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**MOD CHIPS AND HOMEBREW: A RECIPE FOR THEIR CONTINUED  
USE IN THE WAKE OF *SONY V. DIVINEO***

***Phillip A. Harris Jr.***<sup>1</sup>

*Sony v. Divineo appears to sound the death knell for use of mod chips within video game systems. With a three million dollar damages claim against a mod chip distributor, it is becoming cost prohibitive to sell these chips directly to consumers. The Digital Millennium Copyright Act, with its potentially crushing requirements, stifles the creativity and innovation of mod chip distributors and overlooks fair use as a defense for the use of mod chips. Fortunately, the next batch of legal forays into the world of mod chips may allow for better outcomes for mod chip distributors. With existing, valid arguments for significant noninfringing uses and lessons provided by other countries, victories in lawsuits against video game monopoly holders may not be far away.*

**I. INTRODUCTION**

I hated *Contra*.<sup>2</sup> I could barely make it to the third level before inevitably exhausting all three of my lives and having to start all over again. Whether I used a fireball gun, machine gun, or laser, I simply could not win. I would jump and crouch, but despite all of my valiant efforts, I would die. Until I acquired the Konami code,<sup>3</sup>

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<sup>1</sup> J.D. Candidate, University of North Carolina School of Law, 2009. Thanks to Gerri and LP for their love, to Professor Amy Flanary-Smith, Giovonni Seawood, and other editors for their help, and to my brother, James, who taught me to conquer those things bigger than myself, like a Recent Development.

<sup>2</sup> 1980s video game featuring two “Stallonenegger” clones (action heroes) seeking to overcome the evil Red Falcon, and known for its difficulty. Luke O’Brien, *Up, Up, Down, Down, Left, Right, B, A: Remember When Gaming Was Harmless Fun?*, SLATE, Aug. 10, 2007, <http://slate.com/id/2171993/> (on file with the North Carolina Journal of Law & Technology).

<sup>3</sup> See *id.* The code, named for the developer of the game, consists of the following button presses on the Nintendo controller: up, up, down, down, left,

*Contra* was worthless to me. Once I input the simple code, I became a video game god. Not only did I rush into battle and destroy the evil Red Falcon, I did it with the style and abandon of a man who knew he could not die, or at least had thirty lives before he did. As I turned the Nintendo off, amid the explosions of Red Falcon's death, I realized that I had truly accomplished something great. The best part about the code was that it worked on over one hundred subsequent games.<sup>4</sup>

As in the above illustration, video game players cheat.<sup>5</sup> It is extremely difficult not to want to cheat, especially with the complexity of games.<sup>6</sup> Cheating within video gaming has turned into a perennial quest to see who is the best, not only in game play, but in creating a video game system for all to envy.<sup>7</sup> The use of mod chips and homebrew software<sup>8</sup> in video game systems represents the next generation of game players' attempts to cheat

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right, left, right, B, A. Inputting the code gives the player thirty lives versus the original three lives. *Id.*

<sup>4</sup> Jay Garmon, *Geek Trivia: The Cheat Goes On*, TECHREPUBLIC, May 6, 2007, <http://articles.techrepublic.com.com/5100-10881-6164935.html> (on file with the North Carolina Journal of Law & Technology) (discussing *Gradius*, another game that was difficult without the code).

<sup>5</sup> O'Brien, *supra* note 2.

<sup>6</sup> Clive Thompson, *Tough Love: Can a Video Game Be Too Hard?*, SLATE, May 6, 2004, <http://www.slate.com/id/2100116/> (on file with the North Carolina Journal of Law & Technology).

<sup>7</sup> Ashley Wagner, *Cybernotes: Best Xbox 360 Case Mods*, CYBERNET, July 24, 2006, <http://cybernetnews.com/2006/07/24/cybernotes-best-xbox-360-case-mods> (on file with the North Carolina Journal of Law & Technology) (depicting unique Xbox 360 cases and modifications).

<sup>8</sup> Vijay G. Brijbasi, *Game Console Modification Chips: The Effect of Fair Use and the Digital Millennium Copyright Act on the Circumvention of Game Console Security Measures*, 28 NOVA L. REV. 411, 426 (2004) (defining mod chips as devices that allow additional code to run on a video game system, and homebrew as "hobbyist developed" software); *see also* Homebrew (Video Games), WIKIPEDIA, [http://en.wikipedia.org/wiki/Homebrew\\_\(video\\_games\)](http://en.wikipedia.org/wiki/Homebrew_(video_games)) (last visited Sept. 27, 2007) (on file with the North Carolina Journal of Law & Technology) [hereinafter Homebrew]; Mod Chip, WIKIPEDIA, <http://en.wikipedia.org/wiki/modchip> (last visited Sept. 27, 2007) (on file with the North Carolina Journal of Law & Technology) [hereinafter Mod Chip].

the system.<sup>9</sup> These enhancement devices demonstrate the increasing creativity and innovation of consumers determined to overcome the shortcomings of monopolized video game systems.<sup>10</sup> Despite this creativity and innovation, video game manufacturers aided by the executive and judicial branches, have diligently pursued the distributors of these enhancement devices.<sup>11</sup> This Recent Development analyzes *Sony Computer Entertainment America, Inc. v. Divineo, Inc.*,<sup>12</sup> a recent decision by the U.S. District Court for the Northern District of California, and proposes a legal strategy which could assist the creators and distributors of enhancement hardware and software in beating back the rising tide of legal actions threatening to overcome them.

## II. BACKGROUND

### A. *Mod Chips and Homebrew*

Video game modification chips, or mod chips, are enhancement devices which users place inside video game consoles to add functionality to the machines.<sup>13</sup> These small

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<sup>9</sup> Eugene Huang, *Microsoft Pledges To Halt Souped-Up Game Consoles*, PC WORLD, May 18, 2007, [http://www.pcworld.com/article/id,132020-c,game\\_consoles/article.html](http://www.pcworld.com/article/id,132020-c,game_consoles/article.html) (on file with the North Carolina Journal of Law & Technology).

<sup>10</sup> Conrad Quilty-Harper, *DVD Playback Enabled on Mod Chipped Wiis*, ENGADGET, Aug. 19, 2007, <http://www.engadget.com/2007/08/19/dvd-playback-enabled-on-mod-chipped-wiis/> (on file with the North Carolina Journal of Law & Technology).

<sup>11</sup> Brian Crecente, *Massive Mod Chip Raid Sweeps Country*, KOTAKU, Aug. 1, 2007, <http://kotaku.com/gaming/piracy/massive-mod-chip-raid-sweeps-nation-285007.php> (on file with the North Carolina Journal of Law & Technology); *Crack Down on U.S. Mod Chip Sellers*, BBC, Aug. 2, 2007, <http://news.bbc.co.uk/2/hi/technology/6928177.stm> (on file with the North Carolina Journal of Law & Technology) [hereinafter *Crack Down*].

<sup>12</sup> 457 F. Supp. 2d 957 (N.D. Cal. 2006).

<sup>13</sup> Quilty-Harper, *supra* note 10; *see also* Mod Chip, *supra* note 8. To review particular types of mod chips or to receive installation instructions, there are numerous websites available. For a quick glimpse into purchasing mod chips and installing them, see ModChip.com, <http://www.modchip.com> (last visited Sep. 27, 2007) (on file with the North Carolina Journal of Law & Technology); *see also* Matt Staroscik, *The Dreamcast Mod Chip*, WRONGCROWD, July 12,

devices are typically used to either rewrite or bypass the hardware code on video game systems allowing the owner to run programs not provided by the manufacturer.<sup>14</sup> The user completes installation by adding a mod chip to the motherboard of the console by soldering wires or using alternate connections within the console.<sup>15</sup> Potential changes to the hardware code include enabling the system to perform additional functions, including functioning as “media players, file managers, and [FTP] servers.”<sup>16</sup> Homebrew is the term coined by computer hackers and other tinkerers for the software designed and created by consumers to add additional functions to the console, beyond those which are inherent, to their video game systems.<sup>17</sup> Without mod chips, homebrew applications would not be viable for video game hardware systems.<sup>18</sup>

Mod chips can serve both legal and illegal purposes.<sup>19</sup> One potentially legal use of mod chips is defeating the “region encoding” of video game systems.<sup>20</sup> Region encoding allows video

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2004, <http://wrongcrowd.com/dreamcast> (on file with the North Carolina Journal of Law & Technology).

<sup>14</sup> Brijbasi, *supra* note 8, at 425–27. The original hardware code within the video game console does not allow programs from other manufacturers to run within the console, only those programs which are created by the original manufacturer can run within the console; the mod chip either “alter[s] or replace[s]” the original code to allow for other programs to be run within a console. *Id.*

<sup>15</sup> *Xbox Modchip Installation Guide*, Mar. 15, 2004, <http://www.copying-xbox-games.com/tutorials.php?tutorialid=00000027> (on file with the North Carolina Journal of Law & Technology).

<sup>16</sup> Brijbasi, *supra* note 8, at 426. FTP stands for “file transfer protocol,” and functionality as an FTP server will allow a video game console to be used to transfer and receive files from other people. *See* MERRIAM-WEBSTER’S COLLEGE DICTIONARY 504 (11th ed. 2003).

<sup>17</sup> Brijbasi, *supra* note 8, at 426; *see also* Homebrew, *supra* note 8.

<sup>18</sup> Brijbasi, *supra* note 8, at 426 (stating that homebrew applications need the mod chip and its software to allow for unprotected and unverified code to run on the video game).

<sup>19</sup> Derek J. Schaffner, *The Digital Millennium Copyright Act: Overextension of Copyright Protection and the Unintended Chilling Effects on Fair Use, Free Speech, and Innovation*, 14 CORNELL J.L. & PUB. POL’Y 145, 163 (2005).

<sup>20</sup> *Id.* Although the Digital Millennium Copyright Act (“DMCA”) may very likely apply to region encoding as a technological protection measure, there is

game systems to “prohibit the use of games legally purchased in other countries.”<sup>21</sup> Mod chips also serve the legal function of remedying failures of video game manufactures to enhance system functionality, such as Nintendo’s failure to equip DVD playback on the Nintendo Wii.<sup>22</sup> Mod chips are frequently utilized for the legal purposes of enabling the use of different and varied operating systems, media applications, and other homebrew.<sup>23</sup>

Unfortunately, mod chips are often used for the illegal purpose of defeating both software and hardware protections within video game systems in order to allow owners to play pirated video games.<sup>24</sup> There are statistics available which support the conclusion that piracy, including both the sale and use of mod chips, costs video game producers billions of dollars in lost sales and revenue each year;<sup>25</sup> however, it is extremely difficult to gauge

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scant case law, and there is even evidence that this potential DMCA violation is being ignored by both manufacturers of replay devices (like DVD players) and consumers. *Compare* Sony Computer Entm’t Am., Inc. v. GameMasters, 87 F. Supp. 2d 976, 987 (N.D. Cal. 1999) (holding that the defendant’s Game Enhancer device, which allowed for the “temporary modifications to the [PlayStation] computer program” to enable playing of out of region games, was a circumvention of a technological measure for purposes of the DMCA), with Rob Warren, *The Openlaw DVD/DeCSS Forum Frequently Asked Questions (FAQ) List*, May 3, 2000, <http://cyber.law.harvard.edu/openlaw/DVD/dvd-discuss-faq.html#ss3.3.1> (on file with the North Carolina Journal of Law & Technology) (stating that some DVD players actually ignore region encoding or allow changes to the encoding scheme during initial setup), and Paul Rubens, *Border Controls Crumble in DVD Land*, BBC, Aug. 19, 2002, [http://news.bbc.co.uk/1/hi/in\\_depth/sci\\_tech/2000/dot\\_life/2197548.stm](http://news.bbc.co.uk/1/hi/in_depth/sci_tech/2000/dot_life/2197548.stm) (on file with the North Carolina Journal of Law & Technology) (stating that DVD player manufacturers build cheat codes into their players to allow for region-free playing of DVDs).

<sup>21</sup> Schaffner, *supra* note 19, at 163.

<sup>22</sup> Quilty-Harper, *supra* note 10.

<sup>23</sup> Brijbasi, *supra* note 8, at 426.

<sup>24</sup> *Id.* at 412.

<sup>25</sup> Crecente, *supra* note 11 (quoting Michael Gallagher, president of the Electronic Software Association a trade group for video game manufacturers, who stated that there were losses totaling over \$3 billion for video game piracy); *Crack Down*, *supra* note 11 (stating that piracy costs American businesses \$250 billion every year).

the impact of both mod chip use and sales.<sup>26</sup> For these reasons, there have been several major crackdowns on mod chip distributors in recent months.<sup>27</sup> These crackdowns have included the federal government raiding distributors,<sup>28</sup> video game companies limiting online accessibility based on detection of mod chips,<sup>29</sup> and video game manufacturers disabling access to discussion board conversations related to homebrew software.<sup>30</sup> With the federal government's involvement, under the authority of both copyright law and the Digital Millennium Copyright Act ("DMCA" or "Act"), there will likely continue to be a heavy price to pay for mod chip distributors.<sup>31</sup>

#### B. *Anti-Circumvention Under the DMCA*

The DMCA was enacted in 1998 as a hallmark of the digital age to address some of the issues of digital revolution.<sup>32</sup> In pertinent part, the DMCA is violated where any "technology" or "product" is used to "circumvent" a protection measure used to prevent copying and where there is only a "limited commercially

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<sup>26</sup> Nintendo, *Nintendo Supports U.S. Raids on Copyright Circumvention Devices*, Aug. 2, 2007, <http://www.nintendo.com/whatsnew> (search for "Nintendo Supports U.S. Raids"; follow "What's New: Nintendo Supports U.S. Raids on Copyright . . ." hyperlink) (on file with the North Carolina Journal of Law & Technology) (quoting Jodi Daugherty, Senior Director of Anti-Piracy, explaining losses of \$762 million due to piracy, but only detailing pirated copies of games, not mod chips).

<sup>27</sup> Press Release, U.S. Immigration and Customs Enforcement, *Game Over: ICE, Industry Team Up in Gaming Piracy Crackdown* (Aug. 2, 2007), <http://www.ice.gov/pi/news/newsreleases/articles/070801washington.htm> (on file with the North Carolina Journal of Law & Technology) [hereinafter *Game Over*].

<sup>28</sup> *Id.*

<sup>29</sup> David Becker, *Is Microsoft Using 'Halo 2' To Thwart Xbox Hackers?*, CNET NEWS, Nov. 12, 2004, [http://www.news.com/Is+Microsoft+using+Halo+2+to+thwart+Xbox+hackers/2100-1043\\_3-5449160.html](http://www.news.com/Is+Microsoft+using+Halo+2+to+thwart+Xbox+hackers/2100-1043_3-5449160.html) (on file with the North Carolina Journal of Law & Technology).

<sup>30</sup> Justin McElroy, *No More PSP Homebrew Talk on Sony's Forums*, JOYSTIQ, Sept. 6, 2007, <http://www.joystiq.com/2007/09/06/no-more-psp-homebrew-talk-on-sonys-forums> (on file with the North Carolina Journal of Law & Technology).

<sup>31</sup> See *Game Over*, *supra* note 27; *Crack Down*, *supra* note 11.

<sup>32</sup> Schaffner, *supra* note 19, at 145.

significant purpose” other than circumvention.<sup>33</sup> The DMCA also clarifies that no other rights or limitations are affected by the Act, including fair use.<sup>34</sup> An entity that alleges a violation of the DMCA must show:

(1) [O]wnership of a valid copyright on a work, (2) effectively controlled by a technological measure, which has been circumvented, (3) that third parties can now access (4) without authorization, in a manner that (5) infringes or facilitates infringing a right protected by the Copyright Act, because of a product that (6) the defendant either (i) designed or produced primarily for circumvention; (ii) made available despite only limited commercial significance other than circumvention; or (iii) marketed for use in circumvention of the controlling technological measure.<sup>35</sup>

To establish a prima facie case for a violation of the DMCA, a plaintiff must demonstrate each of the first five elements and satisfy one of the sub-requirements in the sixth element to shift the burden of proof to the defendant.<sup>36</sup>

The DMCA also has a reverse engineering provision.<sup>37</sup> Reverse engineering is defined as “the general process of analyzing a technology specifically to ascertain how it was designed or how it operates.”<sup>38</sup> The reverse engineering provision

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<sup>33</sup> 17 U.S.C. § 1201(a)(2) (2000). The Act specifically provides:

No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product . . . [or] device . . . that—  
(A) is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title; (B) has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title; or (C) is marketed by that person or another acting in concert with that person with that person’s knowledge for use in circumventing a technological measure that effectively controls access to a work protected under this title.

*Id.*

<sup>34</sup> *Id.* § 1201(c)(1).

<sup>35</sup> *Chamberlain Group, Inc. v. Skylink Techs., Inc.*, 381 F.3d 1178, 1203 (Fed. Cir. 2004) (emphasis omitted).

<sup>36</sup> *See id.*

<sup>37</sup> 17 U.S.C. § 1201(f).

<sup>38</sup> Chilling Effects, *Frequently Asked Questions (and Answers) About Reverse Engineering*, <http://www.chillingeffects.org/reverse/faq.cgi> (last visited Oct. 10,



in the DMCA states that a person may circumvent a technological protection or develop a means of circumventing the protection if it is done to “achieve interoperability of an independently created computer program with other programs.”<sup>39</sup> Interoperability is “the ability of computer programs to exchange information and of such programs mutually to use the information which has been exchanged.”<sup>40</sup> Reverse engineering, a technological protection to achieve interoperability, is valid so long as it does not infringe under the terms of the DMCA and the information obtained was previously not “readily available.”<sup>41</sup> The information obtained through reverse engineering may be shared with others so long as it is predicated on interoperability and no infringement or violation of other laws occurs.<sup>42</sup>

### C. *Fair Use*

Fair use is a defense to allegations of copyright infringement, and therefore use meeting this definition is excused under copyright law. Fair use includes “use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching[,] . . . scholarship, or research.”<sup>43</sup> Four factors must be considered to determine if an item’s application qualifies as fair use:

- (1) The purpose and character of the use, [i.e.] commercial versus nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use [on] the potential market for or value of the copyrighted work.<sup>44</sup>

Fair use was successfully used as an argument to allow recording television programs on a video cassette recorder.<sup>45</sup> Similarly, fair use could also protect other personal, noncommercial uses such as

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2007) (on file with the North Carolina Journal of Law & Technology) [hereinafter Chilling Effects].

<sup>39</sup> 17 U.S.C. § 1201(f).

<sup>40</sup> *Id.* § 1201(f)(4).

<sup>41</sup> *Id.* § 1201.

<sup>42</sup> *See id.* § 1201(f)(3).

<sup>43</sup> *Id.* § 107.

<sup>44</sup> *Id.*

<sup>45</sup> *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

using a mod chip to help back up games or to install new software on a video game console.<sup>46</sup>

D. *The Sony v. Divineo Case*

*Divineo* involved a claim brought by plaintiff Sony against defendant Divineo, Inc.<sup>47</sup> for allegedly trafficking in software and mod chips, circumventing the hardware protection of plaintiff Sony's Playstation video game console.<sup>48</sup> Sony moved for summary judgment under the DMCA.<sup>49</sup> The court granted Sony's motion, finding that Sony "made a prima facie showing of evidence" sufficient to support its claim that the Divineo violated the DMCA.<sup>50</sup>

The court made findings of facts relying primarily on the affidavit of Sony's director of hardware engineering.<sup>51</sup> The director swore in his affidavit that the " 'primary function' of mod chips is to bypass the copyright protection afforded by Playstation's technological measures."<sup>52</sup> Evidence showed that over 7,500 mod chips were sold in the United States from "the fourth quarter of 2003 through the second quarter of 2005."<sup>53</sup> The court also considered but dismissed testimony from Frederick Legault, president of Divineo, related to the noninfringing, legal uses of the mod chips and software, including using software as a means to reduce loading times, allowing storage of games on a

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<sup>46</sup> ELEC. FRONTIER FOUND., UNINTENDED CONSEQUENCES: SEVEN YEARS UNDER THE DMCA 6 (2006), [http://www EFF.ORG/files/DMCA\\_unintended\\_v4.pdf](http://www EFF.ORG/files/DMCA_unintended_v4.pdf) (on file with the North Carolina Journal of Law & Technology) [hereinafter CONSEQUENCES].

<sup>47</sup> *Sony Computer Entm't Am., Inc. v. Divineo, Inc.*, 457 F. Supp. 2d 957 (N.D. Cal. 2006). Frederic Legault, the sole shareholder and president of Divineo, Inc., was named as a defendant and represented himself during the trial. The other defendants, including Divineo, Inc., Divineo S.A.R.L., Divineo U.K., and Max Louarn, the officer and founder of Divineo S.A.R.L., defaulted on the motion, and therefore default judgment on the DMCA claims was granted against these defendants. *Id.* at 968.

<sup>48</sup> *Id.* at 959.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 964–65.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* at 959.

<sup>53</sup> *Id.* at 960.

hard disk drive, allowing play of over one hundred types of homebrew software, and allowing developers to use Divineo's products as a cheaper means to test their own games.<sup>54</sup>

The court focused primarily on the anti-circumvention sections of the DMCA in making its decision.<sup>55</sup> The DMCA states that no one can "traffic" in items that are "primarily designed for the purpose of circumventing" technological protection measures.<sup>56</sup> It also states that a product shall not be sold that has "only limited commercially significant purpose or use other than to circumvent a technological measure" for protectable works<sup>57</sup> or that is "marketed by that person . . . with that person's knowledge for use in circumventing a technological measure" for protectable works.<sup>58</sup> Circumventing protection by a technological measure is defined as "avoiding, bypassing, removing, deactivating, or otherwise impairing a technological measure."<sup>59</sup> The court stated the hallmark of a technological measure is "[e]ffectively protect[ing] a right of the copyright owner in the ordinary course of its operation to prevent, restrict, or otherwise limit the exercise of a right of a copyright under the [DMCA]."<sup>60</sup>

#### 1. *Divineo Argues Its Devices Are Not Circumvention Devices*

None of Divineo's evidence could dispute the claim that the "primary" function of its devices was circumvention.<sup>61</sup> Therefore, the court concluded that Divineo sold devices that were "primarily designed or produced for the purpose of circumventing the Playstation authentication system."<sup>62</sup> Despite evidence that the device's primary function was circumventing the Playstation's protection scheme, Divineo countered that there were other uses

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<sup>54</sup> *Id.* at 961.

<sup>55</sup> *Id.* at 964.

<sup>56</sup> 17 U.S.C. § 1201(a)(2)(A) (2000).

<sup>57</sup> *Id.* § 1201(a)(2)(B).

<sup>58</sup> *Id.* § 1201(a)(2)(C).

<sup>59</sup> *Id.* § 1201(b)(2)(A).

<sup>60</sup> *Id.* § 1201(b)(2)(B).

<sup>61</sup> *Sony Computer Entm't Am., Inc. v. Divineo, Inc.*, 457 F. Supp. 2d 957, 965 (N.D. Cal. 2006) (holding Divineo's "conclusory assertion" that the primary use of mod chips was not circumvention was insufficient against Sony's evidence).

<sup>62</sup> *Id.*

for mod chips besides those that violate the DMCA, including uses “that do[] not involve accessing copies of Sony’s copyrighted works or that make[] fair use of . . . works.”<sup>63</sup> The court also accepted Divineo’s contention that “use of a mod chip may be the only way to play legally purchased, imported games on a United States Playstation console.”<sup>64</sup> The court, however, cited precedent stating that a consumer’s “lawful or fair use of circumvention devices” will not eliminate liability for the defendant.<sup>65</sup> The court also rejected Divineo’s argument that the users of its devices were “technologically sophisticated” and it was this sophistication that allowed the circumvention, not the device itself.<sup>66</sup> Finally, the court stated that the “legal notice[s]” that Divineo included with its products informing the purchaser of legal uses of the device were “not relevant to its own liability under the DMCA.”<sup>67</sup>

## 2. *Divineo’s Other Key Arguments*

Divineo also argued that the “Playstation authentication process is not a ‘technological measure’ within the meaning of the DMCA because it does not effectively protect against persons who use devices . . . to store games on a hard drive.”<sup>68</sup> The court disagreed, stating that despite the widespread availability of circumvention devices, it “does not mean that a technological measure is not, as the DMCA provides, effectively protecting the rights of copyright owners ‘in the ordinary course of its operation.’ ”<sup>69</sup> Citing a decision by the U.S. District Court for the Southern District of New York, the *Divineo* court noted that the defendant’s interpretation of the statute “would have the [c]ourt

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<sup>63</sup> *Id.* (arguing that “users of mod chips could use them to ensure the interoperability of an independently created computer program, protected by the DMCA’s ‘reverse engineering’ exception”).

<sup>64</sup> *Id.*

<sup>65</sup> *Id.* (citing 321 Studios v. Metro Goldwyn Mayer Studios, Inc., 307 F. Supp. 2d 1085, 1097 (N.D. Cal. 2004), and United States v. Elcom Ltd., 203 F. Supp. 2d 1111, 1120 (N.D. Cal. 2002)).

<sup>66</sup> *Id.* (holding sophistication is “not evidence that the purpose of the mod chips is not circumvention”).

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

construe the statute to offer protection where none is needed [and] to withhold protection precisely where protection is essential.”<sup>70</sup>

In the end, the court granted Sony’s summary judgment motion against Divineo for violation of the DMCA and awarded damages of more than \$3.75 million.<sup>71</sup> The *Divineo* decision is one of several in which courts have strictly enforced the DMCA on Sony’s behalf because of the circumvention aspects of mod chips and other technological innovations.<sup>72</sup>

### III. AFTER *DIVINEO*, ARGUMENTS FOR CONTINUED USE OF MOD CHIPS

Despite the *Divineo* decision, there is uncertainty in the law surrounding mod chips. As such, defendants should carefully craft a defense that looks to the statute and other sources to support the continued use of mod chips.

#### A. *Noninfringing Applications Should Not Be Minimized*

Before the DMCA was enacted, case law generally held that there was no copyright violation where a technology possesses both infringing and significant noninfringing applications.<sup>73</sup> For example, in *Sony v. Universal*, the United States Supreme Court held that the use of videotape recorders did not infringe upon the copyrights of television programs because the device was capable

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<sup>70</sup> *Id.* (quoting *Universal Studios v. Reimerdes*, 111 F. Supp. 2d 294, 318 (S.D.N.Y. 2000)).

<sup>71</sup> *Id.* at 966–67 (holding the defendants were also liable for the plaintiff’s reasonable attorney fees).

<sup>72</sup> See *Sony Computer Entm’t Am., Inc. v. Filpiak*, 406 F. Supp. 2d 1068 (N.D. Cal. 2005) (holding defendant liable for selling mod chips and circumvention software); *Sony Computer Entm’t of Am., Inc. v. GameMasters*, 87 F. Supp. 2d 976 (N.D. Cal. 1999) (holding that although there was a question whether the Game Enhancer device sold by the defendants would infringe on trademarks or copyrights of the plaintiff, there was a likelihood that the plaintiff would prevail on its claims of violation of the DMCA).

<sup>73</sup> See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). The case dealt primarily with “time-shifting”—recording a program when a consumer is not available and watching it at a later time—and was a dispute between makers of the videotape recorder and owners of motion pictures and other audiovisual works. *Id.* at 421–22.

of substantial noninfringing uses.<sup>74</sup> Also, the Court held that Sony's sales of videotape recorders did not constitute contributory infringement.<sup>75</sup> Several factors influenced the Court's decision to allow the videotape recorders, including the absence of harm to the plaintiff's copyrights,<sup>76</sup> the existence of authorized taping, the societal benefits of tape recording,<sup>77</sup> and the lack of contributory infringement if the items were used for "legitimate, unobjectionable purposes."<sup>78</sup> Additionally, the Court stated that under the Copyright Act, no one should be held liable where infringement was committed by another.<sup>79</sup>

Some argue that a consumer's right to use or benefit from noninfringing homebrew software or video games from other regions, to be played on domestic gaming systems, vastly outweighs any potential damage to a copyright owner's bottom line.<sup>80</sup> More recently, some courts have held that noninfringing uses may be considered and balanced against the potential infringement.<sup>81</sup> Some courts have held that the DMCA should be interpreted only to protect the existing rights of copyright holders and not to "fundamentally alter" either the "legal landscape governing the reasonable expectations of consumers" or "the ways that courts analyze industry practices."<sup>82</sup> In other words, there

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<sup>74</sup> *Id.* at 456.

<sup>75</sup> *Id.* "Contributory infringement" occurs where there is a relationship between the direct infringer of copyright material and another party (the contributory infringer) who facilitates the infringement. *Id.* at 437.

<sup>76</sup> *Id.* at 444.

<sup>77</sup> *Id.* at 444–45 (including testimony from broadcasting personalities like Fred Rogers about the societal benefits accrued from taping *Mr. Rogers' Neighborhood*).

<sup>78</sup> *Id.* at 442.

<sup>79</sup> *Id.* at 434.

<sup>80</sup> See, e.g., Schaffner, *supra* note 19, at 163.

<sup>81</sup> See, e.g., Lexmark Int'l, Inc. v. Static Control Components, Inc., 387 F.3d 522 (6th Cir. 2004).

<sup>82</sup> Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1194 (Fed. Cir. 2004) (holding the DMCA introduced new grounds for liability in the context of unauthorized copyrighted material but did not grant additional property rights beyond standard copyright law, and therefore requires some form of copyright violation); see also Storage Tech. Corp. v. Custom Hardware Eng'g & Consulting, Inc., 421 F.3d 1307, 1319 (Fed. Cir. 2005) (holding the "district

must be some inherent violation of copyright law for the DMCA to apply when circumventing a technological protection.<sup>83</sup>

Despite this positive reading for noninfringing applications of technological devices, the DMCA was specifically designed to prevent devices allowing circumvention of technological protection and one court has gone so far as to say that the DMCA defeats even fair use.<sup>84</sup> Several courts have determined that Congress, in the wake of the “digital revolution,”<sup>85</sup> intended to disallow even noninfringing uses where there is the potential for circumvention of technological protection measures.<sup>86</sup> Some courts have even implied that there must be more than a mere capability of a noninfringing use.<sup>87</sup> This strand of case law casts a great shadow over any argument that noninfringing uses can outweigh the potential for circumvention, rendering the devices legal.

The defendant in *Divineo* did not fully explore the additional noninfringing uses of the mod chip.<sup>88</sup> *Divineo*<sup>89</sup> could have argued that there should be a balancing test that weighs a product’s

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court failed to consider whether the circumvention of the GetKey system either infringes or facilitates infringing a right protected by the Copyright Act” and indicating that under this view it was unlikely the plaintiff’s claim for a violation of the DMCA would be successful).

<sup>83</sup> “A court must look at the threat that the unauthorized circumvention potentially poses in each case to determine if there is a connection between the circumvention and a right protected by the Copyright Act.” *Storage Tech.*, 421 F.3d at 1319; *see also Lexmark Int’l, Inc.*, 387 F.3d at 549–50; *Chamberlain*, 381 F.3d at 1204.

<sup>84</sup> *United States v. Elcom Ltd.*, 203 F. Supp. 2d 1111, 1125 (N.D. Cal. 2002).

<sup>85</sup> *See, e.g., Schaffner*, *supra* note 19, at 145.

<sup>86</sup> *RealNetworks, Inc. v. Streambox, Inc.*, No. C99-2070P, 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. Jan. 18, 2000) (granting a temporary restraining order on presumption that defendant’s products would cause harm under the DMCA).

<sup>87</sup> *In re Aimster Copyright Litig.*, 334 F.3d 643, 649 (7th Cir. 2004) (focusing primarily on the issue of contributory infringement, but with Judge Posner arguing that more than a mere showing of infringement is required).

<sup>88</sup> *Sony Computer Entm’t Am., Inc. v. Divineo, Inc.*, 457 F. Supp. 2d 957, 960–61 (N.D. Cal. 2006).

<sup>89</sup> Although *Divineo* was represented by lawyers before the trial, its counsel withdrew and individual defendant Frederic Legault, the sole shareholder and president of *Divineo*, was pro se during the proceeding, and he argued that his lack of knowledge of English hampered his defense as well. *Id.* at 962–63.

infringing application against its noninfringing applications as suggested by the Supreme Court in *Universal*.<sup>90</sup> Divineo also failed to argue against the Northern District of California court's interpretation of the DMCA as an excessive expansion of the copyright protection to include even noninfringing applications.<sup>91</sup> Hope may be on the horizon, however, due to a bill introduced into the House of Representatives that would prohibit any person from being "liable for copyright infringement based on the design, manufacture, or distribution of a hardware device or of a component of such device if the device is capable of substantial, commercially significant noninfringing use."<sup>92</sup> Mod chips do have many uses other than circumventing protection to pirate copyrighted work, and these additional uses may produce a new standard that could change the outcome of cases concerning mod chips.

*B. Stifling Creativity, Innovation, and Research By Not Allowing Mod Chips*

Some commentators have noted that copyright holders "may use the DMCA to stifle innovation and reduce competition in the marketplace by hindering the efforts of legitimate competitors attempting to develop interoperable products."<sup>93</sup> In fact, at least one copyright holder has brought a claim against defendants who

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<sup>90</sup> *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984). "The staple article of commerce doctrine must strike a balance between a copyright holder's legitimate demand for effective—not merely symbolic—protection of the statutory monopoly, and the rights of others freely to engage in substantially unrelated areas of commerce." *Id.*

<sup>91</sup> See generally *Chamberlain Group, Inc. v. Skylink Techs., Inc.*, 381 F.3d 1178, 1194 (Fed. Cir. 2004) (interpreting the DMCA to exclude from liability manufacturers whose products do not facilitate infringement).

<sup>92</sup> H.R. 1201, 110th Cong. (2007). Substantial, commercially significant noninfringing uses can be shown, for example, by demonstrating the percentage of noninfringing uses for a given "product or service," the total amount of infringing uses, the dependence of the potential infringer on infringement to further the product or service, or "statements or actions" used by the potential infringer that promote infringement. MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 12.04[A] (2007) (discussing secondary liability and multiple cases where the question of noninfringing uses has been posed).

<sup>93</sup> Schaffner, *supra* note 19, at 160.



reverse-engineered software to help foster innovation and creativity.<sup>94</sup> It is unlikely that Congress intended the DMCA circumvention provisions to allow a copyright holder to “hinder[] the efforts of legitimate competitors attempting to develop interoperable products,” but unfortunately, this hindrance can be the effect.<sup>95</sup> Companies are using the DMCA as a vice to maintain a death-grip on their technologies to maintain their market shares and to increase equipment sales.<sup>96</sup> When a copyright holder attempts to hinder the efforts of legitimate competitors or share information with the consumer about their product, issues such as the Xbox 360’s “red ring of death”<sup>97</sup> will fester behind a veil of secrecy. This leaves consumers and entrepreneurs in the dark about ways they could resolve the issue themselves or with the help of third party competitors.

Some circles debate whether video game software, which includes hardware code, should be patentable instead of

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<sup>94</sup> See *Davidson & Assocs. v. Jung*, 422 F.3d 630 (8th Cir. 2005) (holding two entrepreneurs liable where they accepted end user license agreements with no reverse engineering clauses, but then set up a system to play and bypass plaintiff’s copyrighted computer game online without using plaintiff’s online system).

<sup>95</sup> Schaffner, *supra* note 19, at 161–62 (citing *Lexmark Int’l, Inc. v. Static Control Components, Inc.*, 387 F.3d 522 (6th Cir. 2004), where Lexmark used a DMCA claim to bring suit against a competitor who made cheaper chips for toner cartridges, as well as threats from Apple to a company that bundled DVD copying software that would have allowed for other company’s external DVD drives to function with Apple computers).

<sup>96</sup> Schaffner, *supra* note 19, at 162.

<sup>97</sup> Rachel Rosmarin, *Microsoft’s \$1 Billion Red Ring of Death*, FORBES, July 5, 2007, [http://www.forbes.com/technology/2007/07/05/msft-xbox-charge-tech-media-cx\\_rr\\_0705techmsft.html](http://www.forbes.com/technology/2007/07/05/msft-xbox-charge-tech-media-cx_rr_0705techmsft.html) (on file with the North Carolina Journal of Law & Technology) (alleging that Microsoft knows what causes the “red ring of death” but refuses to divulge that information with consumers). The “red ring of death” is a common colloquialism used to describe four red lights that replace the normal green lights on the Xbox 360 console. *Id.* These lights symbolize the metaphoric death of a console, because once a user sees them, his or her console will no longer work. *Id.* Microsoft has not detailed what causes the problem or why so many of its consoles receive this error, leaving console owners in the dark, but allowing them a replacement Xbox. *Id.* The only fortunate part of the whole fiasco is that Microsoft has extended the warranty on the Xbox 360. *Id.*

copyrightable.<sup>98</sup> The difference in protection would allow more creativity and innovation to flow at a faster pace into the public domain due to the differences in protection status for the different types of intellectual property.<sup>99</sup> Shortening the period of protection under copyright law from the life of the author plus seventy years to twenty years under patent law means systems and games that are obsolete would not be controlled by video game manufacturers.<sup>100</sup> The change of duration from the copyright protection scheme to the patent protection scheme would allow for obsolete video games and video game systems to return to the public domain instead of

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<sup>98</sup> See MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW 114 (4th ed. 2005) (stating patent law protection for computer software has advantages relating to stronger owner rights and a prohibition against reverse engineering and disadvantages based on patent cost). Compare Lawrence D. Graham & Richard O. Zerbe, Jr., *Economically Efficient Treatment of Computer Software: Reverse Engineering, Protection, and Disclosure*, 22 RUTGERS COMPUTER & TECH. L.J. 61, 90–92 (1992) (stating patent protection may be a more suitable choice for protecting software rights), with Matthew Chivvis, et al., *A New Weapon Against Piracy: Patent Protection as an Alternative Strategy for Enforcement of Digital Rights*, BEPRESS, 2005, <http://law.bepress.com/cgi/viewcontent.cgi?article=4193&context=expresso> (on file with the North Carolina Journal of Law & Technology) (stating that patent law is a complement to copyright law to prevent piracy), and David A. Einhorn, *Copyright and Patent Protection for Computer Software: Are They Mutually Exclusive?*, 30 IDEA 265 (1990), available at <http://www.idea.piercelaw.edu/articles/30/p265.Einhorn.pdf> (stating it is valid for software to be protected under both regimes of intellectual property law).

<sup>99</sup> For example, consider the difference in term for a copyright versus a patent. A copyright is exclusive to the copyright holder for life of the author plus seventy years. 17 U.S.C. § 302(a) (2000). For patents, the term of protection is twenty years. 35 U.S.C. § 154(a)(2) (2000). See also LAWRENCE LESSIG, *FREE CULTURE* 135 (2004) (“In the twenty years after the [Copyright Term Extension Act of 1998], while one million patents will pass into the public domain, zero copyrights will pass into the public domain by virtue of the expiration of a copyright term.”).

<sup>100</sup> One could argue for an even shorter period of protection. See, e.g., Home of the Underdogs, <http://www.the-underdogs.info/> (last visited Nov. 9, 2007) (on file with the North Carolina Journal of Law & Technology) (showing “abandonware,” a term for older video games that no longer have creators enforcing copyright, available for download to those who wish to reminisce); Abandonware, WIKIPEDIA, <http://en.wikipedia.org/wiki/Abandonware> (last visited Nov. 9, 2007) (on file with the North Carolina Journal of Law & Technology).

remaining controlled by copyright-holding video game manufacturers.<sup>101</sup> In addition, the change of protection would benefit copyright owners as well.<sup>102</sup>

Based on the facts of *Divineo*, one could argue that the distribution of mod chips allows users to utilize their innovation and creativity, thus distributors should not be afraid to sell mod chips to continue to raise their revenues. Because of the trend *Divineo* represents, the DMCA could stifle the creativity and innovation that users apply to their own video game systems for the sake of copyright holders who wish to limit the availability of competing products. The anticompetitive nature of the DMCA<sup>103</sup> could be argued as a public policy defense to the distribution of mod chips.<sup>104</sup> It may also be necessary to call for a change in intellectual property protection to change the circumvention provisions of the DMCA. This change will alleviate any potential anticompetitive effects of using the DMCA to stop consumers and third parties from legally using their innovation and creativity to improve video game systems.

### C. Fair Use Under the DMCA

The text of the DMCA states that it will not affect the rights inherent in other acts, seemingly including the fair use provisions of the Copyright Act.<sup>105</sup> Unfortunately, this has not been the case.<sup>106</sup> By prohibiting any valid way of achieving fair use, the DMCA has effectively eliminated the fair use exception to

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<sup>101</sup> See Graham & Zerbe, *supra* note 98, at 116–17.

<sup>102</sup> See LEAFFER, *supra* note 98, at 114.

<sup>103</sup> CONSEQUENCES, *supra* note 46, at 10 (discussing how the DMCA discourages competition).

<sup>104</sup> See generally Schaffner, *supra* note 19, at 163 (detailing the anti-competitive nature of Sony's activities and a public policy argument for noninfringing uses).

<sup>105</sup> 17 U.S.C. § 1201(c)(1) (2000).

<sup>106</sup> See, e.g., *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294, 324 (S.D.N.Y. 2000) (“The fact that Congress elected to leave technologically unsophisticated persons who wish to make fair use of encrypted copyrighted works without the technical means of doing so is a matter for Congress unless Congress’ decision contravenes the Constitution . . . . Defendants’ statutory fair use argument therefore is entirely without merit.”).

copyright infringement and has created an even stronger monopoly for the creators of video games. Fortunately, there are potential solutions to this unfortunate interpretation of the DMCA.

### 1. *Pre-DMCA Game Genie Case*

In an interesting pre-DMCA case, *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*,<sup>107</sup> a district court ruled in favor of Galoob, a video game accessory manufacturer whose product altered aspects of video games.<sup>108</sup> Galoob was the manufacturer of the Game Genie, a video game peripheral that allowed Nintendo users to input cheat codes.<sup>109</sup> These codes allowed users to adjust the original video game code and “cheat” the system, enabling an enhanced video game experience.<sup>110</sup> A preliminary injunction was issued to stop Galoob from selling the Game Genie, and Galoob brought suit to remove the injunction. The primary issue in the case was whether the Game Genie created “derivative works.”<sup>111</sup> The court quickly dismissed this argument by stating that “inherent in the concept of a ‘derivative work’ is the ability for that work to exist on its own, fixed and transferable from the original work.”<sup>112</sup> The Game Genie, however, only worked when attached to the video game cartridge and system; the Game Genie’s effects could not be considered a derivative work.<sup>113</sup>

The court then took the extra step of stating that even if the Game Genie was a derivative work, the plaintiff would not be guilty of infringement based on the fair use exception.<sup>114</sup> The court reviewed the *Universal* decision and determined that the plaintiff satisfied all four factors for fair use.<sup>115</sup> The court made several statements concerning fair use in the context of the Game Genie, including: “[a] family’s ‘non-commercial’ home use of its video

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<sup>107</sup> 780 F. Supp. 1283 (N.D. Cal. 1991).

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* at 1286.

<sup>110</sup> *Id.* at 1289.

<sup>111</sup> *Id.* at 1285.

<sup>112</sup> *Id.* at 1291.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 1292.

<sup>115</sup> *Id.* at 1298.

games creates a presumption of fair use,”<sup>116</sup> the “published nature [of video games] supports fair use,”<sup>117</sup> and “because game owners have the right to use the games they purchase, their use does not weigh against fair use.”<sup>118</sup> The court concluded that the defendant had not been harmed.<sup>119</sup> Under the *Galoob* test, the mod chip similarly survives. If *Galoob* were applied to future cases, the fair use balancing test would always apply and would tip the scales in favor of mod chip usage on video gaming software.<sup>120</sup>

## 2. *Other Arguments for Fair Use*

The solution to the piracy problem has always been, and continues to be, pursuing legal remedies rather than disallowing fair use.<sup>121</sup> There is case law supporting fair use as a viable defense to copyright infringement claims based on reverse engineering of software and systems.<sup>122</sup> One of the main purposes of mod chips is to circumvent the region encoding that discourages a consumer from buying legal copies of games abroad, even those not available within their home country, because their video game system will

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<sup>116</sup> *Id.* at 1293.

<sup>117</sup> *Id.*

<sup>118</sup> *Id.* at 1294.

<sup>119</sup> *Id.* at 1294–98. The court held that Nintendo did not show that the “Game Genie supplants the market for the copyrighted works,” nor did Nintendo show injury to “the market,” or present any evidence that Game Genie would affect sales. Finally, Nintendo did not clearly show that there would be “cognizable” harm to the Nintendo’s business. *Id.*

<sup>120</sup> Brijbasi, *supra* note 8, at 429–30 (discussing a balancing approach that would tend to find mod chips legal in the *Galoob* case).

<sup>121</sup> Schaffner, *supra* note 19, at 153 (“[T]he traditional solution to copyright piracy has been prosecution under the legal regime, not a wholesale ban on tools that may potentially enable fair use.”).

<sup>122</sup> See *Sony Computer Entm’t, Inc. v. Connectix Corp.*, 203 F.3d 596, 599 (9th Cir. 2000) (holding the copies made by defendant were proper in that it was the only way to get plaintiff’s systems to work with defendant’s noninfringing system); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1522 (9th Cir. 1992) (holding that game developer could reverse-engineer plaintiff’s product as it was the only means to get the functional code to make the game work on other systems).

not allow games from other regions to be played.<sup>123</sup> Region encoding allows game manufacturers to segregate markets and sell games in different regions at different prices;<sup>124</sup> thus, forbidding the production of mod chips has anticompetitive effects.<sup>125</sup> Because of the legal uses of mod chips, consumers' reverse engineering should be considered fair use. This argument is further supported by significant evidence that fair use is a major source of revenue to the U.S. economy.<sup>126</sup>

The fair use doctrine seems to support the argument that creating and using mod chips to circumvent technological protections is considered legally valid reverse engineering as long as the consumer is attempting to promote the interoperability of his or her video game system with other legal software.<sup>127</sup> The application of mod chips to circumventing region-encoding could satisfy all four factors used to determine fair use in the *Galoob* case. In this context, the use is for gaining access to games bought legally in other countries, and the copyrighted work is the code within the hardware that prevents, instead of protects, the system from utilizing other region's games disks. The copyright is one small sliver of the overall scheme of protections, and the negative effect on the potential market for the copyright is minimal, as it

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<sup>123</sup> Andrew Brandt, *It's Time To End Region Encoding*, PC WORLD, Oct. 5, 2005, <http://blogs.pcworld.com/staffblog/archives/000971.html> (on file with the North Carolina Journal of Law & Technology).

<sup>124</sup> See, e.g., Edward Felten, *Should the U.S. Allow Region Coding?*, FREEDOM TO TINKER, Dec. 13, 2004, <http://www.freedom-to-tinker.com/?p=736> (on file with the North Carolina Journal of Law & Technology) (stating "the main [economic] effect [of region coding] is to allow the studios to price discriminate by selling the same DVD at a different price in the U.S. than overseas").

<sup>125</sup> CONSEQUENCES, *supra* note 46, at 10 (discussing the anticompetitive effects of region coding and its relationship to mod chip usage).

<sup>126</sup> See Press Release, Computer & Commc'ns Indus. Ass'n, Fair Use Economy Represents One-Sixth of U.S. G.D.P. (Sept. 12, 2007), [http://www.cccianet.org/artmanager/publish/news/First-Ever\\_Economic\\_Study\\_Calculates\\_Dollar\\_Value\\_of.shtml](http://www.cccianet.org/artmanager/publish/news/First-Ever_Economic_Study_Calculates_Dollar_Value_of.shtml) (on file with the North Carolina Journal of Law & Technology) [hereinafter Economy]. A report prepared for the Computer and Communications Industry Association explains that fair use, and the industries dependent on fair use, generated more than \$4.5 trillion in revenues in 2006. *Id.*

<sup>127</sup> *Id.*

likely would have the effect of inducing consumers to spend more money on games they do not normally have access to.

#### D. *Reverse Engineering Under the DMCA*

Another potential argument defending mod chip distribution or use involves the reverse engineering exception in the DMCA.<sup>128</sup> When a consumer purchases a console, he or she is, in effect, legally obtaining a license<sup>129</sup> to use the code built in the hardware system.<sup>130</sup> Mod chip use is the only way to gain the information needed to access the components of the code so that a consumer can independently create software.<sup>131</sup> Prior to the DMCA, courts took a very liberal view on reverse engineering of video game protections and allowed it for “intermediate copying.”<sup>132</sup> After the creation and implementation of the DMCA, however, courts showed a stricter approach to copying and held that “the interest in protecting copyright holders’ security measures is greater than the interest of fair users that may attempt to use the functional components of intellectual property to create new platforms and software.”<sup>133</sup> This reverse engineering argument, besides quoting

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<sup>128</sup> Brijbasi, *supra* note 8, at 430.

<sup>129</sup> Subject to the distributor’s terms and conditions, of course. See Chilling Effects, *supra* note 38 (stating “[t]he software industry generally makes end-user license agreements”).

<sup>130</sup> There are rights inherent within copyright law for copying of computer programs. See 17 U.S.C. § 117 (2000) (stating that it is not infringement to make a copy of a computer program “created as an essential step in the utilization of the computer program in conjunction with a machine and that it used in no other manner” and a new copy is for archival use only).

<sup>131</sup> Brijbasi, *supra* note 8, at 426.

<sup>132</sup> See *id.* at 415–20 (citing *Sony Computer Entm’t, Inc. v. Connectix Corp.*, 203 F.3d 596, 602 (9th Cir. 2000), and *Sega Enters., Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1518–20 (9th Cir. 1992), as holding that the copying of computer hardware maker’s BIOS (hardware code) was intermediate copying and therefore constituted fair use). “Intermediate copying” is defined as “copying the entire program so that the functional elements can be extracted.” *Id.* at 416. “Where there is good reason for studying or examining the unprotected aspects of a copyrighted computer program, disassembly for purposes of such study or examination constitutes a fair use.” *Id.* (citing *Sega Enters., Ltd.*, 977 F.2d at 1520).

<sup>133</sup> *Id.* at 422 (citing Michael Landau, *Has the Digital Millennium Copyright Act Really Created a New Exclusive Right of Access? Attempting To Reach a*

significant precedent prior to the enactment of the DMCA, may not be a valid justification for the distribution and use of mod chips. Thus, it may not be advantageous to argue the reverse-engineering exception in the DMCA as a reason to allow the distribution and use of mod chips.

#### E. *Australia's Approach to Mod Chips*

Legal treatment of mod chips varies among nations.<sup>134</sup> Under Australian law, unless the chip's sole purpose is for piracy, it is legal.<sup>135</sup> This approach may seem naïve, but with both a judicial and legislative assault on potentially over-reaching DMCA lawsuits, it is one that could be successfully implemented in the United States. The Australian approach empowers consumers to shop for the best price of games, regardless of where games were manufactured, because consumers can legally buy mod chips to circumvent region-encoding.<sup>136</sup> This system would allow consumers and mod chip distributors to innovate by increasing the ways in which the current video game systems can be used.

### IV. CONCLUSION

*Sony v. Divineo* should not be allowed to stop the innovation and creativity of video game mod chip distributors and users. Despite the hefty three million dollars in damages awarded to

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*Balance Between Users' and Content Providers' Rights*, 49 J. COPYRIGHT SOC'Y 277, 295-96 (2001) (analyzing *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 459 (2d Cir. 2001))).

<sup>134</sup> Compare *Kabushiki Kaisha Sony Computer Entm't v. Owen*, [2002] EWHC (Ch) 45 (Eng.) (holding that a mod chip did circumvent technological protection of a Sony protective measure), with *Stevens v. Kabushiki Kaisha Sony Computer Entm't* (2005) 221 A.L.R. 448 (Austl.) (holding that a mod chip did not violate Australian law because the technology circumvented did not protect a copyright). For more details on Stevens' triumph, see *Australian High Court Allows Console Modification*, AUSTL. GAMEPRO, Oct. 10, 2005, <http://www.gamepro.com.au/index.php/id;982785600;fp;16;fpid;0> (on file with the North Carolina Journal of Law & Technology).

<sup>135</sup> David Jenkins, *Australia Legalizes Mod Chips*, GAMASUTRA, Dec. 6, 2006, [http://www.gamasutra.com/php-bin/news\\_index.php?story=11994](http://www.gamasutra.com/php-bin/news_index.php?story=11994) (on file with the North Carolina Journal of Law & Technology).

<sup>136</sup> *Id.*



Sony, there may be a light at the end of the tunnel. The fact that many of the uses for mod chips are noninfringing should be given greater weight than given by the *Divineo* court. The DMCA is not likely to overwrite years of precedent, despite its anti-circumvention bent, since a balancing test is still required to determine whether the use is one that public policy dictates should be allowed despite other potential infringing uses.

Video game system manufacturers have attempted to use the DMCA to protect their copyrights from piracy and because of this they have kept their hardware and software under wraps. Under the guise of the DMCA, video game manufacturers also may have attempted to expand the use of abusive copyright protections by the extension of the DMCA to cover noninfringing mod chip uses. A legislative effort to allow for substantial noninfringing uses of items that can potentially circumvent technological protection measures is a good place to start repairing the copyright system's treatment of mod chips. An effort to utilize the protections of patent rather than copyright law to alleviate some of the negative consequences mod chip manufacturers are facing could impact the duration of current copyright holders' protection. Fair use is a valid argument for legalizing a consumer's noninfringing use of their products. Reverse engineering provisions are a robust way to allow the tinkering that helps to improve consumers' experience with their video game systems, and mod chip distributors play an important role in creating interoperable software. Legalization would boost the consumer use and commercial sale of mod chips not used for piracy, and benefit the video game economy.<sup>137</sup> Implementation of a system similar to that of Australia, for example, could improve the market for both consumers and manufacturers.

I do not have a mod chip in my Xbox 360, nor would I ever try to solder electronic connections or add functionality to my game system. But one thing is certain: I highly value the contributions of those who improve technology, both the video game system manufacturers and the mod chip maker. It is wrong to pirate video

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<sup>137</sup> Economy, *supra* note 126. Fair use and the industries that utilize it add up to \$4.5 billion in revenues to U.S. economy. *Id.*

games, but it is not wrong to improve your own video game system through creativity and innovation. Somewhere, the Sonys and Divineos of this world should be able to meet in the middle and work together to improve the video game experience. There must be some middle ground where the noninfringing uses of the mod chip and the copyrights of video game manufacturers can blend together without conflict.<sup>138</sup> In the meantime, a potential defense can be crafted to support the use of mod chips in video game systems.

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<sup>138</sup> We may be getting there as Xbox 360 owners can download a free program, *XNA Game Studio Express*, which will allow for the creation of homebrew video games (although there is a periodic fee to get the actual program to work on an Xbox 360). Press Release, Microsoft, Microsoft Invites the World To Create Its Own Xbox 360 Console Games for the First Time (Aug. 13, 2006), <http://www.microsoft.com/presspass/press/2006/aug06/08-13XNAGameStudioPR.msp> (on file with the North Carolina Journal of Law & Technology).

