

17. See 17 U.S.C. § 512(h). However, due to a risk to fundamental human rights, such as free speech and the right to privacy, it is a hard task for courts to decide whether to grant the request. See Michael Birnhack, *Unmasking Anonymous Online Users*, 2 HUKIM J. LEGIS. 51, 82 (2010) [Hebrew]; see generally Lyriisa Barnett Lidsky & Thomas F. Cotter, *Authorship, Audiences, and Anonymous Speech*, 82 NOTRE DAME L. REV. 1537 (2007).

18. Recently, right holders have sued ISPs such as YouTube.com and Veoh.com under the failed argument that activities which are necessary for making content accessible on the web are not covered by the DMCA's Section 512(c). See *Viacom Int'l, Inc. v. YouTube, Inc.*, 718 F. Supp. 2d 514 (S.D.N.Y. 2010) (holding that Google, which owns YouTube.com, is protected by the DMCA as long as there is no evidence of intentional copyright infringement); *UMG Recordings, Inc. v. Veoh Networks, Inc.*, 620 F. Supp. 2d 1081 (C.D. Cal. 2008); Greg Sandoval, *Veoh Wins Copyright Case; YouTube Wins, Too?*, CNET NEWS (Sept. 14, 2009, 12:47 PM), http://news.cnet.com/8301-1023_3-10352183-93.html; Fred Von Lohmann, *UMG v. Veoh: Another Victory for Web 2.0*, ELEC. FRONTIER FOUND. (Jan. 5, 2009),

<https://www.eff.org/deeplinks/2009/01/umg-v-veoh-another-victory-web-2-0>.

19. For example, some artists, such as Radiohead, choose a different approach. Radiohead released its seventh album, *In Rainbows*, through its own website, which allowed users to download the album for free and decide later whether they would like to pay the band

involve ISPs with webcasting enforcement, hoping for their cooperation.²⁰

b. The Webcaster

The webcaster, who uploads the copyrighted content to the ISP's website,²¹ can infringe upon several different exclusive rights, depending on the nature of the media,²² mainly the Public Performance Right²³ due to the possible transmission of the content.

for the record. See Mike Masnick, *Radiohead Tells Fans To Name Their Own Price For Latest Album Downloads; Gives Them A Reason To Pay*, TECHDIRT (Oct. 1, 2007, 3:55 AM), <http://www.techdirt.com/articles/20070930/214524.shtml>; see also Daniel Kreps, *Radiohead Publishers Reveal "In Rainbows" Numbers*, ROLLING STONE (Oct. 15, 2008, 1:38 PM), <http://www.rollingstone.com/music/news/radiohead-publishers-reveal-in-rainbows-numbers-20081015>. More artists posted their opinions regarding the benefits of file-sharing to artists, usually relying on the fact that many artists do not possess their intellectual property rights, and therefore usually receive only a small percentage of the profits. See, e.g., Courtney Love, *Courtney Love Does the Math*, SALON (June 14, 2000, 12:02 PM), <http://www.salon.com/technology/feature/2000/06/14/love/index.html>. See also Eldar Haber, *The French Revolution 2.0: Copyright and the Three Strikes Policy*, 2 HARV. J. SPORTS & ENT. L. 297, 315 (2011).

20. Cf. Elkin-Koren, *supra* note 14, at 16-17.

21. Note that the webcaster and the ISP could act as the same entity, e.g., a person which owns and operates his own website and posts various materials for webcasting.

22. The infringing act could change depending on the nature of the media. For example, an infringing act on music recordings could be different from other media's, as they usually contain two separate copyrights: the copyright in the musical composition and the copyright in the performing artist's rendering of the composition. 17 U.S.C. § 102(a)(2), (7) (2006). I will address both rights together as part of the right holder's right in the music industry, as the distinction is irrelevant to my analysis. For more information on the distinction of the two rights, see Jackson, *supra* note 4, at 452-54.

23. 17 U.S.C. § 106(4) (2006). The definition of public performance is in 17 U.S.C. § 101 (2006) ("To perform or display a work 'publicly' means . . . to transmit or otherwise communicate a performance or display . . . by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times."). Hence, if a web site transmits a copyrighted material to users over the Internet, it will probably be considered as a performance to the public. Note that it does not matter if the end-user uses the material on his own, or that the materials are only accessible to registered users. See H.R. REP. NO. 94-1476, at 65 (1976) ("whenever the potential recipients of the transmission represent a limited segment of the public, such as the occupants of hotel rooms or the subscribers of a cable television service."). See also Reese, *supra* note 5, at 245. In some countries, that will also consist of a possible violation of the exclusive right to make available. See Commission Directive 2001/29/EC, 2001 O.J. (L 167) (on the harmonization of certain aspects of copyright and related rights in the information society). The making available right was introduced in courts in the case of *Hotaling v. Church of Jesus Christ of Latter-Day Saints*. *Hotaling v. Church of Jesus Christ of Latter-Day Saints*, 118 F.3d 199 (4th Cir. 1997) (deciding that merely making available the unlawful copy to the public was sufficient to constitute infringement). However, in later cases, the court rejected the court's analysis in *Hotaling*, closing the gap on the interpretation of the right to make available in U.S. law. As the court noted "Congress' decision to use the latter term when defining the copyright holder's rights in 17 U.S.C. § 106(3) must be

In addition, the webcaster might also infringe upon the Distribution Right²⁴ and, in some cases, the Right of Reproduction²⁵ due to possible storage of the same material on different servers, or by contributory infringement if the end-user is held liable for infringement.²⁶

c. *The End-Users*

Copyright law grants the right holder the exclusive Right of Reproduction,²⁷ which is a right to copy her work. Generally, no one other than the copyright owner may make any copies of the work without her permission (with exceptions). In webcasting, the end-user who consumed the copyrighted content might infringe the right of

given consequence. In this context, that means that the defendants cannot be liable for violating the plaintiffs' distribution right unless a 'distribution' actually occurred." *London-Sire Records, Inc. v. Doe 1*, 542 F. Supp. 2d 153, 169 (D. Mass. 2008). See also *Atlantic Recording Corp. v. Howell*, 554 F. Supp. 2d 976, 981-84 (D. Ariz. 2008). For a general overview on the making available right in the U.S., see John Horsfield-Bradbury, "Making Available" as Distribution: *File-Sharing and the Copyright Act*, 22 HARV. J. L. & TECH. 273 (2008).

24. 17 U.S.C. § 106(3).

25. 17 U.S.C. § 106(1). Also, in sound recordings, the webcaster's action could be addressed as "Digital Phonorecord Deliveries" (DPD). See 17 U.S.C. § 115(d) (2006). However, a possible interpretation of the law suggests that Congress intended that streaming transmissions will not count as DPD. On the other hand, the DPD definition also notes that where reproductions are required in order to make the sound recording audible, it will be considered as a DPD, and if so, the user must get the right holder's permission (an "incidental" DPD). In other words, it is unclear whether the temporary storage of a sound recording would constitute a DPD. See W. Jonathan Cardi, *Über-Middleman: Reshaping the Broken Landscape of Music Copyright*, 92 IOWA L. REV. 835, 863 (2007). For example, The Harry Fox Agency (HFA), a company that currently issues licenses and collects and distributes royalties to their subscribers, has claimed a right to reproduction royalties stemming from the song fragments held temporarily in RAM buffers. See Reese, *supra* note 5, at 254.

26. In some cases, webcasting might also infringe the Derivative Works Right. See 17 U.S.C. § 106(2). Although it sounds a bit far off, derivative works are defined as including any form in which a work may be recast, transformed, or adapted. See 17 U.S.C. § 101. Hence, if, for example, a website operator ripped a DVD movie for the purpose of webcasting it to website users, the digital copy might be considered as a derivative work. See Michael D. McCoy & Needham J. Boddie, II, *Cybertheft: Will Copyright Law Prevent Digital Tyranny on the Superhighway?*, 30 WAKE FOREST L. REV. 169, 186 (1995); April M. Major, *Copyright Law Tackles Yet Another Challenge: The Electronic Frontier of the World Wide Web*, 24 RUTGERS COMPUTER & TECH. L.J. 75, 102-03 (1998). See also *Lamb v. Starks*, 949 F. Supp. 753, 756 (N.D. Cal. 1996) (holding that copying a trailer of copyrighted movie infringing the right to prepare derivative works); *Video Pipeline, Inc. v. Buena Vista Home Entm't, Inc.*, 192 F. Supp. 2d 321, 334-35 (D.N.J. 2002) (holding that that Video Pipeline, which created and streamed movie trailers online, infringed on the plaintiff's reproduction, public performance, and distribution rights, as well as its right to make derivative works); Jo Dale Carothers, *Protection of Intellectual Property on the World Wide Web: Is the Digital Millennium Copyright Act Sufficient?*, 41 ARIZ. L. REV. 937, 948 (1999).

27. 17 U.S.C. § 106(1).

reproduction due to temporary storage of segments of the file. However, this alleged infringement is not necessarily certain under copyright law, as no permanent copy of the material remains stored on the end-user's computer.²⁸ At most, it is stored for a period no longer than a transitory duration.²⁹ I focus on this possible infringement, as it is the vaguest infringement out of the three webcasting actions, and as such might play an important role in future copyright litigation.

It is still unclear whether fragments of copyrighted materials that are held temporarily in RAM buffers truly infringe copyright.³⁰ The legal grounds establishing that temporary storage in RAM, which still occurs in webcasting at the current stage of the technology, infringes the right holder's exclusive right of reproduction was first established in 1993 in *MAI Systems Corp. v. Peak Computer, Inc.*³¹ The defendant, Peak Computer, Inc., performed maintenance on

28. See Reese, *supra* note 5, at 251. Note that automated copying usually does not constitute direct infringement by ISPs. See *Religious Tech. Ctr. v. Netcom On-Line Comm'n Servs., Inc.*, 907 F. Supp. 1361, 1368-70 (N.D. Cal. 1995) (holding that automated copying is not sufficient for establishing direct infringement); *Parker v. Google, Inc.*, 422 F. Supp. 2d 492, 497 (E.D. Pa. 2006) (holding that temporary storage of data by an ISP, without human intervention, misses the necessary element of volition and, hence, the ISP will not be held as a direct infringer). For more information, see Assaf Jacob & Zoe Argento, *To Cache or Not to Cache—That Is the Question; P2P “System Caching”—The Copyright Dilemma*, 31 WHITTIER L. REV. 421, 450 (2010).

29. See 17 U.S.C. § 101, which defines a fixation of a work:

A work is “fixed” in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration. A work consisting of sounds, images, or both, that are being transmitted, is “fixed” for purposes of this title if a fixation of the work is being made simultaneously with its transmission.

Id.

30. Note that although 17 U.S.C. § 117 states that the making of additional copy does not constitute a copyright infringement if the copy is created as “an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner.” 17 U.S.C. § 117 (2006). Hence, it does not cover this type of streaming. See Major, *supra* note 26, at 94. The European directive also addresses this matter similarly. See Commission Directive 2001/29/EC, art. 5(1), 2001 O.J. (L 167) (EU) (on the harmonization of certain aspects of copyright and related rights in the information society).

Temporary acts of reproduction referred to in Article 2, which are transient or incidental [and] an integral and essential part of a technological process and whose sole purpose is to enable: (a) a transmission in a network between third parties by an intermediary, or (b) a lawful use of a work or other subject-matter to be made, and which have no independent economic significance, shall be exempted from the reproduction right provided for in Article 2.

Id.

31. *MAISys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993).

computers made and sold by MAI Systems Corporation. MAI Systems claimed that a Peak employee ran the computer's copyrighted operating system software and created an unauthorized copy by loading the software into the computer's RAM.³² The Court of Appeals for the 9th Circuit held that running a software program by a technician, an act which includes the storage of copyrighted materials in RAM, amounts to making a copy of the software and therefore is an infringement.³³ Other courts reaffirmed *MAI* with a web analogy:

[W]hen a person browses a website, and by so doing displays the Handbook [the protected work—E.H.], a copy of the Handbook is made in the computer's random access memory (RAM), to permit viewing of the material. And in making a copy, even a temporary one, the person who browsed infringes the copyright.³⁴

Courts continued interpreting the implications of RAM after the passage of the DMCA, which created some exceptions to liability from copyright RAM issues, such as maintenance or repair.³⁵ In *CoStar Group, Inc. v. LoopNet, Inc.*³⁶ the court examined ISP liability post-DMCA provisions. The Fourth Circuit, while examining whether a RAM copy is "fixed" for a "period of more than transitory duration," introduced a qualitative and quantitative test: it is quantitative insofar as it describes the period during which the function occurs, and it is qualitative in the sense that it describes the

32. A "copy" under copyright law must be fixed in a tangible medium of expression. See 17 U.S.C. § 101.

33. See *MAI Sys.*, 991 F.2d at 518-19.

34. *Intellectual Reserve, Inc. v. Utah Lighthouse Ministry, Inc.*, 75 F. Supp. 2d 1290, 1294 (D. Utah 1999). For more examples, see *DSC Commc'ns. Corp. v. DGI Techs., Inc.*, 81 F.3d 597, 600 (5th Cir. 1996); *NLFC, Inc. v. Devcom Mid-America, Inc.*, 45 F.3d 231, 235 (7th Cir. 1995); *Tiffany Design, Inc. v. Reno-Tahoe Specialty, Inc.*, 55 F. Supp. 2d 1113, 1120-21 (D. Nev. 1999). See also *Marobie-FL, Inc. v. Nat'l Ass'n of Fire Equip. Distrib. & Nw. Nexus Inc.*, 983 F. Supp. 1167, 1178 (N.D. Ill. 1997) ("The fact that a copy is transmitted *after* it is created, or even *as* it is created, does not change the fact that once an Internet user receives a copy, it is capable of being perceived and thus 'fixed'" for purposes of assessing infringement liability).

35. See 17 U.S.C. § 117(c) (providing that machine maintenance or repair is not copyright infringement if the owner or lessee of the machine authorizes the making of a copy of a computer program and "if such copy is made solely by virtue of the activation of a machine that lawfully contains an authorized copy of the computer program . . ."); 17 U.S.C. § 512(a) (2006) (providing that an ISP is not liable for copyright infringement for transitory digital network communications, as long as statutory conditions are met). Although it seems that section 117(c) reverses *MAI System's* interpretation of RAM copies, in fact, in doing so implicitly it approved *MAI System's* doctrine. See Melissa A. Bogden, *Fixing Fixation: The RAM Copy Doctrine*, 43 ARIZ. ST. L.J. 181, 197 (2011).

36. *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544 (4th Cir. 2004).

status of transition.³⁷

The qualitative and quantitative test set in *CoStar* was further developed. CableVision Systems Corporation (Cablevision) introduced a “Remote Storage” Digital Video Recorder System (DVR), and was sued for copyright infringement.³⁸ The Second Circuit Court of Appeals held that Cablevision’s proposed operation of a remote digital video recorder system does not infringe the reproduction and public performance rights of its program providers.³⁹ In *Cartoon Network LP, LLLP v. CSC Holdings*, as opposed to *MAI*, the court addressed a duration requirement holding that a buffer stream of 1.2 seconds did not count as a work embodied in RAM.⁴⁰

Therefore, by interpreting webcasting under current copyright law and court rulings, we understand that a copy is made if it meets two conditions: first, the work must be embodied in a medium; and second, the work must remain embodied for a period of more than transitory duration.⁴¹ Under *MAI*’s interpretation, in webcasting a copy is made when it is embodied in a medium. However, the less certain question is whether it remains embodied for longer than a mere transitory duration. As copyright law refrains from defining a duration requirement within the definition of “fixed,”⁴² and the duration of a buffer copy varies depending on the Internet connection speed, the quality of the media, and the end-user’s computer abilities, the legality of webcasting from end-user’s side remains unclear.

Moreover, the duration of a buffer copy cannot simply remain

37. *Id.*

38. *Twentieth Century Fox Film Corp. v. Cablevision Sys. Corp.*, 478 F. Supp. 2d 607 (S.D.N.Y. 2007); *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008).

39. This decision was partly due to a prior case, in which the Fourth Circuit suggested that a temporary copy made by an Internet service provider (ISP), in some circumstances, might not be considered as an unlawful act. *CoStar Grp.*, 373 F.3d at 551. See Jonathan Band & Jeny Marcinko, *A New Perspective on Temporary Copies: The Fourth Circuit’s Opinion in Costar v. Loopnet*, 2005 STAN. TECH. L. REV. 1 (2005).

40. After the *Cablevision* decision, the plaintiffs petitioned for certiorari to the Supreme Court, which denied their arguments that the Second Circuit’s ruling created a “circuit split.” See Petition for a Writ of Certiorari, *Cable News Network, Inc. v. CSC Holdings, Inc.*, No. 08-448, 2008 WL 4484597 (U.S. Oct. 6, 2008); Brief for Various Professors as Amici Curiae In Support of Petitioners, *Cable News Network, Inc. v. CSC Holdings, Inc.*, No. 08-448, 2008 WL 4484597 (U.S. Oct. 6, 2008); Bogden, *supra* note 35, at 203.

41. See *Cartoon Network*, 536 F.3d at 127; Karl O. Riley, *To be Fixed or not to be: The Seemingly Never-Ending Question of Copyrighted Material*, 8 NW. J. TECH. & INTELL. PROP. 323, 335 (2010).

42. 17 U.S.C. § 101 (2006).

the only test for webcasting. Interpreting *MAI's* and *Cablevision's* decision rationales on webcasting leads to a misconception of copyright law. Buffer copies made in webcasting serve the sole purpose of enabling technology and do not possess any independent economic significance. The duration requirement is irrelevant as long as the end-user is unable to retrieve the webcasted work. Therefore, interpreting webcasting for personal use under current copyright law as an infringement of the right of reproduction is not accurate since the temporary storage in RAM memory is too transitory to constitute a reproduction within the meaning of copyright law.⁴³ In the words of the U.S. Copyright Office:⁴⁴

[B]uffer copies have no independent economic significance. They are made solely to enable the performance. The same copyright owners appear to be seeking a second compensation for the same activity merely because of the happenstance that the transmission technology implicates the reproduction right, and the reproduction right of songwriters and music publishers is administered by a different collective than the public performance right.

This outcome imposes great ramifications on the future of the Internet. Under current legal doctrine, many actions made by end-users over the Internet could result in unlawful conduct.⁴⁵ Whenever an end-user browses the Internet his computer temporarily stores segments of web pages that may contain copyrighted materials and require right holders' consent for reproduction. If, for example, an end-user browses through a webpage that contains pictures, the pictures are automatically stored in his RAM and/or cache memory,⁴⁶

43. Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. 29, 42 (1994).

44. See U.S. COPYRIGHT OFFICE, DMCA SECTION 104 REPORT 143 (2001). See also *Cardi*, *supra* note 25, at 865; Bradley J. Nicholson, *The Ghost in the Machine: MAI Systems Co. v. Peak Computer, Inc. and the Problem of Copying in RAM*, 10 HIGH TECH. L. J. 147 (1995) (arguing that loading a software program into RAM should not be deemed to create a potentially infringing copy); Jane C. Ginsburg, *Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace*, 95 COLUM. L. REV. 1466, 1477-78 (1995) (claiming that seeking individual "copiers" is impractical and pointless, and copyright law should exclude private copying of such matters).

45. On the other hand, the end-user could claim that his actions were under fair use under 17 U.S.C. § 107. See *generally* *Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc.*, 907 F. Supp. 1361, 1378 (N.D. Cal. 1995).

46. Cache memory is a data storage technology which is designed to speed up subsequent retrievals (local and/or proxy). For more information, see *Definition of: Web Cache*, PCMAG.COM,

http://www.pcmag.com/encyclopedia_term/0,2542,t=Web+cache&i=54281,00.asp (last visited Aug. 23, 2012). Unlike the end-user, the ISP could be protected by the DMCA safe harbor of Section 512(b), which grants limitations on liability relating to system caching: "A service

making for a possible infringement of the Right of Reproduction.⁴⁷ The outcome is that almost every routine action made by an end-user online constitutes a possible infringement.⁴⁸ Even if we agree that by placing the webpage online without restrictions like password access, there is an implied consent by the webpage owner to view the page (including RAM or cache memory copies), it will still cause a problematic outcome, especially when the website owner does not possess the right holders' consent. In this case, do they both infringe the copyright?

This outcome lacks real justifications since the alleged copy of the work does not hold any economic value as the file is not truly actionable.⁴⁹ However, an end-user could claim that her actions fall under the fair use exemptions⁵⁰ and are therefore lawful. Although discussing whether end-user actions will be considered fair use is important, my discussion focuses on a more fundamental lacuna in copyright law and does not directly address the fair-use argument.

Returning to webcasting, the following example emphasizes the legal problem: two end-users watch videos posted online without the

provider shall not be liable for monetary relief . . . for infringement of copyright by reason of the intermediate and temporary storage of material on a system or network controlled or operated by or for the service provider" 17 U.S.C. § 512(b) (2006).

47. From the ISP side, courts have found system caching lawful. *See* *Field v. Google, Inc.*, 412 F. Supp. 2d 1106 (D. Nev. 2006) (holding that Google's cache qualifies as fair use and that Google is protected by the safe harbor provisions of the DMCA).

48. *See* Mark A. Lemley, *Dealing with Overlapping Copyrights on the Internet*, 22 U. DAYTON L. REV. 547, 555 (1997); Litman, *supra* note 43, at 40; James V. Mahon, *A Commentary on Proposals for Copyright Protection on the National Information Infrastructure*, 22 RUTGERS COMPUTER & TECH. L.J. 233, 243-45 (1996).

49. For more information regarding the legal meaning of retrieval from RAM, see 2 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 8.08(A)(5)(c) (Matthew Bender rev. ed. 2012).

50. 17 U.S.C. § 107 (2006). In order to determine fair use, four factors should be considered:

the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; the nature of the copyrighted work; the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and the effect of the use upon the potential market for or value of the copyrighted work.

Id. Although, the fair use doctrine is sometimes unpredictable and indeterminate and thus it sometimes "calls for case-by-case analysis." *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994). Lately, it has become more clear that the most important factor out of the four is the transformative use paradigm. Hence, if the first factor favors fair use, it trumps the others. *Bill Graham Archives v. Dorling Kindersley Ltd.*, 448 F.3d 605 (2d Cir. 2006). For more on this argument, see Neil Weinstock Netanel, *Making Sense of Fair Use*, 15 LEWIS & CLARK L. REV. 715 (2011). For a general analysis of fair use over the Internet, see *Netcom*, 907 F. Supp. at 1378.

right holders' permission. The first user watches a short video on YouTube.com and the second watches a newly released motion picture, which is still screening at theaters, through a non-commercial personal website. Although the websites enjoy a safe harbor provision,⁵¹ under *MAI* and *Cablevision's* interpretations, both end-users who watched the videos might infringe the right of reproduction and could potentially be sued. The relevant query asks what differentiates the first end-user's actions on YouTube.com from the second end-user's actions on the non-commercial personal website. The only visible difference is that the first end-user was probably not aware that the video was posted without permission, while the second end-user knew, or at least should have known, that the motion picture was posted without the right holder's permission. However, current copyright law does not differentiate between these two actions and considers both as possible infringements (with some exceptions).⁵²

Moreover, if we combine *MAI's* and *Cablevision's* rulings, i.e., that a work must be embodied in a medium and remain embodied for a period of more than transitory duration, then a technological solution could resolve the problem. Assume that a new computer, which does not use temporary storage in any form of access memory, was designed and sold to the public. Using this computer, an end-user can browse the Internet without making storage of copyrighted materials. Hence, an end-user could use webcasting lawfully to watch films, television series, listen to music, etc., without possible infringement of the right of reproduction. In fact, an end-user does not violate copyright law in any matter. This scenario is not farfetched as broadband connections continue to spread,⁵³ possibly eliminating the need for "buffer" copies. If this is the case, then copyright law does not properly address webcasting since it poses the same basic threats to right holders as P2P file-sharing⁵⁴ and therefore should be revised.

In conclusion, webcasting of copyrighted materials might infringe some of the right holders' exclusive rights. However, the

51. 17 U.S.C. § 512.

52. Although courts have implemented the "volitional conduct" requirement as a prerequisite to finding direct infringement, it is still not sufficient to differentiate users. See *Netcom*, 907 F. Supp. at 1382; *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 551 (4th Cir. 2004); Bogden, *supra* note 35, at 195-96.

53. For a survey, indicating that the speed of residential broadband connections in the U.S. continues to increase, see Andrew Burger, *In-Stat: Average U.S. Broadband Download Speed 9.54 Mb/s*, TELECOMPETITOR (Feb. 17, 2011, 2:43 PM), <http://www.telecompetitor.com/in-stat-average-u-s-broadband-download-speed-9-54-mbs/>.

54. Webcasting differs from P2P file-sharing in a few matters, while different media are affected differently. However, the basic economic principles are similar.

nature of the alleged infringement depends on the identity of the infringer. Whereas the webcaster, the person who uploaded the copyrighted content to the ISP's website, might infringe the public performance right, the distribution right, and the right of reproduction, the end-user who consumes the copyrighted content might only infringe the right holder's right of reproduction, if he infringes at all. Thus far, I have briefly presented the different players in a webcasting situation. Before I turn to discussing what could result in a future copyright battle, it is important to understand the basic logic behind past struggles against technological developments that supposedly threaten right holders and the current war against P2P file-sharing.

III. THE WAR ON COPYRIGHT

To better understand the possible nature of a future battle against webcasting, I begin by briefly summarizing the relevant history of technological advances and the industry's responses to these technologies that enabled copyright infringement.⁵⁵ Technological developments brought along challenging legal issues, including those related to copyright law, especially when the technology was made publicly available.⁵⁶ For instance, in the late 1970s when Sony introduced Betamax—the first home videocassette tape recording that enabled users to make a copy of a television broadcast—some right holders embarked on a legal campaign against Sony, and lost.⁵⁷

As the Internet evolved and became public,⁵⁸ there was a rise in the availability of different technologies enabling the sharing of copyrighted materials. A utopian fantasy for some users became reality with the transfer and receipt of audio files, television shows, films, video-clips, computer programs, digital books, pictures, and

55. See generally Jessica Litman, *War Stories*, 20 CARDOZO ARTS & ENT. L.J. 337 (2002) (for a general description of some copyright "war stories").

56. See generally Jessica Litman, *The Sony Paradox*, 55 CASE W. RES. L. REV. 917, 921 (2005); *The History of Photocopiers – A Perfect Reproduction*, THEHISTORYOF.NET (Mar. 15, 2011, 6:44 AM), <http://www.thehistoryof.net/history-of-photocopiers.html> (for example, the invention of the photocopier, which enables people to reproduce copies without royalties or copyright holder's consent).

57. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 456 (1984) (The Court held that the Betamax was legal since it possesses substantial non-infringing uses, and that the recording act was considered as time shifting, and therefore a fair use under law). See also Edward Lee, *The Ethics of Innovation: p2p Software Developers and Designing Substantial Noninfringing Uses Under the Sony Doctrine*, 62 J. BUS. ETHICS 147, 148 (2005); Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982).

58. For a timeline of Internet history, see *Timeline: The History of the Internet*, BBC NEWS (Aug. 23, 2007, 8:20 GMT), <http://news.bbc.co.uk/2/hi/technology/6959933.stm>.

any other digital content, all for free and with a simple click of a mouse.

Even before the creation of the World Wide Web in 1991, technologies such as Usenet and Bulletin Board System (BBS) enabled users to connect to a central server and download copyrighted materials directly from it.⁵⁹ Later, users transferred files between them using instant messaging technology: Internet Relay Chat (IRC), ICQ, MSN Messenger, etc.⁶⁰ Other users employed websites to download songs off the Internet. However, these sites were usually shut down by courts.⁶¹

A new generation of file-sharing began with the creation of software designed for the purpose of sharing free music online. Napster was a P2P file-sharing Internet service for audio files in MP3 format.⁶² On December 7, 1999, the Recording Industry Association of America (RIAA) filed a lawsuit against Napster for contributory and vicarious copyright infringement.⁶³ After a legal battle, Napster was instructed by the court to block access to infringing material upon notification of the material's location. Unable to comply with the court's decision, Napster shut down and later re-opened as a legitimate online music store.⁶⁴

Yet, Napster was just the beginning. More file-sharing technologies, some not limited to audio files, were developed and released to the general public: Gnutella, Aimster, Audio-Galaxy,

59. See *Definition of: BBS*, PCMAG.COM,

http://www.pcmag.com/encyclopedia_term/0,2542,t=BBS&i=38485,00.asp (last visited Mar. 20, 2012).

60. For an elaboration on these technologies, see *Definition of: IRC*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=3DIRC&i%3D45421,00.asp (last visited Mar. 20, 2012).

61. See, e.g., *UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349, 350 (S.D.N.Y. 2000) (holding that MP3.com, a website that enabled users to play music online providing that they already owned the CDs that contain the requested songs, did not have the right to reproduce the recordings). See also Peter K. Yu, *The Escalating Copyright Wars*, 32 HOFSTRA L. REV. 907, 913 (2004).

62. MP3 (MPEG-1 Audio Layer III) is an audio compression technology, which compresses CD-quality sound, while retaining most of the original fidelity. *Definition of: MP3*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0%2C2542%2Ct%3DMP3&i%3D47286%2C00.asp (last visited Mar. 20, 2012).

63. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001); *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 900 (N.D. Cal. 2000).

64. Napster's name and intellectual property assets were purchased by Roxio and later by Best Buy. It reopened as an online subscription-based music service in 2003. See generally Peter Jan Honigsberg, *The Evolution and Revolution of Napster*, 36 U.S.F. L. REV. 473, 486 (2002).

Grokster, KaZaA, eMule, LimeWire, and BitTorrent, to name a few.⁶⁵ Some programs, such as Grokster and LimeWire, were also shut down, mainly for unlawful inducement due to promoting the ease of infringing copyrights.⁶⁶

A battle between right holders, ISPs, and file-sharers broke out. Right holders attempted, and still attempt, various methods to prevent the file-sharing of copyrighted materials, such as political lobbying,⁶⁷ legal rules, different technologies, and legal/moral education. Some right holders (unsuccessfully) tried to sue ISPs for direct liability,⁶⁸ but established legal grounds for contributory infringement or vicarious infringement.⁶⁹ Although right holders succeeded in imposing liability on ISPs in some cases,⁷⁰ newer technologies, such as BitTorrent,⁷¹ make it difficult to detect and prevent the misconduct,

65. Describing the differences between the technologies is beyond the scope of this article. See *Filesharing History*, FILESHARINGZ, <http://filesharingz.com/guides/filesharing-history.php> (last visited Mar. 20, 2012).

66. See *MGM Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 941 (2005) (the Supreme Court held that there was sufficient evidence to find Grokster and StreamCast liable of infringement under inducement of infringement). See also *In re Aimster Copyright Litig.*, 334 F.3d 643, 655 (7th Cir. 2003); *Arista Records LLC v. Lime Group LLC*, 532 F. Supp. 2d 556, 583 (S.D.N.Y. 2007); *Arista Records LLC v. Lime Group LLC*, 715 F. Supp. 2d 481, 508 (S.D.N.Y. 2010). For more information regarding the Grokster case versus the Sony case, see Urs Gasser & John G. Palfrey, Jr., *Catch-as-Catch-Can: A Case Note on Grokster*, 78 SWISS R. OF BUS. & FIN. MARKET L. 119 (2006).

67. See generally David Kravets, *RIAA, MPAA Converging on Political Conventions*, WIRED (Aug. 26, 2008, 2:09 PM), <http://www.wired.com/threatlevel/2008/08/riaa-mpaa-conve>.

68. See, e.g., *Religious Tech. Ctr. v. Netcom On-Line Comm'n Servs., Inc.*, 907 F. Supp. 1361, 1368 (N.D. Cal. 1995) (the court held that an Internet access provider for a Bulletin Board System (BBS) operator was not directly liable for copyright infringement committed by a subscriber to the BBS, where the access provider took no affirmative action to copy work and received no direct financial benefit from the infringement); *Central Point Software, Inc. v. Nugent*, 903 F. Supp. 1057 (E.D. Tex. 1995) (holding that a BBS operator is liable for direct infringement in these circumstances).

69. *Netcom*, 907 F. Supp. at 1373.

70. See *Grokster*, 545 U.S. at 941; see also *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1020 (9th Cir. 2001); *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 920 (N.D. Cal. 2000); *Arista Records*, 532 F. Supp. 2d at 563; *Arista Records*, 715 F. Supp. 2d at 517. For BBS operators see *Sega Enters. Ltd. v. Maphia*, 948 F. Supp. 923, 931 (N.D. Cal. 1996) (holding that the defendant, a BBS operator, was distributing copyrighted versions of Sega videogames and was found liable for contributory infringement).

71. BitTorrent is a technology for sharing files over the Internet, which does not use a centralized server to store the files. Each downloading user becomes a source for another user who wants the same file. BitTorrent breaks a file into smaller chunks and keeps track of the users who have received the file. When you download a "torrent" you are also uploading a part of the file to another user. BitTorrent balances the load on the computer, because broadband download speeds are faster than upload speeds. See *Definition of: BitTorrent*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t%3DBitTorrent&i%3D38716,00.asp (last visited Mar. 20, 2012).

and therefore intermediaries will probably not be held directly liable in these cases⁷² unless their services are promoted as services that are designed for unlawfully exchanging copyrighted materials.⁷³ Meanwhile, the battle continued as right holders began suing end-users directly. However, this solution has proved futile since illegal file-sharing did not cease.⁷⁴ The latest attempt by different legislators around the globe was to impose a Three Strikes Policy (3SP), providing for the termination of subscriptions and accounts of repeat infringers in appropriate circumstances. As this attempt is still at an

72. Gatekeepers should be able to not only detect offenses, but also be able to prevent them economically. Haber, *supra* note 19, at 308 n.52; Mann & Belzley, *supra* note 14, at 266. However, although right holders are not yet able to fight technologies such as BitTorrent directly, they are fighting websites that enable users to search for copyrighted materials. See, e.g., Tingsrätt [TR] [District Court] 2009-04-17 B 13301-06 (Swed.), available at http://www.wired.com/images_blogs/threatlevel/2009/04/piratebayverdicts.pdf (right holders' successful attempt against "The Pirate Bay" website). Also, they are fighting ISPs which are enabling users to store files online and allow other users to download them. See for example, RapidShare, which acts as an ISP that provides its users with an infrastructure, which enables the user to save electronic files on Internet servers. See Mike, *RapidShare: We're Dedicated To Fighting Online Infringement*, SYSTEMA (Jan. 11, 2011), <http://blog.systema.in/2011/01/rapidshare-we%E2%80%99re-dedicated-to-fighting-online-infringement>. Copyright holders have been pushing hard for the company to install filters that will prevent users from uploading copyrighted material. See *id.* For instance, RapidShare was ordered by the regional court of Hamburg to install a filter to keep certain eBooks off its servers. See *id.* Failing to completely comply, RapidShare was hit with a fine of 150,000 Euros. Mike, *RapidShare Gets 150,000 Euro Copyright Infringement Fine*, SYSTEMA (Dec. 1, 2010), <http://blog.systema.in/2010/12/rapidshare-gets-150000-euro-copyright-infringement-fine>.

73. See *Arista Records LLC v. Usenet.com, Inc.*, 633 F. Supp. 2d 124 (S.D.N.Y. 2009). Usenet.com is a distributed Internet discussion system which can be used for P2P file-sharing. *Id.* at 129-31. It was found guilty of direct, contributory, and vicarious infringement, as the District Court held that they were encouraging customers to pay a subscription fee by enticing them with copyrighted materials. *Id.* at 146-57. The court held that due to their unlawful actions, they are not eligible for protection under the Sony Betamax decision which allowed companies to avoid liability for contributory infringement if the device they create is capable of significant non-infringing uses. *Id.* at 156; see, e.g., Sharona Hakimi, *RIAA Wins Overwhelming Copyright and Sanctions Victory Against Usenet.com*, JOLT DIGEST (July 9, 2009, 10:35 PM), <http://jolt.law.harvard.edu/digest/copyright/arista-records-llc-v-usenetcom-inc>; Nate Anderson, *Judge Throws Book at Usenet.com in RIAA Lawsuit*, ARS TECHNICA (July 1, 2009, 9:00 AM), <http://arstechnica.com/tech-policy/news/2009/07/judge-throws-book-at-usenetcom-in-riaa-lawsuit.ars>; Greg Sandoval, *RIAA Triumphs in Usenet Copyright Case*, CNET NEWS (June 30, 2009, 5:37 PM), http://news.cnet.com/8301-1023_3-10276607-93.html.

74. The Recording Industry Association of America's (RIAA) 2003 attempt at direct enforcement against end-users provides an example of the futility of this effort. See, e.g., *Maverick Recording Co. v. Harper*, 598 F.3d 193 (5th Cir. 2010); *Capitol Records, Inc. v. Thomas*, 579 F. Supp. 2d 1210 (D. Minn. 2008); *Sony BMG Music Entm't v. Tenenbaum*, 721 F. Supp. 2d 85 (D. Mass. 2010). However, in December 2008, the RIAA announced that they would cease to file more lawsuits against users, for the time being. See, e.g., *Complaint, Voltage Pictures, LLC v. Doe*, 818 F. Supp. 2d 28 (D.D.C. 2010); Greg Sandoval, *'Hurt Locker' Downloaders, You've Been Sued*, CNET NEWS (May 28, 2010, 12:19 PM), http://news.cnet.com/8301-31001_3-20006314-261.html.

early stage, the outcome for right holders is still uncertain.⁷⁵

Right holders have also attempted to resolve the battle by turning to copy-protection technology in the form of Digital Rights Management (DRM),⁷⁶ such as encryption⁷⁷ and watermarks.⁷⁸ However, regardless of DRM's possible negative impact on consumers,⁷⁹ and notwithstanding right holders' success in some cases, DRM can be decrypted, forcing right holders to invest more resources in encryption technology.⁸⁰ Hence, DRM can aid right holders, but it cannot win the war all by itself.

Right holders made another attempt to resolve the struggle by

75. The three strikes policy, also known as the graduated response or the "digital guillotine," had been implemented by way of legislation in Taiwan (Zhùzuòquán fǎ [Copyright Act], art. 90 (2007) (Taiwan)), South Korea (Jeojaggwon beob [Copyright Act of Korea] art. 133-2 (2009) (S. Kor.), translated in WIPO,

http://www.wipo.int/wipolex/en/text.jsp?file_id=190144 (last visited Aug. 25, 2012)), France (Projet de loi favorisant la diffusion et la protection de la création sur Internet [Bill supporting the diffusion and the protection of creation on Internet] (2009) (Fr.), translated in LA QUADRATURE DU NET, http://www.laquadrature.net/wiki/HADOPI_full_translation (last visited Aug. 25, 2012)), the United Kingdom (Digital Economy Act, §§ 124A-124N (2010) (U.K.)) and New Zealand (Copyright (Infringing File Sharing) Amendment Act, 2011 No. 11 § 122C (N.Z.)), and by means of private ordering in Ireland, see *EMI Records & Ors v. Eircom Ltd.*, [2010] IEHC 108, available at <http://www.courts.ie/judgments.nsf/6681dee4565ecf2c80256e7e0052005b/7e52f4a2660d8840802577070035082f?OpenDocument>. For more on the three strikes policy, see, for example, WILLIAM PATRY, *MORAL PANICS AND THE COPYRIGHT WARS 11-14* (2009); Peter K. Yu, *The Graduated Response*, 62 FLA. L. REV. 1373 (2010); Charn Wing Wan, *Three Strikes Law: A Least Cost Solution to Rampant Online Piracy*, 5 J. OF INTELL. PROP. L. & PRAC. 232 (2010); Olivier Bomsel & Heritiana Ranaivoson, *Decreasing Copyright Enforcement Costs: The Scope of a Graduated Response*, 6 REV. ECON. RES. ON COPYRIGHT ISSUES 13 (2009); Annemarie Bridy, *Graduated Response and the Turn to Private Ordering in Online Copyright Enforcement*, 89 OR. L. REV. 81 (2010); Haber, *supra* note 19.

76. Also known as Technological Protection Measures (TPM), DRM attempts to control users' usage of media and hardware. See *DRM*, ELEC. FRONTIER FOUND., <http://www.eff.org/issues/drm> (last visited Aug. 25, 2012).

77. Note that encryption could also result in the implementation of "trusted systems" which are basically inserting "digital rights" to a media by encryption, preventing the user from various activities with the purchased media. An example of this is an MP3 audio file, bought online, which a user cannot burn onto a compact disk. See generally, e.g., Tarleton Gillespie, *Copyright and Commerce: The DMCA, Trusted Systems, and the Stabilization of Distribution*, 20 INFO. SOC'Y 239 (2004); Jonathan Weinberg, *Hardware-Based ID, Rights Management, and Trusted Systems*, 52 STAN. L. REV. 1251 (2000); Yu, *supra* note 61, at 918.

78. By using digital watermarks right holders can track possible infringers.

79. DRM holds many disadvantages, such as a negative impact on users' rights such as the fair use exemption. For an elaboration on DRM and fair use, see Timothy K. Armstrong, *Digital Rights Management and the Process of Fair Use*, 20 HARV. J.L. & TECH. 49 (2006).

80. Yu, *supra* note 61, at 919. For more DRM and copyright legal issues, see Wendy Seltzer, *The Imperfect Is the Enemy of the Good: Anticircumvention Versus Open User Innovation*, 25 BERKELEY TECH. L.J. 909 (2010).

educating the general public on the morality of copyrights.⁸¹ Right holders have sent letters to different institutions, such as colleges and corporations; they have used celebrities to convey the message that file-sharing harms artists;⁸² and they have used media education methods, such as radio public service announcements, websites,⁸³ and television commercials.⁸⁴

81. For more on copyright education, see Brett Lunceford & Shane Lunceford, *Meh. The Irrelevance of Copyright in the Public Mind*, 7 NW. J. TECH. & INTELL. PROP. 33 (2008).

82. See, e.g., Mike Snider, *Entertainment Industry Widens War*, USA TODAY (Feb. 13, 2003, 8:59 AM), http://www.usatoday.com/tech/news/2003-02-13-piracy-side_x.htm; Lily Allen *Campaigns Against Music Piracy*, THE TELEGRAPH (Sept. 21, 2009, 8:06 PM), <http://www.telegraph.co.uk/culture/music/music-news/6216281/Lily-Allen-campaigns-against-music-piracy.html>.

83. See, for example, the message you receive while browsing to the former file-sharing company “Grokster Ltd.” at GROKSTER, <http://www.grokster.com> (last visited Aug. 25, 2012):

The United States Supreme Court unanimously confirmed that using this service to trade copyrighted material is illegal. Copying copyrighted motion picture and music files using unauthorized peer-to-peer services is illegal and is prosecuted by copyright owners. There are legal services for downloading music and movies. This service is not one of them. YOUR IP ADDRESS IS [***.***.***.***] AND HAS BEEN LOGGED. Don't think you can't get caught. You are not anonymous. In the meantime, please visit www.respectcopyrights.com and www.musicunited.org to learn more about copyright.

Id. It strikes me as another form of public education that is being accomplished by deterrence. See also LimeWire's Website Announcement, LIMEWIRE, <http://www.limewire.com> (last visited Aug. 25, 2012):

ATTENTION

LIMEWIRE IS UNDER A COURT ORDER DATED OCTOBER 26, 2010 TO STOP DISTRIBUTING THE LIMEWIRE SOFTWARE. A COPY OF THE INJUNCTION CAN BE FOUND HERE. LIMEWIRE LLC, ITS DIRECTORS AND OFFICERS, ARE TAKING ALL STEPS TO COMPLY WITH THE INJUNCTION. WE HAVE VERY RECENTLY BECOME AWARE OF UNAUTHORIZED APPLICATIONS ON THE INTERNET PURPORTING TO USE THE LIMEWIRE NAME. WE DEMAND THAT ALL PERSONS USING THE LIMEWIRE SOFTWARE, NAME, OR TRADEMARK IN ORDER TO UPLOAD OR DOWNLOAD COPYRIGHTED WORKS IN ANY MANNER CEASE AND DESIST FROM DOING SO. WE FURTHER REMIND YOU THAT THE UNAUTHORIZED UPLOADING AND DOWNLOADING OF COPYRIGHTED WORKS IS ILLEGAL. IF YOU HAVE DOWNLOADED LIMEWIRE SOFTWARE IN THE PAST, FILES ON YOUR PERSONAL COMPUTERS CONTAINING PRIVATE OR SENSITIVE INFORMATION MAY HAVE BEEN INADVERTENTLY SHARED AND YOU SHOULD USE YOUR BEST EFFORTS TO REMOVE THE SOFTWARE FROM YOUR COMPUTERS.

Id.

84. Some commercials tried to achieve public deterrence by an analogy of theft. For a sample of such a commercial, see *Movie Piracy – It's a Crime*, YOUTUBE (May 17, 2006), <http://www.youtube.com/watch?v=l5SmrHNWhak&feature=related> (last visited Aug. 25, 2012) [hereinafter *Movie Piracy*].

However, most efforts were usually directed toward end-users who “share” copyrighted materials by downloading and uploading content, but, as the basic legal grounds for webcasting are different from those for P2P file-sharing, right holders will not necessarily fight webcasting similarly, if at all. Before examining a possible future battle against webcasting, I compare the differences between P2P file-sharing and webcasting, unveiling the possible reasons which led to a battle against file-sharing, but not against webcasting thus far.

IV. WEBCASTING V. P2P FILE-SHARING

Generally speaking, P2P file-sharing and webcasting both have similar copyright issues. They both allow end-users to use copyrighted materials immediately while only incurring relatively low costs.⁸⁵ Nevertheless, until now, right holders have paid more attention to P2P file-sharing than to webcasting.⁸⁶

First, the RIAA and the MPAA filed thousands of lawsuits against end-users who “share” music and films online unlawfully⁸⁷—arguably, over 200,000 end-users have been sued for online copyright infringement since the beginning of 2010.⁸⁸ Conversely, there have

85. Webcasting and P2P file-sharing technologies are sometimes combined. Lately, uTorrent (a BitTorrent client) has included the option of streaming media as you download. Hence, if you’re downloading media using uTorrent, the client will download it from beginning to end, letting you stream the music or video as it downloads, so you don’t need to wait until it’s finished. However, although this is a combination of P2P file-sharing and webcasting, I only view it as an attempt to improve P2P file-sharing services via webcasting rather than an attempt to combine those technologies together. See Whitson Gordon, *uTorrent 3.0 Adds Instant Media Streaming, Drag-and-Drop File Sharing to Our Favorite BitTorrent Client*, LIFEHACKER (Jun. 23, 2011, 11:00 AM), <http://lifehacker.com/5814905/utorrent-adds-media-webcasting-drag+and+drop-file-sharing-to-our-favorite-bittorrent-client>.

86. I am not claiming that right holders ignore webcasting; in the mid-1990s, right holders from the record companies approached Congress arguing that the streaming of music over the Internet poses greater danger to their sources of revenue than radio broadcasting did. Congress replied by giving the record companies a new set of limited public-performance rights focused on distribution technologies. See, e.g., DIGITAL PERFORMANCE RIGHT IN SOUND RECORDINGS ACT OF 1995, H.R. REP. NO. 104-274 (1995); DIGITAL PERFORMANCE RIGHT IN SOUND RECORDINGS ACT OF 1995, S. REP. NO. 104-128, (1995); Karen Fessler, *Webcasting Royalty Rates*, 18 BERKELEY TECH. L.J. 399, 401 (2003); WILLIAM W. FISHER III, PROMISES TO KEEP: TECHNOLOGY, LAW, AND THE FUTURE OF ENTERTAINMENT 103 (2004).

87. For example, the RIAA announced that it filed more than 35,000 lawsuits before deciding to cease filing new lawsuits against end-users in December 2008. See Eliot Van Buskirk, *RIAA to Stop Suing Music Fans, Cut Them Off Instead*, WIRED (Dec. 19, 2008, 7:26 AM), <http://www.wired.com/epicenter/2008/12/riaa-says-it-pl>.

88. Reports indicate that more than 200,000 people have been sued in the U.S. for allegedly sharing copyrighted material online, usually via BitTorrent and some via eD2k network. The interesting part is that the cases, which are settled for an average fee of \$2,500,

been no reported cases in the United States of lawsuits filed against end-users for the right of reproduction infringement through webcasting. There have been some reported cases of lawsuits against ISPs and webcasters regarding webcasting, mostly made after 2009.⁸⁹ But, in comparison, they do not garner the same publicity as lawsuits against P2P file-sharing. Webcasting lawsuits do not enjoy the same public awareness.⁹⁰

Second, campaigns around the world against P2P file-sharing often compare copyright infringement to theft. For example, one of the videos against illegal file-sharing distributed by the MPAA shows a young girl downloading a file using a computer (“downloading” is intentionally written on the girl’s computer screen). The following text accompanies the picture: “You wouldn’t steal a car. You wouldn’t steal a handbag. You wouldn’t steal a movie. Downloading pirated films is stealing”⁹¹ Hence, right holders, in an attempt to educate the public, have intentionally used the term “downloading,” an action that is part of P2P file-sharing, not listening/watching/streaming/webcasting/etc., and therefore are targeting mainly file-sharing.⁹²

This exemplifies that, up until now, right holders probably consider P2P file-sharing a larger and greater threat than webcasting.⁹³ There could be various reasonable explanations for this phenomenon. I explore these possibilities, categorize them, and attempt to unveil their meaning by comparing their differences.

could collectively generate a total of a quarter-billion dollars in revenue, which potentially makes illegal file-sharing very profitable for right holders. See Ernesto, *200,000 BitTorrent Users Sued In The United States*, TORRENT FREAK (Aug. 8, 2011), <http://torrentfreak.com/200000-bittorrent-users-sued-in-the-united-states-110808>.

89. See *infra* note 139.

90. Some of the main efforts against unlawful streaming are reserved for what is referred to as “Live Webcasting,” meaning that some right holders are fighting against webcasting of live content. This is usually more crucial for right holders of live-sports events who wish to eliminate websites that transfer live broadcast to users via the Internet, sometimes without charge. Zuffa, LLC, the owner of Ultimate Fighting Championship (UFC), recently sued Justin.tv, Inc., a live webcasting video website, for failing to address the illegal uploading of video of live Pay-Per-View. See *Zuffa, LLC v. Justin.tv, Inc.*, 838 F. Supp. 2d 1102 (D. Nev. 2012). See also Dave Parrack, *UFC Sues Justin.TV and Ustream for IP Addresses of Live Streaming Copyright Pirates*, WEBTVWIRE (July 27, 2010), <http://www.webtvwire.com/ufc-sues-justin-tv-and-ustream-for-ip-addresses-of-live-streaming-copyright-pirates>.

91. See *Movie Piracy*, *supra* note 84.

92. As you can read from the campaign slogan, some right holders have also used the confusing term “pirated films” instead of “copyright protected films.” *Id.*

93. It is noted that even if P2P file-sharing existed prior to webcasting, webcasting still exists and is used. Hence, the time factor can only explain why P2P file-sharing was fought before webcasting, but does not explain why webcasting is only a fraction of the current war.

a. Legal Differences

From the end-users' perspective, copyright law treats P2P file-sharing and webcasting quite differently. As we have seen earlier, an end-user might infringe upon the right holder's exclusive right of reproduction⁹⁴ due to the temporary storage of the file in the computer's RAM. While in webcasting end-users' liability remains uncertain, in P2P file-sharing end-users' activities are clearly considered copyright infringement of the reproduction right, since downloading creates a copy of the copyrighted material and sharing infringes the exclusive distribution right.⁹⁵ Hence, the first difference between P2P file-sharing and webcasting is the degree of legal certainty that might have affected right holders' decisions to sue end-users who allegedly infringe upon rights over P2P file-sharing, but not in webcasting.

Copyright law is also vague and misleading for ISPs that act as webcasters. For example, let us view a relatively new approach to webcasting as utilized in the now defunct website "Zediva."⁹⁶ Instead of reaching an agreement with right holders and paying royalties, Zediva created a webcasting website that operates like the regular neighborhood video store and allegedly does not violate copyright.⁹⁷ When renting a movie through Zediva, the user is renting both a DVD and a DVD Player in Zediva's data center, which, during the rental period, could only be used by that user. In addition, Zediva offered newly released videos faster than its competitors.⁹⁸ Unlike its competitors, e.g., Netflix and Redbox, Zediva did not make additional copies of the DVDs; hence, as they claimed, they did not violate

94. 17 U.S.C. § 106(1) (2006).

95. If the user enables other users to download the copyrighted material from them, he might also face contributory liability for the reproduction right infringement made by the other users. *See, e.g., Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995); *Horsfield-Bradbury*, *supra* note 23, at 297. However, this is not certain. *See Atlantic Recording Corp. v. Howell*, 554 F. Supp. 2d 976, 986 (D. Ariz. 2008) (order denying motion for summary judgment).

96. Zediva was an online webcasting website that offered its subscribers online movie rental. *See* Ryan Lawler, *Zediva Is Nuked, Hollywood Rejoices*, REUTERS (Aug. 2, 2011, 7:11 PM), <http://www.reuters.com/article/2011/08/02/idUS317363613120110802>.

97. *See* Ryan Singel, *Zediva Streams New Releases Through Copyright Loophole*, FORDHAM MEDIA & ENT. L. SOC'Y (Mar. 16, 2011), <http://fordmels.blogspot.com/2011/03/zediva-streams-new-releases-through.html>.

98. "Using Zediva you can rent and instantly watch new movies much earlier (often several weeks or months) than either Netflix or Redbox." Defendant's Answer and Counterclaim at 1, *Warner Bros. Entm't, Inc. v. WTV Sys., Inc.*, 824 F. Supp. 2d 1003 (C.D. Cal. 2011) (No. 11-02817), *available at* http://www.wired.com/images_blogs/threatlevel/2011/05/zediva-counter.pdf.

copyright law using the “first sale” doctrine.⁹⁹ However, Zediva’s interpretation of copyright law seemed off.¹⁰⁰ First, the first sale doctrine only applies as a defense to distribution and display rights, but not to the public performance right.¹⁰¹ Second, using an analogy to the offline world, Zediva is similar to a small theatre, rather than a rental store, and therefore is in violation of the public performance right.¹⁰² Although the latest court ruling regarding similar storage technology, such as cloud computing, might also suggest otherwise,¹⁰³ the current thinking regarding Zediva and their settlement agreement suggests that the service is unlawful.¹⁰⁴

b. Architectural Differences

The technology of webcasting is much different from that of P2P file-sharing and might have also had an impact on the attention directed at file-sharing. First, P2P file-sharing arrived on the scene earlier and is less dependent on broadband connections and the speed

99. 17 U.S.C. § 109(a) (2006). According to U.S. law, the owner of a lawful copy of a copy-righted work may resell that copy or may rent it (with the exception of copies of computer programs and phonorecords of sound recordings rental), lend it, or give it away. See R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577, 580-81 (2003).

100. As expected, the members of the Motion Picture Association of America (MPAA) filed a lawsuit against Zediva for copyright infringement. See Complaint for Copyright Infringement, Warner Bros. Entm’t, Inc. v. WTV Sys., Inc., 824 F. Supp. 2d 1003 (C.D. Cal. 2011) (No. 11-02817), available at <http://www.mpaa.org/Resources/2146a1b0-20bd-48ce-a473-f5f27812ba29.pdf>.

101. James Grimmelmann, *That Zediva Thing? It’s So Not Going to Work.*, THE LABORATORIUM (Mar. 16, 2011, 3:27 PM), http://laboratorium.net/archive/2011/03/16/that_zediva_thing_its_so_not_going_to_work.

102. See *Columbia Pictures Indus., Inc. v. Redd Horne, Inc.*, 749 F.2d 154 (3d Cir. 1984). The defendant was a video store that rented videotapes and a private booth to view them. *Id.* at 156-57. The court held that this was a violation of the public performance right, as “the showcasing operation is not distinguishable in any significant manner from the exhibition of films at a conventional movie theater.” *Id.* at 159. See also Grimmelmann, *supra* note 101.

103. See *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008). The defendants offered their customers “in the cloud” digital video recorders (DVRs) so they could watch their favorite shows whenever they please. See Grimmelmann, *supra* note 101. The Court of Appeals for the Second Circuit held that the defendant did not directly infringe the reproduction or public performance rights. See *id.*

104. See Greg Sandoval, *Federal Court to Order Film Service Zediva Shut Down*, CNET NEWS (Aug. 1, 2011, 7:09 PM), http://news.cnet.com/8301-31001_3-20086666-261/federal-court-to-order-film-service-zediva-shut-down. Zediva agreed to close down permanently and to pay the studios \$1.8 million. See Ryan Singel, *Streaming Movie Service Zediva Pays Hollywood \$1.8M, Shuts Down*, WIRED (Oct. 31, 2011, 8:18 PM), <http://www.wired.com/threatlevel/2011/10/streaming-movie-service-zediva-pays-hollywood-1-8m-shuts-down>.

of communication, although it does still require it.¹⁰⁵ Therefore, one of the reasons that right holders are fighting P2P file-sharing much more aggressively is the timeframe. Second, streaming technology is based on DRM that prevents the user from obtaining a copy of the work after its usage. In that way, right holders may feel safer even though infringement and potential revenue losses might have occurred since both were on a smaller scale, and, as the media could not be further distributed, future revenue losses are minimized. It may be beneficial to right holders for people to switch from P2P file-sharing to webcasting, which means the entertainment industry may come to view webcasting as less harmful than P2P file-sharing. The benefit comes mainly from the associated DRM that prevents the user from distributing it further. Indeed, webcasting has led some users to stop downloading music illegally¹⁰⁶ and may be a reasonable explanation of why right holders are fighting P2P file-sharing more aggressively than they are fighting webcasting.

Webcasting technology might also prevent—or at least make more difficult—right holders’ from being able to unveil the end-user’s identity as compared to P2P file-sharing. While file-sharing usually occurs substantially using only a few file-sharing technologies,¹⁰⁷ webcasting can occur on any website. Hence, it is impractical for right holders to uncover all the websites that enable end-users’ access to copyrighted materials via webcasting.

The architectural differences between P2P file-sharing and webcasting also affects the identity of right holders, and may play a major role in the described phenomenon. In P2P file-sharing, a copy of the work is made and the end-user can make use of it anytime without an Internet connection. Webcasting only enables an end-user to make use of the material once, which means she cannot exploit the

105. For a better understanding of bandwidth requirements for webcasting, see Mihir Shah, *Internet Speed Required for Streaming Audio*, EHOW (July 16, 2011), http://www.ehow.com/facts_7277620_Internet-speed-required-webcasting-audio.html.

106. A survey conducted in the United Kingdom in 2010 claims that 54% of the respondents said that webcasting had led them to quit illegally downloading music. See Jared Moya, *SURVEY: Music Streaming Decreases Illegal File-Sharing*, ZEROPAID (Aug. 18, 2010), <http://www.zeropaid.com/news/90312/survey-music-streaming-decreases-illegal-file-sharing>. It is also possible that legitimate webcasting services, such as Netflix, have actually impacted and reduced P2P traffic. See Wesley Fenlon, *Netflix Streaming May Be Putting a Hurt on File Sharing*, TESTED (May 3, 2011), <http://www.tested.com/news/netflix-streaming-may-be-putting-a-hurt-on-file-sharing/2262>. Also, according to a report on Internet traffic, P2P traffic is shrinking at a dramatic rate while webcasting video and direct downloads are exploding in popularity. See Erica Naone, *Peer-to-Peer File Sharing Usurped by Streaming Video*, TECHNOLOGY REVIEW (Oct. 14, 2009), <http://www.technologyreview.com/web/23713/?a=f>.

107. Examples of these technologies are KaZaA, BitTorrent, and eMule.

material once she disconnects from the Internet. The view of right holders in this matter should be different from one another, i.e., music and films different characteristics could influence right holders approach differently, and may play an important role in the described phenomenon, as I will further elaborate.

Music and films have different characteristics, but in the context of file-sharing, the two industries should generally be affected in a similar manner.¹⁰⁸ However, webcasting might change that because of basic differences between the two mediums: Music is usually listened to more than once. For example, if you favor a song, you can listen to it multiple times: at home, while participating in sports (e.g., through a portable media player), while driving, or during many other given activities. A favored song is timeless and you may listen to it often over the years, enjoying it just as much as you did the first time, or sometimes even more. Films, however, possess different characteristics; a film is usually watched a limited number of times.¹⁰⁹ For these reasons, I characterize music as multiple-use media and films as limited-use media.¹¹⁰

The differences between multiple-use media and limited-use media hold much importance vis-à-vis the Internet. Downloading of both forms of media are usually treated equally, meaning that there are no major differences in the consumption of the media in the eyes of right holders from music and film industries.¹¹¹ However, webcasting treats each differently. Listening to music online, via webcasting, without the ability to save a copy to your computer and reuse it later, should not affect the later consumption of it. For instance, to legally rehear a song with no Internet connectivity would oblige its purchase (hence my characterization as multiple-use media). Therefore, generally speaking, right holders in the music industry should not fear webcasting because it should not present a

108. However, the filming industries might be less affected by file-sharing due to the nature of cinema theatre, which offers the public more than just the screening of a film, but rather an experience. For this reason, the field of economics will define them as “experience goods.” See Phillip Nelson, *Information and Consumer Behavior*, 78 J. POL. ECON. 311, 312 (1970).

109. Obviously, some people will watch the same movie repeatedly. But, generally, films are watched only a few times.

110. Books, for example, are also a form of limited-use media. I will not use the term “single-use media” to describe films, as people sometimes watch a film more than once.

111. In downloading, whether it is an audio or visual file, a copy is made on the user’s computer. Generally speaking, that copy replaces the consumption of the media and therefore could result in revenue losses for the right holders. For this matter, the nature of the media should not make a huge difference.

major threat to their current business models.¹¹² On the other hand, watching a film online by webcasting may have a greater impact on later consumption since most consumers are not likely to view the film again for a while (hence my characterization as limited-use media). Therefore, right holders in the film industry should fear webcasting just as much as P2P file-sharing, depending on the scale of infringement, since it threatens their business models just as much. Having said that, the importance of the differences between multiple-use media and limited-use could easily vanish soon, as transmission technologies continue to evolve, e.g., third generation cellular transmission.¹¹³ Since the Internet is highly accessible, people are able to use their high-end mobile devices, such as smartphones,¹¹⁴ to hear music everywhere through streaming, which would raise music industry right holders' fears of webcasting.

This claim takes us further. If webcasting presents such a crucial impact on the film industry, why doesn't the industry fight it, at least as much as P2P file-sharing? Unfortunately, we can only speculate as to their response and look at their past activities for an answer. In the current copyright battle against P2P file-sharing, the content industry trade groups, such as the RIAA, have been more active in trying to resolve what they consider a threat than parties such as the MPAA.¹¹⁵ It does not seem reasonable that the film industry has less economic

112. Right holders in the music industry use webcasting to promote their songs. In YouTube, for example, you can create a "Musician account," which is designed to promote your music through YouTube. See *Musician (channel type)*, YOUTUBE, <http://www.google.com/support/youtube/bin/answer.py?hl=en&answer=95491> (last updated Feb. 03, 2012).

113. For more on 3rd generation cellular transmissions, see *Definition of: 3G*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0%2C2542%2Ct%3D3G&i%3D37088%2C00.asp (last visited Aug. 25, 2012).

114. A Smartphone is a cellular telephone with built-in applications and Internet access. See *Definition of: Smartphone*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=Smartphone&i=51537,00.asp (last visited Aug. 25, 2012).

115. Only lately has the film industry started to enhance copyright litigation against end-users. For example, the latest subpoena granted for the U.S. Copyright Group identifies 23,000 people that allegedly "shared" the motion picture *The Expendables* using a BitTorrent protocol. See David Kravets, *Biggest BitTorrent Downloading Case in U.S. History Targets 23,000 Defendants*, WIRED (May 9, 2011, 5:15 PM), <http://www.wired.com/threatlevel/2011/05/biggest-bitorrent-case>; see also *Complaint for Copyright Infringement and Demand for Jury Trial, Camelot Distrib. Grp., Inc. v. Doe* (C.D. Cal. 2011) (No. 11-01949), 2011 WL 917819; *Class Action Complaint, Openmind Solutions, Inc. v. Doe* (S.D. Ill. 2011) (No. 11-00092).

and political power than the music industry.¹¹⁶ Even if there were financial and political differences, it is still notable that the film industry has not fought online infringement like the music industry. If this is true, the answer must be elsewhere.

Why has the film industry been, until recently, less active than the music industry in enforcing copyright? Law-abiding individuals can purchase songs online using online stores like iTunes.¹¹⁷ Yet, online film stores¹¹⁸ are different. They are not available worldwide, sometimes cannot offer the highest quality available,¹¹⁹ and usually possess a limited number of films. Hence, even people who wish to abide by the law could find themselves downloading/webcasting unlawfully online, receiving a higher quality film, or a film they could not obtain from the online store.¹²⁰

Recently, some right holders in the film industry have also initiated litigation against P2P file-sharers. After filing several lawsuits,¹²¹ nearly 50,000 users of BitTorrent are now facing a lawsuit for allegedly infringing the copyrights of two motion pictures: *The*

116. The economic and political power comparison between the film and the music industries is beyond the scope of this article. For an extensive overview of these industries and other entertainment industries, see HAROLD L. VOGEL, *ENTERTAINMENT INDUSTRY ECONOMICS: A GUIDE FOR FINANCIAL ANALYSIS* (8th ed. 2011).

117. iTunes is a free application used mainly for playing and organizing digital music and video files on desktop computers. Through iTunes users can connect to the iTunes store and purchase songs, television shows, games, audio-books, etc. For more information, see *iTunes*, APPLE, <http://www.apple.com/itunes> (last visited Aug. 26, 2012).

118. For example, see NETFLIX, <http://www.netflix.com> (last visited Aug. 26, 2012), which offers its members in the United States and Canada a subscription service for viewing films and TV shows.

119. For example, Netflix users used to only be able to stream 720p HD content on an HD-compatible box, while file-sharing users could sometimes find 1080p content, which is better quality, being a little over twice the resolution of 720p. Although Netflix is improving their content quality, there are still films that can be found in higher resolution outside of Netflix. See Josh Lowensohn, *1080p Streaming Not Coming to Netflix this Year*, CNET NEWS (Feb. 8, 2010, 12:30 PM), http://news.cnet.com/8301-27076_3-20000054-248.html#ixzz1S012F7Dh; Edgar Cervantes, *Netflix HD App to Stream at 1080p, But Only for Texas Instruments OMAP 4 Processors*, ANDROID AND ME (July 5, 2011, 11:52 AM), <http://androidandme.com/2011/07/news/netflix-hd-app-to-stream-at-1080p-but-only-for-texas-instruments-omap-4-processors>.

120. In the film industry, unlike the music industry, people can sometimes download or webcast a film that was only released to cinemas. Therefore, in the film industry, an infringement could affect both cinemas and storage media formats such as DVDs, as opposed to an impact on storage media formats, such as CDs, in the music industry.

121. Eriq Gardner, *New Litigation Campaign Quietly Targets Tens of Thousands of Movie Downloaders*, THE HOLLYWOOD REPORTER (Dec. 21, 2010, 10:56 AM), <http://www.hollywoodreporter.com/blogs/thr-esq/litigation-campaign-quietly-targets-tens-63769>.

Hurt Locker and *The Expendables*.¹²² The days of the film industry playing a passive role in the fight against P2P file-sharing are over. The film industry has started to realize that end-users are not going anywhere, and, especially as webcasting advances, the film industry will have to play a more active role. Moreover, as third generation technologies continue to evolve, raising the threat on the business models of right holders in the music industry, the music industry could potentially share a similar interest in fighting webcasting despite its multiple-use nature.

c. Other Differences

Copyright law is not easy to understand, especially for the general public. Take P2P file-sharing of copyrighted materials, which is usually unlawful, as an example: Even if the public does not fully understand which rights were infringed, a large number of people do understand that downloading is likely to be considered an infringement of copyright. However, webcasting might be perceived differently. An end-user, who might suspect that watching a film without paying for it is morally wrong, may not really understand why it is considered unlawful when she does not make a copy of it. Moreover, if legal experts cannot fully agree that the temporary storage of files in RAM is considered an infringement, how can the public be expected to do so? The general knowledge of the public, limited as it may be, is still larger on P2P file-sharing than on webcasting.

In conclusion, although P2P file-sharing and webcasting share major similarities in copyright, they also differ in many aspects and some right holders consider P2P file-sharing a larger threat as they gain more knowledge of the issue. However, as the Internet continues to evolve, right holders' awareness to webcasting, especially in the film industry, will continue to rise. The question is: Should right holders fight webcasting at all? And if so, what is the best appropriate way to do so?

122. Julianne Pepitone, *50,000 BitTorrent Users Sued for Alleged Illegal Downloads*, CNNMONEY (June 10, 2011, 3:59 PM), http://money.cnn.com/2011/06/10/technology/bittorrent_lawsuits/index.htm; see also Ernesto, *supra* note 88, indicating that a total of over 200,000 end-users were altogether sued for online copyright infringement since the beginning of 2010.

V. FIGHTING WEBCASTING

Until now, the war over copyright on the Internet has mainly focused on P2P file-sharing. In this part, I examine whether webcasting and storage-based technologies should be fought by right holders in the upcoming copyright war. As technology advances and webcasting continues its worldwide diffusion, right holders, especially in the film industry, will try to eliminate the unauthorized webcasting of copyrighted materials more actively, while potentially operating and profiting from legitimate webcasting services.¹²³ A future war, much like past and current Internet battles, could be fought on three major fronts: legal, technological, and social.¹²⁴

a. Altering Human Behavior

Right holders seeking to regulate end-user behavior in cyberspace need to consider four types of constraints: legal, economic, social, and design (code).¹²⁵ I use Larry Lessig's model to examine the different aspects of possible solutions in relation to webcasting of copyrighted materials.

i. Legal aspects

The legal perspective is mainly composed of three aspects: legislation, litigation, and private ordering. Lobbying for legislation directed against unlawful webcasting is a legitimate means. Although copyright law already grants right holders the legal tools to deal with webcasters, i.e., at least in the form of the public performance right¹²⁶ and the right of reproduction,¹²⁷ it does not necessarily grant right holders the legal tools to deal with end-users, as mentioned. Hence, specific legislation directed at webcasting from the end-users side,

123. It could be highly profitable to maintain a webcasting website with media content, free of charge for subscribers, if advertising imposes a weak nuisance to music consumers. See Tim Paul Thomes, *An Economic Analysis of Online Streaming: How the Music Industry Can Generate Revenues from Cloud Computing* 34 (Ctr. for Eur. Econ. Research, Discussion Paper No. 11-039, 2011), available at ftp.zew.de/pub/zew-docs/veranstaltungen/ICT2011/Papers/Thomes.pdf.

124. A possible fourth front is the political one. However, the political front could be combined in the other fronts, e.g., lobbying for legislation, and therefore I will not analyze it solely.

125. See LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 25 (1999); LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 70-124 (2004).

126. 17 U.S.C. § 106(4) (2006).

127. 17 U.S.C. § 106(1).

could aid right holders, a topic that I address later in the paper.¹²⁸ Although webcasting infringement with no financial gain¹²⁹ can still be considered mostly a civil wrong, it is only a matter of time until legislators further criminalize it,¹³⁰ as recently suggested by the U.S. House and Senate,¹³¹ in an attempt to create public deterrence from illegal online activities. Criminal legislation might aid right holders against webcasting copyright violations.

The proposed bill is an outcome of a strategic plan to protect intellectual property enforcement by the U.S. government.¹³² It will

128. See *infra* Part V.b.

129. Criminal prosecution for copyright infringement must be done willfully, and either for purposes of commercial advantage or private financial gain; by the reproduction or distribution, including by electronic means, during any 180-day period, of 1 or more copies or phonorecords of 1 or more copyrighted works, which have a total retail value of more than \$1,000; or by the distribution of a work being prepared for commercial distribution. 17 U.S.C. § 506(a)(1). Thus, webcasting infringement, with no commercial advantage or financial gain, will be considered as a civil wrong, as long as the public performance right is the only right infringed (17 U.S.C. § 506(a)(1) requires reproduction or distribution, hence, does not apply to public performances). However, as noted, the webcaster might also infringe upon the distribution right and the right of reproduction, and therefore could be liable for criminal infringement of copyright.

130. See S. 978, 112th Cong. § 1 (2011) (Senate bill seeking to amend the criminal penalty provision for criminal infringement of a copyright). See also Stop Online Piracy Act (SOPA), H.R. 3261, 112th Cong. § 201 (2011) (House bill imposing criminal penalties for public performances by means of digital networks with a retail value of more than \$1,000 and felony penalties if the retail value is more than \$2,500); Haber, *supra* note 19 (arguing that the Three Strikes Policy is another link in a chain of a criminal paradigm set in copyrights, meaning that some copyright law policies will probably continue to shape in accordance with criminal law, despite copyright's civil law rationales). These proposed bills, which will probably not pass in their current forms, are beyond the scope of this article. However, generally speaking, the bills' agendas mark a global paradigm shift towards copyright criminalization. For more on criminal aspects of copyright law, see generally Steven Penney, *Crime, Copyright, and the Digital Age*, in WHAT IS A CRIME? DEFINING CRIMINAL CONDUCT IN CONTEMPORARY SOCIETY 61, 63-64 (2004) (describing and evaluating efforts to criminalize copyright law in the digital era); Kent Walker, *Federal Criminal Remedies for the Theft of Intellectual Property*, 16 HASTINGS COMM. & ENT. L.J. 681 (1994) (arguing that changing public opinion gradually is persuading policymakers that theft of intellectual property can be as serious as theft of tangible property); Lydia Pallas Loren, *Digitization, Commodification, Criminalization: The Evolution of Criminal Copyright Infringement and the Importance of the Willfulness Requirement*, 77 WASH. U. L. Q. 835, 845 (1999) (arguing that the adoption of the NET Act in 1997 marks a significant turning point in the law of criminal copyright infringement).

131. See S. 978, 112th Cong. (2011); Stop Online Piracy Act (SOPA), H.R. 3261, 112th Cong. (2011).

132. On March 2011, The U.S. Intellectual Property Enforcement Coordinator (IPEC) issued the Administration's Strategic Plan on Intellectual Property Enforcement. The Administration recommended that Congress clarify that infringement by streaming, or by means of other similar new technology, is a felony in appropriate circumstances:

[I]t is imperative that our laws account for changes in technology used by infringers. One recent technological change is the illegal streaming of content. Existing law provides felony penalties for willful copyright infringement, but

mainly alter current criminal sanctions for unlawful public performance from a fine and/or a one-year prison sentence to a fine and/or five-year prison sentence.¹³³ Unlike the current criminal statute, infringement does not have to be willful. However, the new penalties would apply only if the offense consists of 10 or more public performances by electronic means, during any 180-day period, of one or more copyrighted works and the total retail value of the performances, or the total economic value of such public performances to the infringer or to the copyright owner, would exceed \$2,500 (or the total fair market value of licenses to offer performances of those works would exceed \$5,000).¹³⁴

Who should fear the new bill if legislated? First, websites such as YouTube.com, which offer webcasting content, would probably be safe due to the lack of volitional conduct on their part.¹³⁵ However, an end-user who links to a video would probably be deemed to be making a public performance.¹³⁶ Owners and operators of websites that contain publicly available copyrighted materials through webcasting should certainly fear this proposed bill.¹³⁷

From the litigation aspect, right holders can sue ISPs,

felony penalties are predicated on the defendant either illegally reproducing or distributing the copyrighted work. Questions have arisen about whether streaming constitutes the distribution of copyrighted works (and thereby is a felony) and/or performance of those works (and thereby is a not a felony). These questions have impaired the criminal enforcement of copyright laws. To ensure that Federal copyright law keeps pace with infringers, and to ensure that DOJ and U.S. law enforcement agencies are able to effectively combat infringement involving new technology, the Administration recommends that Congress clarify that infringement by streaming, or by means of other similar new technology, is a felony in appropriate circumstances.

EXEC. OFFICE OF THE PRESIDENT, ADMINISTRATION'S WHITE PAPER ON INTELLECTUAL PROPERTY ENFORCEMENT LEGISLATIVE RECOMMENDATIONS (2011), *available at* http://www.whitehouse.gov/sites/default/files/ip_white_paper.pdf.

133. 17 U.S.C. § 506 (2006); *compare* 18 U.S.C. § 2319 (2006) (one-year prison sentence), *with* S. 978, 112th Cong. (2011) (five-year prison sentence).

134. S. 978, 112th Cong. (2011). *See* Abigail Phillips, *Felony Penalties Proposed for "Illegal Streaming": Senate Bill 978*, ELEC. FRONTIER FOUND. (June 23, 2011), <https://www.eff.org/deeplinks/2011/06/felony-penalties-proposed-illegal-streaming-senate>.

135. *See* Phillips, *supra* note 134.

136. *See* Live Nation Motor Sports Inc. v. Davis, 81 U.S.P.Q.2d 1826 (N.D. Tex. 2007) (holding that the defendant, who provided links to plaintiff's live webcast events, did not have authorization and had infringed plaintiff's copyright). *But see* Phillips, *supra* note 134.

137. The described fear only applies to webcasting websites, as websites which host copyrighted materials available for downloading are already considered to be a felony under U.S. law (with exceptions). *See* the No Electronic Theft (NET) Act, H.R. 2265, 105th Cong. (1997); *see generally* 17 U.S.C. §§ 101, 506, 507 (2006); 18 U.S.C. §§ 2319, 2320 (2006); 28 U.S.C. § 1498 (2006).

webcasters, and end-users for copyright infringement while trying to establish public deterrence.¹³⁸ ISPs that comply with the DMCA provisions will be left out of the battle. However, webcasters and end-users would probably be detected and sued for copyright infringements. Indeed, more recently right holders have started to sue webcasters for copyright infringements.¹³⁹ However, this last method does not necessarily sound promising due to the outcomes of past attempts made mostly by the RIAA in P2P file-sharing lawsuits.

From a private ordering aspect, right holders could make various agreements with ISPs, such as the implementation of “Alert System” technology that detects illegal downloading. Some ISPs, like Comcast and Verizon, have already started using such methods.¹⁴⁰ Moreover, right holders can target all websites that stream copyrighted content and send notice letters to take down the illegal content. By doing so, they can substantially reduce the amount of infringements without litigation, demanding those websites either purchase a license or cease and desist from unlawful actions.

138. The right holders can either sue ISPs for direct infringement, which is less likely, or for contributory/vicarious infringement, the webcaster for infringing the Public Performance right, the Distribution Right, and the Right of Reproduction (and also by contributory infringement, if the end-user will be held liable for infringement), and the end-user, which consumed the copyrighted content for the infringement of the Right of Reproduction. See generally, for example, famous cases regarding RIAA legal actions made against ISPs and users: *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896 (N.D. Cal. 2000); *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001); *In re Aimster Copyright Litig.*, 334 F.3d 643 (7th Cir. 2003); *MGM Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005); *Sony BMG Music Entm't v. Tenenbaum*, 721 F. Supp. 2d 85 (D. Mass. 2010); *Capitol Records, Inc. v. Thomas*, 579 F. Supp. 2d 1210 (D. Minn. 2008); *Maverick Recording Co. v. Harper*, 598 F.3d 193 (5th Cir. 2010).

139. See *Order to Show Cause for A Preliminary Injunction with Temporary Restraining Order*, *CBS Broad., Inc. v. FilmOn.com, Inc.*, (S.D.N.Y. Oct. 1, 2010) (No. 10-cv-7532) (temporarily enjoining a website that allowed its subscribers to access live high definition television feeds online); Tim Molloy, *FilmOn.Com Ordered to Stop Streaming Free TV (update)*, THE WRAP (Nov. 23, 2010, 7:29 AM), <http://www.thewrap.com/tv/column-post/filoncom-ordered-stop-streaming-free-tv-22775>. See also *Complaint for Copyright Infringement*, *Warner Bros. Entm't, Inc. v. WTV Sys., Inc.*, 824 F. Supp. 2d 1003 (C.D. Cal. 2011) (No. 11-02817); *Twentieth Century Fox Film Corp. v. iCraveTV*, No. 00-121, 2000 U.S. Dist. LEXIS 1013 (W.D. Pa. Jan. 28, 2000) (issuing an injunction against iCraveTV, a Canadian website which provided end-users the opportunity to watch television in real-time by webcasting and soon after announced that it would permanently stop its unauthorized webcasting activities); Michael A. Geist, *Is There a There There? Toward Greater Certainty for Internet Jurisdiction*, 16 BERKELEY TECH. L.J. 1345, 1351 (2001).

140. See Chloe Albanesius, *Pirates Beware, ISPs Agree to Copyright Alert System*, PCMag (July 7, 2011, 1:47 PM), <http://www.pcmag.com/article2/0,2817,2388184,00.asp>.

ii. Technology aspects

Architectural design, or, in other words, technology, can also regulate behavior.¹⁴¹ In Lessig's words, using computer code can alter behavior and resolve legal issues online.¹⁴² For example, right holders can use DRM¹⁴³ to prevent infringements or to detect them. However, the use of DRM might not prove useful for right holders to eliminate illegal webcasting because webcasting is already a form of DRM. Indeed, DRM has many loopholes—some users can illegally bypass the restrictions.¹⁴⁴ However, right holders can still make usage of DRM to prevent ripping storage media, e.g., CDs and DVDs, thereby preventing their streaming.¹⁴⁵ Moreover, right holders can use DRM to detect possible online infringements.¹⁴⁶

iii. Social aspects

Social norms and the market could also be used to regulate behavior.¹⁴⁷ Educating the general public about webcasting,

141. See Lance D. Clouse, *Virtual Border Customs: Prevention of International Online Music Piracy Within the Ever-Evolving Technological Landscape*, 38 VAL. U. L. REV. 109, 158 (2003); Lionel S. Sobel, *DRM as an Enabler of Business Models: ISPs as Digital Retailers*, 18 BERKELEY TECH. L.J. 667 (2003).

142. See LESSIG, *supra* note 125 (claiming that “Code is Law”); Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553 (1998).

143. See *DRM*, *supra* note 76.

144. Although streaming technology does not grant a user the option of saving the material on his or her computer, different technologies could aid a user to do so, and by that he might infringe the right holder's exclusive right of reproduction. For example, there are websites that offer a tool to users who wish to make a copy of a streaming media. See, e.g., VIDEO2MP3, <http://www.video2mp3.net> (last visited Aug. 27, 2012); VIDTOMP3, <http://www.vidtomp3.com> (last visited Aug. 27, 2012); YOUTUBE MP3, <http://www.youtube-mp3.org> (last visited Aug. 27, 2012). However, the DMCA prohibits circumventing copyright protection systems that are meant to control access to a protected work. 17 U.S.C. § 1201 (2006). Therefore, if an end-user wishes to make a copy of a streaming media, he might infringe the right holder's exclusive right of reproduction.

145. This DRM attempt might be proven futile, due to the fact that digital copies can be transferred to analog form, which does not recognize DRM. This issue, referred sometimes as “the analog hole,” enables people to transform digital protected DRM content to unprotect content. For more on the analog hole, see Douglas C. Sicker et al., *The Analog Hole and the Price of Music: An Empirical Study*, 5 J. ON TELECOMM. & HIGH TECH. L. 573 (2007); Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L.J. 603, 618-21 (2003).

146. For example, right holders use steganography, such as watermarks that can aid detection of the Internet identity of the User Internet Protocol (IP) address. For more information on steganography, see Neil F. Johnson, *Information Hiding: Steganography & Digital Watermarking*, JJTC, <http://www.jjtc.com/Steganography>.

147. Michael Birnhack suggested that social norms and the market could be addressed as one because crediting importance to the free market makes it a social value. See Michael

explaining why webcasting could result in unlawful conduct, might aid right holders in reducing online infringement. However, thus far, right holders' attempts to educate the public have failed; their many different approaches have not worked, as file-sharing of copyrighted materials continues.¹⁴⁸

In conclusion, right holders can attempt to regulate webcasters behaviors through various methods, mainly addressing legal, technological, and social measures. However, past attempts in similar matters might suggest that they do not stand much of a chance. In the next part, I explore the possible implication of the webcasting war on right holders.

b. Implications of a Futuristic War on Webcasting

The P2P file-sharing war and the future webcasting war contain the same basic characteristics. As long as right holders cannot find the answer for current problems in P2P file-sharing, it is unlikely that they will find it for webcasting. Perhaps fighting webcasting is not necessarily the proper answer for right holders who might prefer that end-users switch to webcasting from P2P file-sharing. Switching to

Birnhack, *Lex Machina: Information Security and Israeli Computer Act*, 4 SHA'AREY MISHPAT 315, 320 (2006) (Hebrew).

148. See, for example, commercials against downloading copyrighted materials over the net, comparing it to stealing: *Movie Piracy*, *supra* note 84. Also, the MPAA and the "Respect Copyrights Organization" tried in 2003 to reach the American audience by using an American icon (Manny Perry) approaching the audience not to infringe copyrights while comparing downloading of films from the Internet to stealing candy. The theme of the video was carefully chosen in an attempt to create sympathy to the American worker, and thus, to their homeland. See JOANNA DEMERS, STEAL THIS MUSIC: HOW INTELLECTUAL PROPERTY LAW AFFECTS MUSICAL CREATIVITY 11 (2006). In China, for example, cinema theatres used to hire spokesmen that gave out short lectures about the importance of copyright before a screening. Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1, 83 (2003). In the United Kingdom, some ISPs, in cooperation with right holders, chose to send warning letters to parents of users that are suspected of infringing copyright over the Internet, although no legal action was intended against them. John Timmer, *UK ISP Bows to Record Industry, to Send P2P Warning Letters*, ARS TECHNICA (June 6, 2008, 11:50 AM), <http://arstechnica.com/tech-policy/news/2008/06/uk-isp-bows-to-record-industry-to-send-p2p-warning-letters.ars>. In addition, there had been an attempt to regulate behavior by convincing the public that terrorism is many times funded by copyright infringements. See Gregory F. Treverton et al., *Film Piracy, Organized Crime, and Terrorism*, RAND CORP. (2009), available at http://www.rand.org/pubs/monographs/2009/RAND_MG742.pdf (note that this research was funded by the Motion Picture Association (MPA), and hence be more skeptical regarding its report). For example, the 1993 World Trade Center bombing was claimed to have been funded by a counterfeit T-shirt ring. Some claimed that the Irish Republican Army was financing its operations by selling pirated videos, including a copy of *The Lion King*. Kathleen Millar, *Financing Terror: Profits from Counterfeit Goods Pay for Attacks*, U.S. CUSTOMS TODAY (Nov. 2002), <http://www.cbp.gov/xp/CustomsToday/2002/November/interpol.xml>.

webcasting could be less harmful than P2P file-sharing and could contain many benefits for right holders.

Right holders profit from webcasting; battling against it might have a negative impact on their revenues. In the music industry, end-users connect to websites, such as Pandora,¹⁴⁹ to listen to streaming music online. Pandora shares its revenues with right holders; so both sides are happy.¹⁵⁰ In the movie industry, websites such as Netflix¹⁵¹ offer disc rentals and online videos in the United States and Canada.¹⁵² If right holders deter the public from using webcasting technologies they could cause a chilling effect, resulting in fewer subscriptions to legitimate webcasting websites.¹⁵³ In addition, the usage of such websites is only applicable in certain specific countries, while the rest of the world is excluded.¹⁵⁴ If right holders truly wish to

149. Pandora is a personalized Internet radio, which analyzes the user's taste in music and is designed to help him discover new music he may like. The service is free and offers unlimited listening. For more information, see Tom Conrad, *Blog: New Pandora for All*, PANDORA (Sep. 20, 2011, 1:26 PM), <http://blog.pandora.com/pandora/archives/2011/09/new-pandora-for.html>.

150. In the music industry, right holders are sometimes concerned that licensed webcasting services will allow users to choose songs, making it an "interactive" service, and as such, these websites should pay individual licensing fees to right holders according to copyright law. 17 U.S.C. § 114 (2006). However, as long as these websites provide non-interactive service, i.e., as long as users are not able to request a particular song on demand, they will only need to pay a statutory licensing fee set by the Copyright Royalty Board. For this matter see, for example, *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 148 (2d Cir. 2009) (holding that Launch Media, Inc. streaming services is not considered an "interactive service" within the scope of § 114). For an analysis of the court's decision, see Michael P. Kella, *Arista Records v. Launch Media: An Analysis of the Second Circuit's Ruling on Webcast Interactivity and a Look at the Current and Future State of Interactive Webcasting Technology*, 30 ST. LOUIS U. PUB. L. REV. 199 (2010).

151. See NETFLIX, <http://www.netflix.com> (last visited Aug. 27, 2012).

152. *Company Overview*, NETFLIX, <https://signup.netflix.com/MediaCenter> (last visited Aug. 27, 2012).

153. However, the chilling effect could be reduced if the legitimate websites could advertise to the public that they are lawful.

154. See, for example, Pandora's posting on its main page while attempting to access it from Israel (which, for now, is excluded from Pandora):

Dear Pandora Visitor, We are deeply, deeply sorry to say that due to licensing constraints, we can no longer allow access to Pandora for listeners located outside of the U.S. We will continue to work diligently to realize the vision of a truly global Pandora, but for the time being we are required to restrict its use. We are very sad to have to do this, but there is no other alternative.

We believe that you are in Israel (your IP address appears to be [**.*.*.*]). If you believe we have made a mistake, we apologize and ask that you please contact us at pandora-support@pandora.com.

If you are a paid subscriber, please contact us at pandora-support@pandora.com and we will issue a pro-rated refund to the credit card you used to sign up. If you have been using Pandora, we will keep a record of your existing stations and bookmarked artists and songs, so that when we are able to

grant end-users a lawful alternative in an attempt to downsize illegal webcasting, they would have to increase lawful website accessibility worldwide.

Moreover, losing battles against technologies such as P2P file-sharing may have changed right holders' perception of these matters. Fighting webcasting could be impractical and inefficient since it is harder to detect a webcasting end-user than it is to detect a P2P file-sharing end-user. I use a formerly popular, now shut down, website, Megavideo, to illustrate the point. Megavideo webcasted videos from Megaupload that were uploaded by registered end-users, the webcaster. The webcaster's identification was not necessarily known to the website operators, since registration only required an e-mail address (which can be easily obtained) and Internet Protocol (IP) addresses can be manipulated. End-users did not have to register in order to watch a movie through Megavideo's servers.¹⁵⁵ Megavideo did not actively monitor, screen, or otherwise review the uploaded media.¹⁵⁶ Hence, the ISP, Megavideo, was supposedly protected by law, as long as it complied with DMCA requirements.¹⁵⁷ Much like other known websites, such as YouTube.com, its actions were not supposed to meet the standard of "willful blindness."¹⁵⁸ However, Megaupload and Megavideo were recently taken down, as the Department of Justice unsealed an indictment, charging Megaupload and Megavideo operators with criminal charges, due mostly to accusations of actual knowledge of copyright infringements and of money laundering.¹⁵⁹

launch in your country, they will be waiting for you.

We will be notifying listeners as licensing agreements are established in individual countries. If you would like to be notified by email when Pandora is available in your country, please enter your email address below. The pace of global licensing is hard to predict, but we have the ultimate goal of being able to offer our service everywhere.

We share your disappointment and greatly appreciate your understanding.

Source on file with the journal. Last visited Feb. 1, 2012.

155. However, registered and premium members enjoyed features that non-registered users did not.

156. See MEGAVIDEO, <http://www.megavideo.com/?c=dmca> (no longer available).

157. See 17 U.S.C. § 512 (2006).

158. The willful blindness standard in copyright law says that "[o]ne who, knowing or strongly suspecting that he is involved in shady dealings, takes steps to make sure that he does not acquire full or exact knowledge of the nature and extent of those dealings is held to have a criminal intent." *In re Aimster Copyright Litig.*, 334 F.3d 643, 650 (7th Cir. 2003).

159. Sean Gallagher, *Megaupload Shut Down by Feds, Seven Charged, Four Arrested*, ARS TECHNICA (Jan. 19, 2012, 12:46 PM), <http://arstechnica.com/tech-policy/news/2012/01/megaupload-shut-down-by-feds-seven->

Although Megavideo was shut down, similar websites, which I categorize as “Webcasted File-hosting Services” (WFS), will probably continue to rise, while amending the mistakes of Megavideo operators. Attempts to sue WFS webcasters and end-users differ from attempts to sue end-users and webcasters using P2P file-sharing technologies, such as BitTorrent. Hence, webcasting must be treated differently for several reasons. First, in P2P file-sharing via BitTorrent, end-users and webcasters are the same because the technology is designed so that a person who downloads a file simultaneously shares it. Also, downloaded content remains available for other end-users to download, as long as that end-user’s BitTorrent client is operating and she does not move the downloaded file to a different folder. In WFS, an end-user can only be traced to a file while uploading it, meaning there is only a short timeframe where an end-user’s IP can be detected by webcasted file-hosting services, unlike BitTorrent. Second, when right holders subpoena the identity of an end-user’s IP, they first have to track her by downloading the file from her to uncover her alleged infringement.¹⁶⁰ However, in WFS, streaming cannot occur until after the upload is complete and only then is WFS’s record of the uploader’s IP identity accessible. Even then, the IP identity can be easily manipulated. Moreover, right holders will have a real problem trying to detect end-users who downloaded copyrighted materials for the same reasons. With BitTorrent technology, right holders can view the IP of the end-user, but they are not able to view it in webcasting since they are not aware of the end-users who downloaded the content. To sum up, WFS will probably continue to exist, mainly due to non-infringing uses that enhance free speech and free culture.¹⁶¹ And since webcasters and

charged-four-arrested.ars; Nate Anderson, *Why the Feds Smashed Megaupload*, ARS TECHNICA (Jan. 19, 2012, 3:14 PM),

<http://arstechnica.com/tech-policy/news/2012/01/why-the-feds-smashed-megaupload.ars>.

160. This is how it usually works: media industry trade groups, such as the RIAA and the MPAA, maintain a list of media whose rights are owned by it. Then, they usually hire a company to search and collect information (such as the metadata for the alleged infringing file, the IP address of the infringing host, and the date and time of the alleged infringement) about users who potentially infringe files over P2P networks. That company connects to P2P networks, such as LimeWire and KaZaA, searches for the industry trade group’s media, and gathers the information of the user. Later, the industry trade groups turn to court for a subpoena to the ISP to obtain the identity behind the IP address relating to the alleged infringement. See Catherine Rampell, *How It Does It: The RIAA Explains How It Catches Alleged Music Pirates*, THE CHRON. OF HIGHER EDUC. (May 13, 2008), available at <http://chronicle.com/article/How-It-Does-It-The-RIAA-Ex/786>.

161. Technological innovations enrich the public domain with new forms of expression. They are extremely important to our social fabric and can promote a democratic culture with a

end-users will be hard to locate, and therefore sue, right holders may choose to avoid a future war on webcasting even before it begins.

Although webcasting could be beneficial for right holders and could be viewed as less harmful than P2P file-sharing for the industry, it still presents major threats to these industries' business models. One apparent solution can be found in the form of a noncommercial use levy, as suggested in copyright literature.¹⁶² For example, Neil Netanel suggested implementing a "Noncommercial Use Levy" (NUL), which would allow unrestricted noncommercial P2P file-sharing in return for imposing a levy on P2P-related services and products.¹⁶³ As Netanel notes, while successfully forecasting future copyright issues, the NUL could also be applied on noncommercial webcasting:

At the same time, the NUL privilege should extend to digital distribution not only via file transfers but also individuals' noncommercial streaming. At some point, P2P file sharing may largely entail streaming user-selected music, video, or text files as opposed to making files available for download. As telecommunications and digital storage technology evolve, it might be more efficient for works to be stored in a central location for user viewing or listening than for each user to store copies on his or her computer. Or, it may be that network participants effectively divvy up the storage costs, each storing a given type or number of works that are then made available for others to view or hear without requiring download. Next generation portable devices, like MP3 player/mobile phones, might also be capable of ordering user-selected streams from remote locations, rather than having to store thousands of files in multi-gigabyte memory. The NUL privilege should cover noncommercial P2P file sharing over digital networks regardless of whether the files are transferred for user download or streamed for user access.¹⁶⁴

If such a levy is imposed, end-users and creators will have the much needed "freedom to explore, share, and modify many of the

variety of speakers and ideas available to all. See Tal Z. Zarsky, *Assessing Alternative Compensation Models for Online Content Consumption*, 84 DENV. U. L. REV. 645, 652 (2006).

162. See FISHER, *supra* note 86; Netanel, *supra* note 148; Jay Anderson, *Stream Capture: Returning Control of Digital Music to the Users*, 25 HARV. J.L. & TECH. 159, 174-75 (2011).

163. Netanel, *supra* note 148. Prior to Netanel's suggestion, Glynn Lunney suggested a limited tax on copying technology and blank storage media as a solution to technological developments. See Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 910 (2001).

164. Netanel, *supra* note 148, at 37-38.

expressive works that populate our culture.”¹⁶⁵ Right holders will be able to distribute their content online without a direct charge and can also control the quality of the content. However, even a levy system, which may be the best solution suggested thus far in this field, has some drawbacks.¹⁶⁶ It may not be relevant in the instances where films are released online at the same time, or even prior to, their release at the box office. This will render movie theatres uncompensated; an illegal market will still exist. Even so, it still sounds much better than the current reality.¹⁶⁷

VI. WEBCASTING SOLUTIONS

As the current court rulings regarding temporary storage of copyrighted material point out, webcasting causes troublesome outcomes because webcasting of copyrighted materials without a right holder’s consent would infringe upon the right holder’s right of reproduction. I suggest a few legal solutions for the current webcasting problem in order to prevent the next war on copyright and to maintain webcasting social benefits.

Unlike P2P file-sharing, webcasting end-users should not be targeted directly, and right holders should abstain from suing them. If the legality of the end-user’s actions is still unclear in legislation, it is unjust of right holders to demand that those end-users understand and comply with the law. Moreover, if the legislature wishes to provide a true, viable solution to webcasting, it should refrain from over-criminalizing copyright law, which could result in public deterrence, leading to a chilling effect on using legal webcasting services,¹⁶⁸ and

165. *Id.* at 6.

166. For example, a levy system might not prove to be as financially efficient as the current system as it might be politically problematic and it raises the issue of inequitable cross-subsidization. *See id.* at 81.

167. Another proposed solution could be in the form of a nonzero-sum approach. This approach, suggested by Peter K. Yu, basically means that both sides of the dispute should understand what they are trying to achieve in the struggle. *See* Peter K. Yu, *Toward a Nonzero-Sum Approach to Resolving Global Intellectual Property Disputes: What We Can Learn From Mediators, Business Strategists, and International Relations Theorists*, 70 U. CIN. L. REV. 569, 608-20 (2002). By doing that, we can try and find a win-win situation where both right holders and users will cooperate. *Id.* However, as Yu suggests in his article, most of the time the two sides fight because they want the same thing. In our case, such a solution will not succeed. *Id.* *See also* Yu, *supra* note 61, at 949-51.

168. Generally speaking, overprotection of copyright using criminal sanctions could be as harmful as under-protecting it, and could lead to a chilling effect of wide dissemination of new ideas and new forms of expression. *See* Keith Aoki, *How the World Dreams Itself to be American: Reflections on the Relationship Between the Expanding Scope of Trademark Protection and Free Speech Norms*, 17 LOY. L.A. ENT. L.J. 523, 532 (1997); Lucille M. Ponte,

should instead work out a more proper solution.

First, the law has to be clear. If webcasting of copyrighted materials without right holders' consent is unlawful from both the webcaster and the end-user sides, it should clearly state that these actions are illegal.¹⁶⁹ This revised law should clearly state that willfully making usage of copyrighted materials by webcasting without right holders' consent is a copyright infringement. However, it should also contain a safe harbor provision for innocent end-users. This is crucial for preventing a possible chilling effect on websites that offer free webcasting, such as YouTube, which are important to freedom of expression. A safe harbor will protect end-users who made willful usage of a video, but were not aware, or subjectively were not supposed to be aware,¹⁷⁰ that their actions were unlawful. Although vague, the safe harbor will assist in distinguishing between end-users who knowingly and unlawfully wished to watch a film online for free, and end-users who wished to watch a funny video on YouTube, not knowing that it was uploaded without the right holder's consent.

Second, after establishing legal grounds for webcasting, the public needs to be educated about it. I am not claiming that the campaigns made against P2P file-sharing succeeded, as illegal file-sharing has not ceased yet, but public-service campaigns should address this matter better. If right holders seek to educate the general public about copyright and stop infringements upon their rights, they should abstain from narrowing down end-users' actions with campaign slogans such as "Downloading is stealing." Rather, they should use a much broader slogan that captures most unlawful actions by delivering a message that if you are not paying for something that

Coming Attractions: Opportunities and Challenges in Thwarting Global Movie Piracy, 45 AM. BUS. L.J. 331, 335 (2008) ("Furthermore, First Amendment advocates are concerned that the further criminalization of copyright violations places a chilling effect on free speech and continues to dismantle fair use principles in this march toward zero tolerance against movie copyright violations."); Miriam Bitton, *Rethinking the Anti-Counterfeiting Trade Agreement's Criminal Copyright Enforcement Measures*, 102 J. CRIM. L. & CRIMINOLOGY 67, 84 (2012).

169. See Michelle Hugard, *Lost in Transitory Duration: A Look at Cartoon Network v. CSC Holdings, Inc. and Its Implications for Future Copyright Infringement Cases*, 43 U.C. DAVIS L. REV. 1491, 1528 (2010) (arguing that in order to achieve certainty, legislators must provide clear guidelines as to what constitutes copies and fixation under the Copyright Act).

170. The safe harbor provision will not protect end-users who made willful usage of a newly released film posted on free webcasting websites, such as YouTube, on grounds that the end-user should have known that the film was posted unlawfully. However, if an end-user made willful usage of a video clip, regardless of whether it was legally posted or not, he should not be held accountable because YouTube contains many lawful video clips. Therefore, the end-user subjectively was not supposed to know if the video clip was posted lawfully.

you would usually pay for, it could be unlawful. In other words, “use common sense.”

Despite my suggestions, the proper current solution for both P2P file-sharing and webcasting is a levy system, as I discussed earlier. The reason is that we cannot really prevent technology from developing. When people wanted to swap music, the software was made available for them. When this software was banned, improved versions were developed. Webcasting makes it even harder for right holders as they make usage of it for their own financial benefits. For example, some artists post their video-clips online for viewers to watch. They might feel that their video-clips are safe on webcasting, as no permanent usable copy remains on the end-user’s computer. However, various technologies enable users to convert the videos to MP3 format and/or save them on their computer.¹⁷¹ The problem for right holders is that because those services possess various substantial, non-infringing uses, they are probably here to stay. Hence, right holders face a dilemma in determining whether or not to post their promotional materials online.

Instead of opposing end-users’ unlawful actions, right holders should aid and encourage them to use their media, even supplying them the infrastructure to do so. They can then control the quality of their distributed materials, measure the quantity of consumption and allocate revenues accordingly. Some countries have already started to address some form of levy. In China, for example, Baidu, a major ISP,¹⁷² recently signed a two-year licensing agreement with Universal Music Group, the Warner Music Group, and Sony BMG to allow Chinese end-users to download or stream over 500,000 songs for no direct charge.¹⁷³ Baidu earns money from online advertising, and much like a levy system, they pay a fee to the labels for each time a song is downloaded or webcasted, as well as provide promotional support for the labels.¹⁷⁴

171. See, e.g., VIDEO2MP3, <http://www.video2mp3.net>; YOUTUBE MP3, <http://www.youtube-mp3.org>; FLVTO, <http://www.flvto.com> (YouTube to MP3 converter); MP3 From YouTube Flash Video, LISTENTOYOUTUBE.COM, <http://www.listentoyoutube.com>.

172. Baidu, Inc. is a Chinese web services company. See BAIDU, <http://www.baidu.com>.

173. Dan Levin, *China’s Biggest Search Engine, Known for Illegal Downloads, Makes Music Deal*, N.Y. TIMES, July 19, 2011, at B3, available at http://www.nytimes.com/2011/07/19/technology/baidu-chinas-search-giant-announces-music-licensing-deal.html?_r=1.

174. *Id.* See also Jessica Wang, *A Brave New Step: Why the Music Industry Should Follow the Hulu Model*, 51 IDEA 511, 531 (2011) (arguing that the music industry should offer free music streaming and downloading, while earning profits through online advertising and pay recording companies negotiated royalties through SoundExchange).

As levy systems were carefully analyzed and suggested in the past, I call on global legislators to address a levy system now before another copyright war starts. Moreover, this war would be futile as right holders do not stand a chance in future wars. If P2P file-sharing is eliminated, end-users will use webcasting; if webcasting is eliminated, another technology will be developed. Winning a war against webcasting might encourage people to make use of cloud computing services or online storage facilities that are password protected, such as Dropbox,¹⁷⁵ in order to swap files, creating closed file-sharing communities.¹⁷⁶ I think that my point is clear: Right holders' struggle will not be won by current methods. The sooner right holders understand this, the better it is for us all.

VII. CONCLUSION

As the Internet continues to evolve, making it easier for end-users to use free media online, some right holders found themselves in a pickle. After many attempts to resolve the struggle, and even if successful in the current war against P2P file-sharing, right holders will always face another one. As I have analyzed in this article, right holders, especially in the film industry, will soon realize that streaming of copyrighted materials, i.e., webcasting, threatens them in a similar manner as P2P file-sharing. However, current copyright law is not equipped to regulate this aspect of the Internet, especially from an end-user's side. Unlike P2P file-sharing, where the legality of users' actions is usually clear, in webcasting the law is vague. The potential might be falsely interpreted by courts, i.e., each court could interpret the vagueness of the statute differently, while creating legal uncertainty.

Current copyright law does not address the action of webcasting

175. Dropbox is a free service that provides users with the ability to store photos, documents, and videos anywhere and share them easily. See *About Dropbox*, DROPBOX, <http://www.dropbox.com/about>.

176. This war has already begun. The RIAA filed legal action against a cloud computing service, Box.net, on May 18, 2011, trying to uncover whether or not contributory infringement has taken place. However, it is very unlikely that courts will hold cloud-computing services responsible for contributory infringement, as this technology has many other primary uses than copyright infringements. See Jacqui Cheng, *RIAA v. the Cloud: Box.net Faces Subpoena over Prerelease Music*, ARS TECHNICA (May 19, 2011, 3:02 PM), <http://arstechnica.com/tech-policy/news/2011/05/riaa-versus-the-cloud-boxnet-faces-subpoena-over-pre-release-music.ars>; Asher Kest, *Cloud Computing and the RIAA*, ARTER LAW'S INDUSTRY INSIDER (June 20, 2011), <http://artherworldblog.wordpress.com/2011/06/20/cloud-computing-and-the-riaa>. For the court's take on online storage lockers, see *UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349 (S.D.N.Y. 2000).

from the end-user's side properly since there is a great uncertainty regarding the end-user's actions through webcasting, and there have been no court decisions regarding the legality of cache copies created during Internet transmissions. If the legislator seeks to outlaw webcasting of copyrighted materials, she should first address it directly under copyright legislation, strictly and clearly forbidding it (with exemptions), and cease to criminalize copyright law any further. However, right holders should cease their struggle against unlawful copyright infringements online, because it is a lost battle. Since right holders have already lost, they should at least try to make the most of it by implementing levy systems. Who knows, it may prove to be more financially sound than their current business models. Did anyone mention Sony?¹⁷⁷

177. While, at first, some right holders considered the Sony Betamax video tape recorder as a threat to their business models and attempted to sue the manufacturer, "the motion picture industry grew to rely on the pre-recorded videocassette market as a significant source of its income." Litman, *supra* note 56, at 948. *See also* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984) (finding that Sony's sale of video tape recorders did not constitute contributory infringement of Universal's copyrights).