

DAVIDSON & ASSOCIATES V. JUNG. (RE)INTERPRETING ACCESS CONTROLS

By *A.H. Rajani*

The entertainment industry has long viewed the internet as a threat because of the ease with which original digital works can be copied and transmitted, rendering traditional copyright protections ineffective.¹ In order to harness the earning potential of this new medium, the industry argued, it had to rely on a system of technological locks and access controls to prevent unauthorized access and copying.² Accordingly, Congress in 1998 enacted the Digital Millennium Copyright Act (DMCA) to provide legal protection and remedies against the circumvention of those technological protection measures.³

For the videogame industry, CD key authentication is just one of many technological protection measures designed to prevent unauthorized installation and/or duplication of game software.⁴ Videogame publishers usually include a unique CD key with each CD-ROM and a customer is required to enter this CD key during software installation. But as the market for multiplayer online games expands, CD key authentication is being radically redefined in a way that locks competitors out of a variety of secondary markets for videogames. Propelling this trend, the Eighth Circuit, through an overly broad interpretation of the DMCA, held that a group of gamers who created an alternate game server that interoperated and com-

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1. Joseph P. Liu, *Regulatory Copyright*, 83 N.C.L. REV. 87, 129-39 (2004); John Markoff, *Five Giants In Technology Unite to Deter File Sharing*, N.Y. TIMES, Jan. 5, 2004, at C1.

2. See LEE A. HOLLAAR, LEGAL PROTECTION OF DIGITAL INFORMATION 199-202 (2002).

3. *Universal City Studios v. Corley*, 273 F.3d 429, 435 (2d Cir. 2001) (citing protection from piracy as the reason Congress enacted the DMCA). For background and legislative history, see DAVID NIMMER, COPYRIGHT: SACRED TEXT, TECHNOLOGY, AND THE DMCA 385-443 (2003); Diane M. Barker, Note, *Defining the Contours of the Digital Millennium Copyright Act: The Growing Body of Case Law Surrounding the DMCA*, 20 BERKELEY TECH. L.J. 47, 50-51 (2005); Matt Jackson, *One Step Forward, Two Steps Back: An Historical Analysis of Copyright Liability*, 20 CARDOZO ARTS & ENT. L.J. 367, 408-10 (2002).

4. See generally Copy Protection, WIKIPEDIA: THE FREE ENCYCLOPEDIA, http://en.wikipedia.org/wiki/copy_protection (last visited Mar. 17, 2006).

peted with a game publisher's proprietary game server was liable for circumvention under the DMCA.⁵

The purpose of this Note is to determine what role the DMCA should play in regulating online access to videogame servers. Part I begins with a brief overview of the videogame industry and the emerging market for online games. In particular, it describes how game publishers have combined traditional copyright protection, restrictive license terms, and CD key authentication to exert unprecedented control over numerous markets for videogames.⁶

Part II offers an in-depth look at the Eighth Circuit's DMCA analysis in *Davidson & Associates. v. Jung*.⁷ It argues that the court misinterpreted the function and purpose of the publisher's CD key authentication, an error that has substantially expanded the scope of the DMCA. Part III explains how *Davidson* legitimizes the use of strategic access controls that unreasonably shift the burden of "piracy" onto innovators in secondary markets. Part III also illustrates how the Eighth Circuit's ruling in *Davidson* has impacted the development of a new generation of videogames—called massively-multiplayer online games ("MMOGs")—and offers game publishers a unprecedented monopoly over markets associated with this flourishing videogame technology. This Note concludes that while the DMCA has and will continue to play a vital role in protecting digital works, courts should be extremely cautious when confronted with CD key authentication schemes that have more to do with protecting revenue streams for downstream services than with combating piracy.

I. BACKGROUND: THE VIDEOGAME INDUSTRY TODAY

Videogames are not just for children. In 2004, the average gamer in the United States was thirty years old.⁸ Americans spend an average of 6.8

5. *Davidson & Associates. v. Jung*, 422 F.3d 630 (8th Cir. 2005), *aff'g* 334 F. Supp. 2d 1164 (E.D. Mo. 2004).

6. This Note focuses exclusively on the role of the DMCA in regulating competition for interoperable game servers. Although issues of copyright misuse, federal preemption, and the enforceability of end-user license agreements (EULAs) that restrict the right to reverse engineer software are interrelated, these issues will not be addressed here.

7. 422 F.3d at 630.

8. ENTERTAINMENT SOFTWARE ASSOCIATION, ESSENTIAL FACTS ABOUT THE COMPUTER AND VIDEO GAME INDUSTRY 2, <http://www.theesa.com/files/2005EssentialFacts.pdf> [hereinafter ESA'S ESSENTIAL FACTS]. Of the gamer population, 35% were under the age of eighteen while 43% were between the ages of eighteen and forty-nine. *Id.* Surprisingly, 19% of gamers in 2004 were over the age of fifty, which represents an increase of 10% from 1999. *Id.*

hours per week playing videogames, more time than they spend watching DVDs or rented videos.⁹ In 2003, 108 million gamers in the United States spent \$10 billion on videogames.¹⁰ With record-setting sales,¹¹ it is not surprising that the industry expands by 20% each year.¹² But as consumers demand improved graphics, more features, intricate plotlines, and popular characters, licensing and development costs for these kinds of games have skyrocketed.¹³ For example, Electronic Arts (“EA”) recently paid \$400 million for a five-year exclusive contract with the National Football League,¹⁴ \$800 million for a fifteen-year exclusive contract with ESPN,¹⁵ and an estimated \$20 million each to secure rights for videogames based on popular movie franchises like Harry Potter, Lord of the Rings, James Bond, and The Godfather.¹⁶ But despite massive investments by some publishers and increasing consumer demand, many publishers are reluctant to invest because of high risk.¹⁷ Although more Americans are spend-

9. *Id.* at 6.

10. Nicky Blackburn, *Advertisers' Newest Playground*, JERUSALEM POST: ONLINE EDITION, Mar. 4, 2005, <http://www.jpost.com/servlet/Satellite?pagename=JPost/JP/Article/Printer&cid=1109820004417&p=1062388728918> (subscription service). Advertisers currently spend between \$90 and \$120 million on videogames each year, a number estimated by some research firms to skyrocket to \$700 million by 2008. *Id.* In 2002, the videogame industry earned \$28 billion globally. Jonathan Dee, *Playing Mogul*, N.Y. TIMES, Dec. 21, 2003, § 6 (Magazine), at 38.

11. For example, Electronic Arts (“EA”) sold 1.7 million copies of *Madden NFL* in one week. Daniel Terdiman, *EA invests big in the future*, CNET NEWS.COM, Aug. 24, 2005, http://news.com.com/EA+invests+big+in+the+future/2100-1043_3-5842444.html?tag=cd.hed. Not to be outdone, Blizzard Entertainment (“Blizzard”) sold 400,000 copies of its mega-hit *World of Warcraft* in just two days. Darren Waters, *Losing Yourself In Online Gaming*, BBC NEWS, Feb. 17, 2005, <http://news.bbc.co.uk/1/hi/technology/4265407.stm>.

12. In 2004, twelve games sold more than one million units, setting a new record. ESA'S ESSENTIAL FACTS, *supra* note 8, at 9.

13. *See* Dee, *supra* note 10, at 38.

14. Terdiman, *supra* note 11; Curt Feldman & Tim Surette, *Big Deal: EA And NFL Ink Exclusive Licensing Agreement*, GAMESPOT, Dec. 13, 2004, http://www.gamespot.com/news/2004/12/13/news_6114977.html.

15. Terdiman, *supra* note 11.

16. EA spent an additional \$633 million in research and development for the 2005 fiscal year, which was 20.2% of its total revenue of \$3.13 billion. Terdiman, *supra* note 11. This figure represents a 24.1% increase over EA's 2004 research and development expenditures and a 57.8% increase over 2003. *Id.* Similarly, game publisher Take-Two recently secured rights to Major League Baseball for an estimated \$200 to \$250 million. *Id.*

17. EA, for example, has struggled for the first quarter of 2006, losing \$58 million. This number might be slightly misleading because next-generation gaming consoles are only beginning to be released. Terdiman, *supra* note 11.

ing more time playing videogames, there is no guarantee that they will play one particular videogame. For example, a videogame based on *The Matrix* movie trilogy received poor reviews even after more than \$50 million was invested.¹⁸ Even Warner Brothers' online game called *Matrix Online* flopped, netting less than 50,000 subscribers in three months.¹⁹ Accordingly, publishers are consolidating their product lines and relying heavily on previously successful franchises.²⁰

With rising development costs and consolidated product lines, game publishers are continually searching for new sources of income. Some, for example, look outside of the traditional videogame market and sell motion picture development rights for their games.²¹ More importantly, publishers are looking at the internet in a whole new way, especially with the rising popularity of online multiplayer games. Not surprisingly, many publishers now charge their customers a monthly fee just to play their games online.²²

18. Dee, *supra* note 10, at 39. \$50 million alone was spent in purchasing Shiny Entertainment, a studio that held the rights to the movie's license. *Id.*

19. It quickly sold the game to Sony. Seth Schiesel, *Conqueror In A War Of Virtual Worlds*, CNET NEWS.COM, Sept. 11, 2005, http://news.com.com/Conqueror+in+a+war+of+virtual+worlds/2100-1043_3-5855004.html?tag=cd.hed. EA shut down production of its sequel to *Ultima Online*. Cyan Worlds, Games Workshop, and There Inc. also confronted poor sales after substantial investments. Peter Zackariasson & Timothy L. Wilson, Center for Computer Games Research, *Massively Multiplayer Online Games: A 21st Century Service?* 1 (Dec. 2004) (presented Dec. 6-8, 2004 at Other Players Conference, Center for Computer Games Research, IT University of Copenhagen, Denmark), available at http://www.itu.dk/op/papers/zackariasson_wilson.pdf.

20. Terdiman, *supra* note 11. In the first half of 2004, eight of the ten best-selling videogames were expansions of, sequels to, or new editions of existing videogames. Erica A. Taub, *In Video Games, Sequels Are Winners*, N.Y. TIMES, Sept. 20, 2004, at C1, available at <http://select.nytimes.com/search/restricted/article?res=F40B1EF93F5D0C738EDDA00894DC404482> (subscription service). Since 1995, ten game titles were based on Spider-Man alone, selling over 8 million copies. *Id.* In fact, Microsoft recently made a deal with Marvel Enterprises to create an online game featuring Spider-Man, the Fantastic Four, and the Hulk. Seth Schiesel, *Microsoft Joins Marvel in Online Game Deal*, N.Y. TIMES, Jul. 15, 2005, at C2, available at <http://select.nytimes.com/search/restricted/article?res=F70614F738540C768DDDAE0894DD404482> (subscription service).

21. Taub, *supra* note 20 ("We can't find a publisher interested in the title until the movies are produced. They all want to leverage off the film's marketing.") (statement of American McGee, co-owner of the Mauretania Import Export Company). See generally Furine Blaise, Note, *Game Over: Issues Arising When Copyrighted Work is Licensed to Video Game Manufacturers*, 15 ALB. L.J. SCI. & TECH. 517 (2005) (describing why videogames are ripe for cross-pollination with other media).

22. For example, Blizzard charges gamers a monthly fee to play *World of Warcraft* online. Pricing schemes include a month-to-month package at \$14.99 per month, a three-

Although online videogames come in a variety of forms,²³ it is safe to say there is a rapidly emerging class of videogames exclusively designed for online play called massively-multiplayer online games.²⁴ These games create a perpetual online world in which individual gamers interact with one another.²⁵ Depending on the publisher, each gamer must also pay a monthly fee to maintain access to this online world. What distinguishes MMOGs from other online games is that they reinforce a sense of responsibility to a larger social group or, at least, require the individual gamer to acknowledge that other independent actors may intervene and alter their decision-making processes.²⁶ Blizzard Entertainment's *World of Warcraft*

month plan at \$13.99 per month, and a six-month plan at \$12.99 per month. Blizzard, *World of Warcraft F.A.Q.*, <http://www.worldofwarcraft.com/info/faq> (last visited Mar. 17, 2006).

23. For example, there are online trivia games that are free to download, free to play online, and are funded mainly through advertising. This category of games includes puzzle, board, game show, trivia, and card games. With a 56.8% share of all online games, they represent the most popular online games. ESA'S ESSENTIAL FACTS, *supra* note 8, at 8. With a 19% share, the second most often played games on the internet cover a wide array of game genres: Real-time strategy, First-Person Shooters, Role-Playing, Racing, Sports, Tactical Shooters, and Turn-Based Strategy. *Id.* Games in this category are free to play online and sometimes feature banner advertisements during online gameplay. While games in this second category have varying multiplayer capabilities, they are either primarily designed for or at least have robust single-player capabilities. Granted, many games might be difficult to categorize because they straddle more than one category. My classifications are intended to give readers an overview of the "type" of online games that have been available on the market and how they differ from newer online gaming technology.

24. Popular MMOG titles include *World of Warcraft*, *Final Fantasy XI*, *City of Heroes*, and *EverQuest II*. The MMOG movement is dominated by the home PC market, with all ten of the top-selling MMOGs made for PCs. Schiesel, *supra* note 20. Generally, Asian markets (except for Japan) are dominated by PCs, not consoles. *Id.*

25. "MMOGs create a persistent universe where the game continues playing regardless of whether or not anyone else is. Since these games strongly or exclusively emphasize multiplayer gameplay, few of them have any significant single-player aspects or client-side artificial intelligence. . . ." MMOG, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/MMOG> (last visited Dec. 3, 2005).

26. *My Life as an Online Gamer*, BBC NEWS, Aug. 31, 2005, <http://news.bbc.co.uk/1/hi/technology/4198918.stm> ("[P]laying games online means that other people are playing live with you. You work as a team and it gives you a unique sense of responsibility. It's a little society.") (statement of Li Yang, a software engineer from Beijing). Even the American Cancer Society tapped into the virtual community by hosting its Relay for Life fundraiser within the virtual world of *Second Life*. Mark Wallace, *Letting Your Fingers Do the Running*, N.Y. TIMES, Aug. 21, 2005, § 2 (Directions), at 4, available at <http://select.nytimes.com/search/restricted/article?res=F30E16F7395A0C728EDDA10894DD404482> (subscription service). These games also feature complex economies where transactions involving real money can take place. See *infra* Section III.B.

has been the most successful MMOG to date. Since its launch in November 2004, six million people have subscribed to the game around the world.²⁷

To protect their investments, publishers have traditionally combined copyright protection with restrictive shrinkwrap and clickwrap licenses, which usually prohibit reverse engineering or decompilation of any kind.²⁸ Game publishers argue that this combination of contract and copyright protection deters unauthorized copying, unauthorized distribution, and the development of cheats and game hacks.²⁹ Increasingly, however, publishers are relying on technological protection measures as a means to protect their rights in videogame software.³⁰ For example, most copies of videogames—whether purchased on CD-ROM, DVD or downloaded directly from the Web—come packaged with a unique CD key required during installation.³¹

Once a user enters the CD key and successfully installs the game software, that user can play against the computer in single-player mode. Depending on the game, the user may also play that same game with others. Some may connect via a local network, but most rely on the internet. Game publishers usually host a dedicated game server where users can log on and join various games and tournaments. Access to these servers is usually free, but as shown in Figure 1 below, publishers have begun to condition access to their proprietary game servers on verification of the *same* CD key the user entered during software installation.

27. Paul Loughrey, *World of Warcraft subscriber base tops 6 million worldwide*, GAMEINDUSTRY.BIZ, Feb. 3, 2006, <http://www.gamesindustry.biz/news.php?aid=15049>.

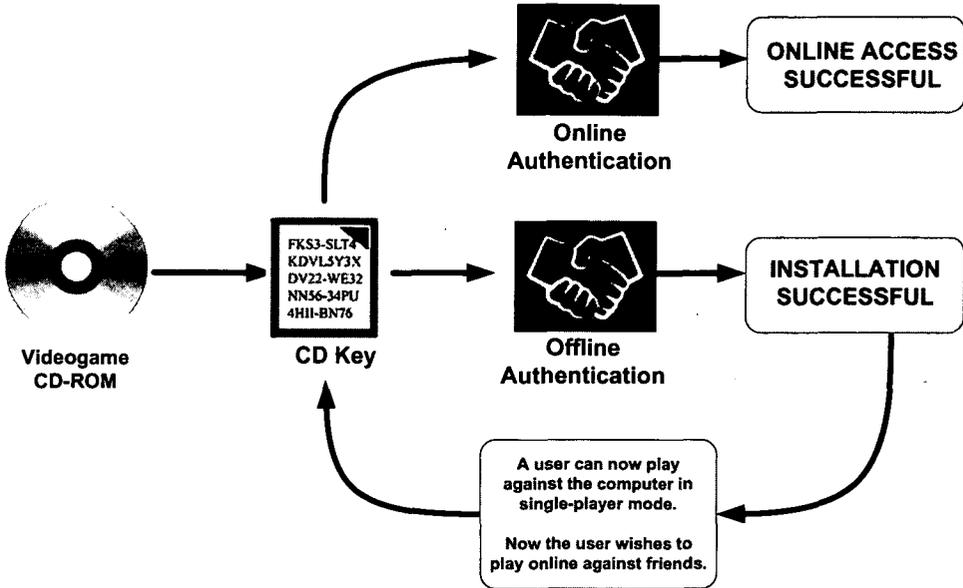
28. Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1099-1101 (2003). Videogames can qualify for more than one type of copyright protection. They may qualify as literary works, as audiovisual works, or as a combination of the two. IRINI A. STAMATOUDI, COPYRIGHT AND MULTIMEDIA WORKS 176 (2002).

29. Cheats and game hacks allow a user to gain an unfair advantage over other players. For example, a player might wish to become invulnerable to attack or gain access to unlimited resources.

30. Joelle Farchy & Fabrice Rochelandet, *Self-help Systems: Good Substitutes for Copyright or New Barriers to Competition?*, in THE ECONOMICS OF COPYRIGHT 148 (Wendy J. Gordon & Richard Watt eds., 2003).

31. A CD key consists of a combination of letters or numbers, usually printed on a sticker attached to the plastic case of a CD-ROM. When the user is asked to type this CD key during installation, the key is verified by the program by checking it “according to a mathematical algorithm and attempts to match the results to a set of valid solutions.” CD key, WIKIPEDIA: THE FREE ENCYCLOPEDIA, http://en.wikipedia.org/wiki/CD_key (last visited Dec. 4, 2005).

Figure 1: Using CD keys during software installation and conditioning access to an online server based on that same CD key.



Upon first glance, requiring CD key authentication for a second time seems like a reasonable additional layer of defense against unauthorized use.³² However, this new “loop” of authentication represents a profound reinterpretation of the CD key as a technological protection measure. The CD key is no longer controlling access solely to the game software, but is now also regulating access to a proprietary service as well. Game publishers are the only parties with access to the algorithms with which to authen-

32. Most CD keys are not effective in stopping software piracy due to the rise of the internet, as CD keys can be distributed in seconds via CD key generators, and software publishers are increasingly turning to new methods of authenticating software, such as via internet authenticating systems.

Id. Compare this method of authentication with Microsoft’s Product Activation for Windows XP:

Product Activation works by verifying that a software program’s product key has not been used on more personal computers than intended by the software’s license. You must use the product key in order to install the software and then it is transformed into an installation ID number. You use an activation wizard to provide the installation ID number to Microsoft either through a secure transfer over the Internet, or by telephone. A confirmation ID is sent back to your machine to activate your product.

Microsoft, Windows XP Product Activation, Aug. 29, 2002, <http://www.microsoft.com/windowsxp/evaluation/features/activation.msp>.

ticate CD keys. Thus, game publishers have created an artificial bottleneck, making it virtually impossible for any other party to offer hosting or matchmaking services for these videogames without “circumventing” the authentication process for online services publishers have bundled with their game software.³³ CD key authentication is quickly morphing from a tool that locks out pirates to one that locks out competitors.³⁴

Under the guise of battling software piracy, Blizzard Entertainment recently sued a number of gamers who had developed an online game server that interoperated with Blizzard’s videogames. The Eight Circuit held that in creating a separate game server, the defendants circumvented Blizzard’s CD key authentication protection measure.³⁵

II. *DAVIDSON & ASSOCIATES V. JUNG*

A. Facts and Procedural History

Blizzard Entertainment, a division of Vivendi Universal Games, was established in 1994 and has quickly become a giant in the videogame industry. Blizzard distributes its games in CD-ROM format and each copy comes with a unique CD key.³⁶ Blizzard also hosts its own 24-hour online game server called Battle.net, which allows players to chat with one another and join live tournaments for Blizzard games.³⁷ The user’s CD key—stored locally on the user’s computer during installation—is verified each time the user logs onto the Battle.net service.³⁸

33. See *infra* Sections II.A-B.

34. See generally Burk, *supra* note 28 (supporting a misuse doctrine that would prevent copyright owners from leveraging access controls to dictate downstream purchases).

35. Blizzard’s CD key is similar to the one described in Figure 1.

36. *Davidson & Assocs. v. Internet Gateway*, 334 F. Supp. 2d 1164, 1169-70 (E.D. Mo. 2004). Use of Blizzard’s game software is subject to a clickwrap EULA, which provides that an end user may not “in whole or in part, copy, photocopy, reproduce, translate, reverse engineer, derive source code, modify, disassemble, decompile, create derivative works based on the Program” *Id.* at 1170-71.

37. *Id.* at 1168. Though free of charge, use of Battle.net is subject to certain Terms of Use (TOU). *Id.* at 1170-71. The TOU states that a user shall not host or provide matchmaking services for any Blizzard software programs or emulate or redirect the communication protocols . . . through protocol emulation, tunneling, modifying, or adding components to the Program, use of a utility program . . . for any purpose, including, but not limited to, network play over the Internet

Id.

38. *Id.* at 1169. The district court further elaborated on the authentication sequence: [T]he game initiates a authentication sequence or “secret handshake” between the game and Battle.net server. First, the game and Battle.net

Battle.net has been wildly successful. In 2002, the game server had twelve million active users, and averaged 200,000 concurrent users.³⁹ But the gamer server's popularity has been its biggest drawback. Frequent crashes, slow response times, profanity, and a proliferation of hacks and cheats were the most common complaints.⁴⁰ Unhappy with the performance of Battle.net, a group of volunteer programmers formed the "BnetD Project" and developed their own open-source online game server called the BnetD.org server.⁴¹ BnetD's software allowed users to play Blizzard games online without being connected to Blizzard's proprietary server.⁴² As Figure 2 illustrates, BnetD's software did not provide access to Blizzard's proprietary server. Instead, BnetD's software created an online world *entirely separate* (but virtually identical) to Blizzard's proprietary online world. In other words, those logged onto BnetD's server could not play against those players logged onto Battle.net servers.

server exchange [encrypted numbers]. . . . The Battle.net server receives the alphanumeric sequence sent by the game, along with other information sent by the game, and uses this data to determine whether the CD Key information sent by the game is valid. . . . If the CD Key is both valid and not currently being used by other players on the same Battle.net gateway, the Battle.net server sends [an "OK"] signal to the game

Id. Users with invalid CD keys are, therefore, are not allowed to log onto the Battle.net server.

39. *Id.* at 1168.

40. GREG COSTIKIYAN, CREATIVE GOOD, THE FUTURE OF ONLINE GAMES 69-71 (1999), <http://www.themis-group.com/uploads/ogrfinal.doc>; Howard Wen, *Battle.net Goes to War*, SALON.COM, Apr. 18, 2002, <http://www.salon.com/tech/feature/2002/04/18/bnetd/print.html>.

41. *Davidson*, 334 F. Supp. 2d at 1171-72. To create their interoperable game server, BnetD developers: (1) logged communications between Blizzard's game software and the Battle.net server, (2) decompiled Blizzard client files, (3) and developed a program that modified the connection settings used by the game software to connect to the internet. *Id.* at 1172-73.

42. *Id.* at 1172. BnetD developers felt it was "morally wrong" for Blizzard to force its customers to view banner advertisements while using Battle.net. *Id.*

Figure 2: BnetD's server and Battle.net are alternative online servers

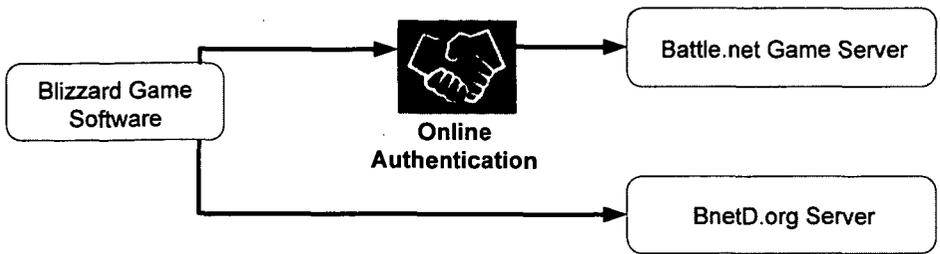


Figure 2 also illustrates a major operational difference between Battle.net and BnetD's equivalent: BnetD's game server was incapable of denying access to those using unauthorized copies of Blizzard games, always sending an "OK" signal to the game software. Blizzard reasoned that in circumventing their CD key authentication, BnetD developers' sole purpose was to enable online functionality of pirated Blizzard software.⁴³ BnetD seemingly addressed this concern when they offered to implement an authentication process for their servers. Blizzard, however, rejected BnetD's offer, citing its need to keep CD key algorithms secure. In April of 2002, Blizzard brought suit in federal court against Internet Gateway, Inc.—a local internet service provider—and its president, Tim Jung, for hosting the BnetD server and unlawfully copying elements of Blizzard's videogames.⁴⁴ Blizzard later added defendants Ross Combs and Rob Crittendon, alleging they helped Jung develop the software.⁴⁵ A consent decree between the parties settled most claims, but the following issues remained: a claim for breach of Blizzard's EULA and its TOU,⁴⁶ a claim for circum-

43. *Id.* at 1173. The court found that BnetD never advised people to play with unauthorized copies of Blizzard software, but at least one of the defendants was aware that unauthorized versions of Blizzard games were played on BnetD servers. *Id.*

44. The games at issue were: *StarCraft*, *StarCraft: Brood War*, *WarCraft II: Battle.net Edition*, *Diablo*, and *Diablo II: Lord of Destruction*. *Id.* at 1168. Although none of the games at issue were MMOGs, this case has still had a substantial impact on their development. Some speculated that Blizzard's lawsuit was a preemptive move to protect a subscription-based version of Battle.net that debuted in November 2004. Wen, *supra* note 40.

45. I will refer to Jung, Combs, and Crittendon collectively as "BnetD."

46. See *Davidson*, 334 F. Supp. 2d at 1167. Blizzard argued that by reverse engineering its videogame software to create the BnetD server, BnetD developers had breached the terms of Blizzard's EULA and TOU. BnetD countered, claiming Blizzard's enforcement of its EULA and TOU under state contract law was preempted by the Copyright Act. *Davidson*, 334 F. Supp. 2d at 1174. Relying on *Vault Corp. v. Quaid Software, Ltd.*, BnetD asserted that a ban on reverse engineering violated its fair use rights. 847 F.2d 255 (5th Cir. 1998). In *Vault*, the Fifth Circuit declared unenforceable a software license prohibiting decompilation and disassembly because such restrictions were pre-

vention of copyright protection, and a claim for trafficking in circumvention technology.⁴⁷ The district court granted summary judgment to Blizzard on all claims and, on appeal, the Eight Circuit affirmed.⁴⁸

B. Circumvention and Trafficking in Circumvention Technology

Blizzard's primary allegation was that by circumventing Blizzard's CD key authentication "handshake," BnetD's server permitted unauthorized access to "Battle.net mode."⁴⁹ Section 1201(a)(1) of the DMCA prohibits an individual from "circumventing a technological measure that effectively controls access to a work protected under this title," and § 1201(a)(2) prohibits trafficking in any technology "primarily designed or produced" for circumvention.⁵⁰

For an effective circumvention analysis, a court must determine the following: (1) was there an access control present? (2) what was the access control controlling access to? (3) was the material being protected copyrightable subject matter? (4) was this subject matter effectively controlled by that access control? (5) was the access control bypassed? and (6) are

empted by the Copyright Act. *Id.* at 269-70. The Eighth Circuit, however, limited *Vault* as preempting *state law* that conflicted with federal copyright laws, not private contracts. *Davidson & Assocs. v. Jung*, 422 F.3d 630, 639 (8th Cir. 2005). Instead, the Eighth Circuit relied on *Bowers v. Baystate Techs., Inc.* in which the Federal Circuit held that "[p]rivate parties are free to contractually forego the limited ability to reverse engineer a software product under the exemptions of the Copyright Act." 320 F.3d 1317, 1325-26 (Fed. Cir. 2003). The Eighth Circuit held that Blizzard could require end users to contractually waive their right to reverse engineer without running afoul of federal copyright law. *Davidson*, 422 F.3d at 638-39. For a discussion of the effectiveness of wholesale private ordering favored, see Margaret Jane Radin, *Retooling Contract for the Digital Era*, in PUBLIC POLICY AND THE INTERNET 115-49 (Nicholas Imparato ed., 2000).

47. The claims dismissed by the consent decree include federal copyright infringement, federal trademark infringement, dilution, false designation of origin, common law trademark infringement, and unfair competition.

48. The district court ruled on a number of issues, some of which are not pertinent to the discussion here. The district court decided: (1) whether a choice of law provision in Blizzard's EULA was enforceable, (2) whether clicking "I Agree" to a EULA and TOU constitutes agreement between two parties under California contract law, (3) whether the first sale doctrine was applicable to a software license, and (4) whether Blizzard's EULA and TOU were unconscionable. *Davidson*, 334 F. Supp. 2d at 1175-80.

49. *Id.* at 1183; *see also* Blizzard, Battle.net Emulation FAQ, <http://www.battle.net/support/emulationfaq.shtml> (last visited Sept. 7, 2005). BnetD developers offered to implement an authentication process, though Blizzard declined BnetD's offer, citing its need to keep its CD key algorithms secure.

50. 17 U.S.C. §§ 1201(a)(1)-(2) (2000). "[I]n the ordinary course of its operation, [a technological measure] requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work." § 1201(b)(2)(B).

there any exemptions or defenses for this act of circumvention?⁵¹ The Eighth Circuit held that Blizzard's CD key authentication process effectively controlled access to "Battle.net mode features," which was copyrightable expression.⁵² The court ruled that BnetD bypassed (and allowed third parties to bypass) Blizzard's access controls by developing an alternate game server, an act not protected under the DMCA's interoperability exception.⁵³

Throughout its opinion, the Eighth Circuit blended its analysis of one issue into others, making it difficult to extrapolate a clear theory of liability. Of the questions required for an effective circumvention analysis, the court incorrectly answered questions 2, 4, and 6 and failed to consider question 3 altogether. The most problematic portion of the court's reasoning was its analysis of the second question, which asks, "what was the access control controlling access to"? By answering "Battle.net mode," the Eighth Circuit guaranteed itself a murky opinion with unclear precedent.

51. These questions can be framed in many ways. For example, it is clear that there must be a sufficient nexus between the alleged circumvention and some copyright infringement, but I did not list this explicitly because a court will confront the nexus issue when considering whether the material protected was copyrightable subject matter. The Federal Circuit in *Chamberlain Group, Inc. v. Skylink Techs., Inc.* characterized the elements for a § 1201(a)(2) claim:

A plaintiff alleging a violation of § 1201(a)(2) must prove: (1) ownership 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. A plaintiff incapable of establishing any one of elements (1) through (5) will have failed to prove a prima facie case. A plaintiff capable of proving elements (1) through (5) need prove only one of (6)(i), (ii), or (iii) to shift the burden back to the defendant. At that point, the various affirmative defenses enumerated throughout § 1201 become relevant.

381 F.3d 1178, 1203 (Fed. Cir. 2004); see Jane C. Ginsburg, *Legal Protection of Technological Measures Protecting Works of Authorship: International Obligations and the US Experience* 11-22 (Columbia Public Law & Legal Theory Working Papers, Working Paper No. 0593, 2005) (offering an overview of legal issues that arise when analyzing some of these questions).

52. *Davidson*, 422 F.3d at 640-41.

53. *Id.* at 641-42.

1. *The Elusive “Battle.net mode”*

Both the Eighth Circuit and the district court referred to “Battle.net mode” with a degree of abstraction that rendered their analyses virtually incomprehensible. The district court and Eighth Circuit—who determined that the CD key controlled access to “Battle.net mode”—changed the definition of “Battle.net mode” throughout their opinions, referring to it as: (1) a literal part of the game software;⁵⁴ (2) a part of Blizzard’s proprietary game server;⁵⁵ and/or (3) a mysterious intermediate entity between the the two.⁵⁶ Thus, it is unclear what copyrighted work, if any, either court believed Blizzard was protecting with its CD key.

It appears that the tight integration between the user interface of the game software and Blizzard’s proprietary Battle.net server was the main source of confusion. A user of a Blizzard game desiring to play online would perform the following steps: (1) launch the game software, (2) select “Multiplayer” from the software’s main menu, and then (3) select “Battle.net.” After online CD key verification, a connection to the Battle.net service is established. According to the court, a user would now be described as being in “Battle.net mode”—as opposed to being in single-player mode.

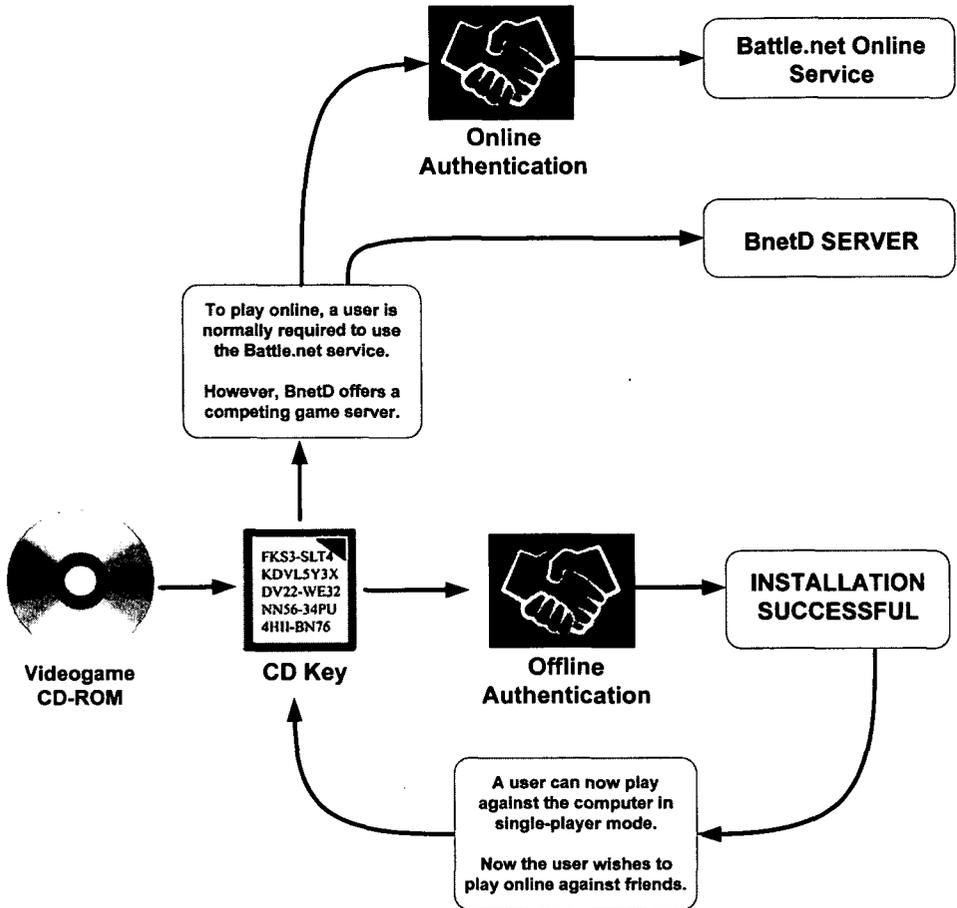
By holding that Blizzard’s CD key authentication was protecting “Battle.net mode,” the Eighth Circuit failed to articulate that when an access control is used in more than one way—for example, during software installation and then again to regulate online access—determining what the access control actually controls should be *based on the context of its use*. Consider Figure 3 below, which illustrates why the court’s interpretation of Blizzard’s CD key authentication is insufficient.

54. *Davidson*, 334 F. Supp. 2d at 1168 (“The *Battle.net* service is a free service that allows owners of certain Blizzard games to play those games . . . against each other . . . These *Battle.net mode* features are accessed from within the games themselves.”) (emphasis added).

55. *Davidson*, 422 F.3d at 641 (“[BnetD] could not have obtained a copy of Battle.net or made use of the literal elements of Battle.net mode without acts of reverse engineering, which allowed for a circumvention of *Battle.net* and *Battle.net mode*.”) (emphasis added).

56. *Id.* at 640 (“The bnetd.org emulator . . . allowed the Blizzard game to access Battle.net mode features without a valid or unique CD key.”).

Figure 3: Articulating what a CD key protects based on the context of its use. Therefore, during *installation*, the CD key controls access to the game software. But during *online gameplay*, that same CD key controls access to Battle.net.



As shown above, distinguishing between single-player and multiplayer “modes” is misleading. To describe a player who has connected her game software to the internet as being in “Battle.net mode” presupposes that a user is connecting to the Battle.net game server. By the same logic, one should describe a user who has connected her game software to the BnetD server as being in “BnetD mode,” not in Battle.net mode. Unfortunately, the court simply failed to articulate what “Battle.net mode” actually consisted of or where the code embodying “Battle.net mode” was stored. Ultimately, it appeared that the lower court made an unfounded conceptual leap in assuming that “Battle.net mode” was copyrightable subject matter

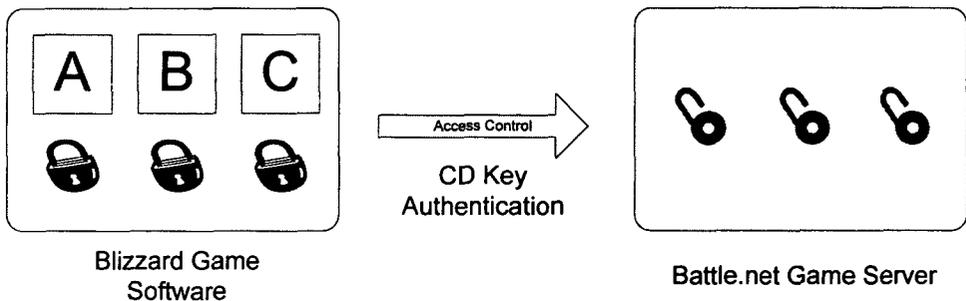
unlocked by a process of online authentication—an assumption that the Eight Circuit accepted as fact.⁵⁷

2. *Misinterpreting Access Controls*

The suspect interpretation of “Battle.net mode” also obfuscates the purpose of Blizzard’s access control.⁵⁸ In the context of regulating a user’s access to play games online, did Blizzard’s CD key control access to its game software or its proprietary game server? The figures below help to develop a framework of analysis for answering these questions. The following figures represent at least two different ways to conceptualize an access control. Most importantly, they identify the *direction* in which access is regulated.

WAYS TO INTERPRET ACCESS CONTROLS

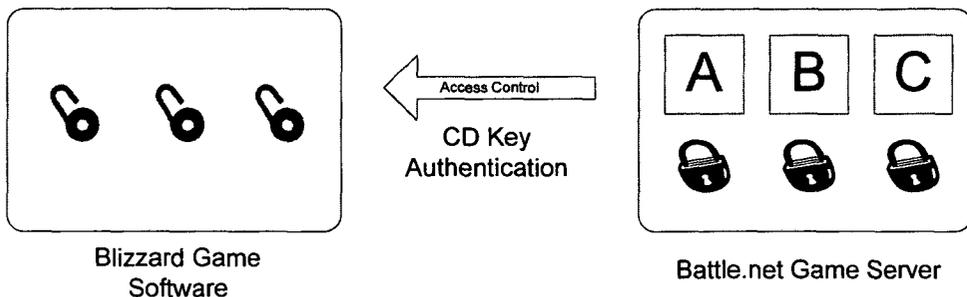
Figure 4: Blizzard’s CD key authentication controls access to the game software.



57. See *Davidson*, 334 F. Supp. 2d at 1169, 1173; *Davidson*, 422 F.3d at 633.

58. For a discussion of commonly used technological protection measures and their functions, see June M. Besek, *Anti-Circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts*, 27 COLUM. J.L. & ARTS 385, 446-66 (2004).

Figure 5: Blizzard's CD key authentication controls access to its online service.



The distinction between Figure 4 and Figure 5 is that the access controls are facing opposite directions. In Figure 4, Blizzard's CD key controls access to the game software. Thus, features A, B, and C—literal parts of the game software—are unlocked only after proper authorization. In effect, Figure 4 treats the game software's ability to interoperate with game servers *as a feature of the game software* that is unlocked by a CD key. This appears to be the interpretation that the Eighth Circuit adopted in *Davidson*.⁵⁹ On the other hand, we can reconceptualize that same CD key authentication in the other direction. In Figure 5, Blizzard's CD key is described as controlling access to Blizzard's proprietary online server. In other words, while a CD key in Figure 4 unlocks the videogame software, that same CD key in Figure 5 unlocks the game server.

Relying on the inaccurate conception of Battle.net mode shown in Figure 4, the court in effect interpreted interoperability as a *feature* that could be locked and unlocked by an access control; that is, the court failed to distinguish between the videogame software and services offered for that videogame. In reality, Blizzard's online CD authentication merely regulated access to its proprietary game server. Granted, even though the proprietary server might contain copyrightable expression, BnetD never copied or offered access to this copyrightable expression.⁶⁰

These distinctions may appear semantic—like questioning whether a lock on a car door controls access to the inside or outside of the vehicle (or both). But the answers to these questions are crucial to an effective cir-

59. See *Davidson*, 422 F.3d at 633 (“Blizzard has taken steps to avoid piracy by designing Battle.net to restrict access and use of the Battle.net mode features of the game.”).

60. *Storage Tech. Corp. v. Custom Hardware Eng'g & Consulting, Inc.*, 421 F.3d 1307, 1318 (Fed. Cir. 2005) (“To the extent that StorageTek's rights under copyright law are not at risk, the DMCA does not create a new source of liability.”).

cumvention analysis.⁶¹ A small misinterpretation, especially in the context of computer software, can have an immediate impact on markets for aftermarket or downstream products and services. More importantly, an incomplete analysis could—and did in this case—result in an improper expansion of the DMCA’s circumvention provisions.

3. *BnetD’s Defenses*

BnetD’s response to Blizzard’s circumvention and trafficking claims were threefold.⁶² BnetD claimed that (1) “Battle.net mode” was not a copyrightable work eligible for protection under the DMCA;⁶³ (2) even if eligible for protection, Blizzard failed to “effectively control” access to “Battle.net mode”;⁶⁴ and (3) assuming eligibility and effective control are demonstrated, BnetD’s circumvention was for the sole purpose of achieving interoperability with independently created software.⁶⁵

a) Was “Battle.net mode” Eligible for Protection Under the DMCA?

As noted earlier, neither the Eighth Circuit nor the district court clearly defined “Battle.net mode.” Relying on the Sixth Circuit’s holding in *Lexmark International v. Static Control Components, Inc.*,⁶⁶ BnetD asserted that “Battle.net mode” was actually an uncopyrightable procedure, process, system, or method of operation, not eligible for protection under the

61. Consider the following non-videogame hypothetical: suppose that my wireless phone provider required by contract that I purchase ringtones only from its online store. My phone is embedded with software containing a lock-out mechanism which denies access to all ringtones except those offered by my provider. Now suppose I purchase a ringtone from a competitor whose ringtones circumvent my phone’s lock-out mechanism, always sending an “OK” signal to my phone’s software, therefore allowing them to be played. Does the lock-out mechanism control access to my phone, to the authorized ringtones, or to both? While purchasing an unauthorized ringtone might violate the terms of the contract with my wireless provider, I would argue that the lock-out scheme regulates access to the proprietary ringtones, not to my phone—an interpretation akin to Figure 5. However, according to the Eighth Circuit’s reasoning in *Davidson*, the lock-out scheme actually unlocks my phone’s ringtone playing capabilities, commensurate with Figure 4. This interpretation is not only backwards, it legitimizes the use of technological protection measures to enforce anticompetitive lockouts.

62. Because the trafficking analysis was almost identical, I will focus on the circumvention claim exclusively.

63. See *Davidson*, 422 F.3d at 640-41.

64. *Id.* at 641.

65. *Id.* at 641-42.

66. 387 F.2d 522 (6th Cir. 2004). See generally Stacey L. Dogan & Joseph Liu, *Copyright Law and Subject Matter Specificity: The Case of Computer Software*, 61 N.Y.U. ANN. SURV. AM L. 203, 207-17 (2005).

DMCA.⁶⁷ The Eighth Circuit dismissed this argument as a misreading of *Lexmark* and moved on, failing to address whether “Battle.net mode” was in fact protectable expression.⁶⁸

The court held that Blizzard effectively controlled access to “Battle.net mode,” again without defining the term. BnetD argued that the code underlying “Battle.net mode” was part of the game software. According to BnetD, every consumer who purchased a Blizzard game, therefore, had access to its literal code without resorting to circumvention of any kind.⁶⁹ The court disagreed: “[BnetD] could not have . . . made use of the literal elements of Battle.net mode without acts of reverse engineering,” a right BnetD had waived via an EULA.⁷⁰ However, the fact that BnetD had waived its right to reverse engineer via contract should not be relevant in determining whether Blizzard effectively controlled access to “Battle.net mode.”⁷¹ That an act of reverse engineering was prohibited by Blizzard’s

67. See *Davidson*, 334 F. Supp. 2d at 1168 (“The only copyright registrations Blizzard has identified in this case concern its Battle.net server program and its individual computer game software.”).

68. *Davidson*, 422 F.3d at 640-41. The court merged BnetD’s argument that “Battle.net mode” was not copyrightable subject matter with BnetD’s argument that “Battle.net mode” was not effectively controlled. Unfortunately, by answering both arguments at the same time, the court forgot to address the former.

69. See *Lexmark*, 387 F.3d at 547 (“No security device, in other words, protects access to the . . . program and no security device accordingly must be circumvented to obtain access to that program code.”).

70. *Davidson*, 422 F.3d at 641. Curiously, the court in the following sentence claimed that the code underlying “Battle.net mode” could not have been “translated into readable source code . . . without some type of circumvention.” It appears the court conflated reverse engineering with circumvention.

71. There are actually a number of different ways to ask this question. One way is to posit it as an issue of authorization, which the Federal Circuit confronted in *Chamberlain*:

According to *Chamberlain*, all such uses of products containing copyrighted software to which a technological measure controlled access are now per se illegal under the DMCA unless the manufacturer provided consumers with explicit authorization. *Chamberlain*’s interpretation of the DMCA would therefore grant manufacturers broad exemptions from both the antitrust laws and the doctrine of copyright misuse.

Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1193 (Fed. Cir. 2004). A year later, the Federal Circuit dealt with a similar issue in *Storage Technology* but explained the issue differently:

[*Storage Technology*’s] argument conflates a claim based on copyright infringement and an action based on breach of contract. To succeed in a copyright action . . . the source of the copyright owner’s complaint must be grounded in a right protected by the Copyright Act, such as unlawful reproduction or distribution. In contrast, the rights granted by contract can be much broader. As an example, consider a license in

EULA should not automatically transform BnetD's conduct into circumvention. Again, the court failed to identify what role, if any, Blizzard's CD key authentication played in effectively controlling access to "Battle.net mode."

b) Section 1201(f) Exception for Interoperability

Unable to persuade the Eighth Circuit that "Battle.net mode" was ineligible for DMCA protection or that Blizzard had failed to effectively control access to "Battle.net mode," BnetD finally argued that it had circumvented Blizzard's CD key access control for the purpose of achieving interoperability between Blizzard's game software and BnetD's software. Therefore, BnetD argued that its conduct was statutorily excepted under § 1201(f) of the Copyright Act.⁷² The Eighth Circuit held that BnetD was ineligible for the exception.⁷³

which the copyright owner grants a person the right to make one and only one copy of a book with the caveat that the licensee may not read the last ten pages. . . . [I]f the licensee made a single copy of the book, but read the last ten pages, the only cause of action would be for breach of contract, because reading a work does not violate any right protected by copyright law.

Storage Tech. Corp. v. Custom Hardware Eng'g & Consulting, Inc., 421 F.3d 1307, 1315-16 (Fed. Cir. 2005). One can even depict the distinction between breach of contract and circumvention liability in a way that emphasizes the issue of effective control. Suppose I offered you a copy of a book enclosed in a small metal case with a combination lock on it. The correct combination to the lock is actually etched on the back of the lock. However, before I offer you this locked metal case, you agree via contract "not to look at the combination etched on the back of the lock." If you go ahead and peek at the combination on the back of the lock to open up the metal case, you have arguably breached your contractual duty not to do so. But is there a valid claim that you have circumvented the padlock?

72. Section 1201(f) of the Copyright Act permits circumvention of an access control "for the sole purpose" of achieving interoperability with an independently created computer program. 17 U.S.C. § 1201(f)(1) (2000). Interoperability "means the ability of computer programs to exchange information, and of such programs mutually to use the information which has been exchanged." § 1201(f)(4). The Senate Judiciary Committee explained that the objective of the § 1201(f) exception was "to ensure that the effect of the current case law interpreting the Copyright Act [was] not changed by enactment of [the DMCA]" and that "[t]he purpose of [the exception] is to foster competition and innovation in the computer and software industry." S. REP. NO. 105-190, at 32 (1998); see *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000); *Sega Enters. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832 (Fed. Cir. 1992); JONATHAN BAND & MASANOBU KATOH, *INTERFACES ON TRIAL; INTELLECTUAL PROPERTY AND INTEROPERABILITY IN THE GLOBAL SOFTWARE INDUSTRY* (1995); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813 (2001); Charles R. McManis, *Intellectual Property Protection and Reverse Engineer-*

A defense under § 1201(f) requires a four-prong analysis. BnetD had to establish that: (1) it lawfully obtained the right to use a copy of the software it circumvented; (2) the information needed to achieve interoperability must have been previously unavailable; (3) the sole purpose of BnetD's circumvention was to achieve interoperability of an independently created computer program; and (4) the alleged circumvention did not constitute copyright infringement.⁷⁴ Because § 1201(f) is an affirmative defense, it presupposes that an act of circumvention took place. Considering my earlier analysis, § 1201(f) required BnetD to make a very problematic assumption, making the interoperability argument a poor fit—one that added another layer of cloudy reasoning to the court's analysis.

The heart of the analysis came from the lower court, whose legal conclusions were rendered ineffective by a number of errors. The district court ruled that BnetD did not satisfy the first § 1201(f) requirement because the statute “only exempt[ed] those who obtained permission to circumvent the technological measure.”⁷⁵ According to the lower court, BnetD's “sole purpose” was not to achieve interoperability because: (1) BnetD's software interoperated with unauthorized copies of Blizzard software; (2) BnetD's software was distributed for free; and (3) BnetD's software “was intended as a functional alternative to the Battle.net service” and was, therefore, not *independently* developed.⁷⁶ BnetD also failed to satisfy the fourth requirement because BnetD had committed copyright infringement, although the court failed to identify which copyrightable expression BnetD had infringed.⁷⁷ On appeal, the Eighth Circuit offered little more than a cursory affirmance, reiterating only that “unauthorized copies of the Blizzard games were freely played on bnetd.org servers.”⁷⁸

The court's misidentification of “Battle.net mode” as the subject matter protected by Blizzard's CD key access control contaminated its § 1201(f) analysis. Essentially, the court treated the ability of Blizzard's game software to interoperate with game servers as a *feature* that could be

ing of Computer Programs in the United States and the European Community, 8 HIGH TECH. L.J. 25 (1993).

73. *Davidson*, 422 F.3d at 641-42.

74. § 1201(f)(1); *Davidson*, 422 F.3d at 642.

75. *Davidson & Assocs. v. Internet Gateway*, 334 F. Supp. 2d 1164, 1185 (E.D. Mo. 2004).

76. *Id.*

77. *Id.* at 1187 (“[T]he development and distribution to others constituted copyright infringement and persons who commit copyright infringement cannot benefit from the exemptions of § 1201(f).”).

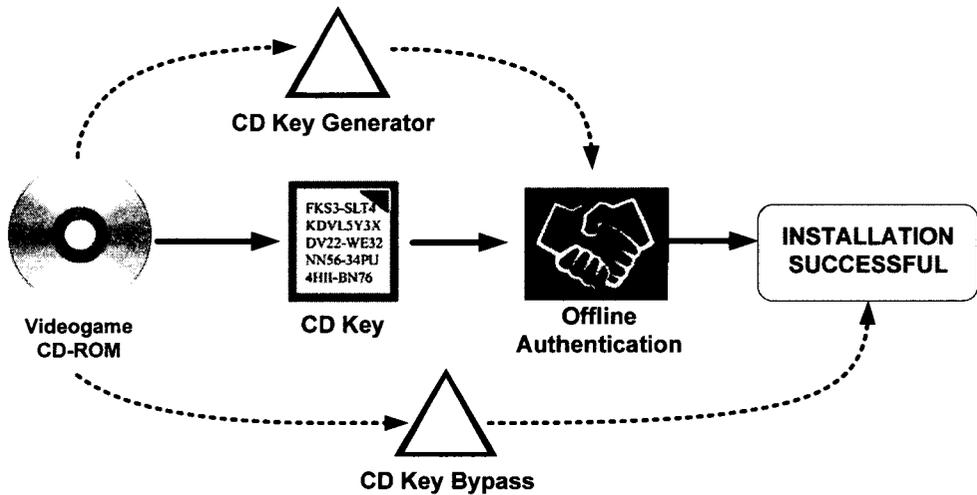
78. *Davidson*, 422 F.3d at 642.

locked by an access control, rendering a statutory exception for interoperable software meaningless.

C. What Role Should the DMCA Play in Regulating Online Gaming?

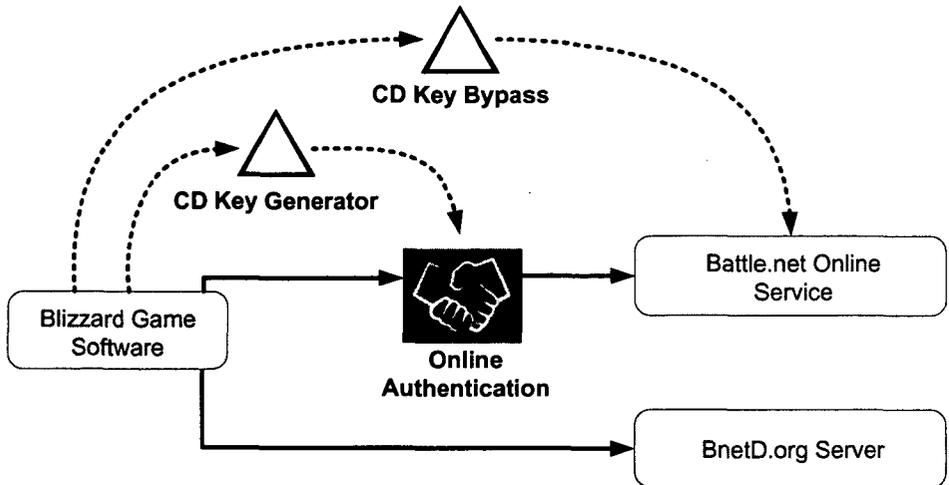
That the Eighth Circuit improperly expanded a game publisher's ability to use a technological protection measure to control markets for videogame services is not an argument that the DMCA should never apply in cases involving CD key authentication. Consider Figure 6 and Figure 7 below, which illustrate possible paths to DMCA liability.

Figure 6: This figure illustrates acts of circumvention in the context of software installation that would warrant DMCA liability.



If during installation of Blizzard's game software, BnetD had: (1) developed a CD key generator that allowed end users to install game software with an unauthorized CD key or had (2) developed a program that bypassed authentication during installation altogether, both of these acts would likely constitute circumvention under the DMCA. In these examples, the CD key would be controlling access to the publisher's copyrightable game software. On the other hand, Figure 7 illustrates the way in which circumvention might take place in the context of online gaming.

Figure 7: This figure illustrates acts of circumvention in the context of online gameplay that would warrant DMCA liability.



If BnetD had developed a CD key generator that allowed an end user to log onto Battle.net or created a program that bypassed online authentication altogether, the DMCA would clearly apply. In this context, the CD key would be controlling access to the publisher's proprietary game server, not the game software.

In the end, the Eighth Circuit's incomplete and inconsistent analysis creates two major problems. First, *Davidson* offers a murky theory of liability for circumvention and an extraordinarily narrow interpretation of § 1201(f). Did the court hold that § 1201(f) was inapplicable to those who create independently developed software when that software enables functionality for at least some direct infringers?⁷⁹ If so, there is no way of determining beforehand whether a technology or a device will be used unlawfully until the act takes place.⁸⁰

Secondly, *Davidson's* misinterpretation of Blizzard's access control vastly expands a game publisher's ability to embed access controls within its game software and, under the guise of battling piracy, effectively tie customers to various aftermarket products and services. The upshot is that

79. Mitchell Zimmerman, *Circuit Court Decisions Weaken, Strengthen Hand of Software Owners Using Technological Protection Measures*, MONDAQ, Sept. 19, 2005, http://www.mondaq.com/i_article.asp_Q_articleid_E_34886.

80. Michael Landau, *Has the Digital Millennium Copyright Act Really Created a New Right of Access? Attempting to Reach a Balance Between Users' and Content Providers' Rights*, 49 J. COPYRIGHT SOC'Y U.S. 277, 288 (2001); Albert Sieber, Note, *The Constitutionality of the DMCA Explored: Universal City Studios, Inc. v. Corley & United States v. Elcom Ltd.*, 18 BERKELEY TECH. L.J. 7, 9-11 (2003).

Davidson has more to do with controlling access to revenue streams than it does with controlling software unauthorized access to copyrighted software.⁸¹

III. DAVIDSON'S AFTERMATH

A. Legitimizing Strategic Access Controls

The entertainment industry has long argued that technological locks and access controls drastically reduce software piracy without affecting competition.⁸² But similar to the way in which Lexmark once required its printers to perform a "secret handshake" and authenticate only ink cartridges made by Lexmark, Blizzard has strategically wedged its CD key "handshake" between its game software and its proprietary game server. Thus, those wishing to develop competing game servers are exposed to liability not only for breach of contract but circumvention as well.

Should the fact that unauthorized copies of Blizzard games were played on BnetD servers alter the analysis? *Davidson* can be distinguished from other DMCA cases like *Lexmark*, *Chamberlain*, and *Storage Technology* in that the threat of "piracy" is virtually nonexistent when dealing with printer cartridges, garage-door openers, and computer hardware repair, respectively. But while online CD key authentication prevents those with unauthorized copies to play their games online, the system *as implemented* unreasonably shifts the burden of combating piracy onto those who wish to develop add-on services for videogames. Defendant Tim Jung, president of Internet Gateway, said Blizzard's piracy argument was unconvincing because all players needed to have Blizzard's game installed prior to using BnetD's software: "If they're using pirated software, they've already broken the law long before they got to us."⁸³

"Piracy" is not necessarily bad for game publishers.⁸⁴ Even though a game publisher might eliminate most unauthorized use through online au-

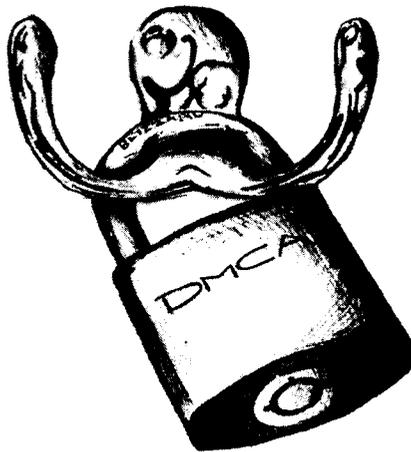
81. Burk, *supra* note 28, at 1110-14.

82. Liu, *supra* note 1, at 126 (noting that the DMCA is indicative of the regulatory trend in copyright law over the past several years, which has gained ground over a traditional property rights approach).

83. David Becker, *Group Backs ISP In Online Gaming Dispute*, CNET NEWS.COM, Mar. 12, 2002, http://news.com.com/Group+backs+ISP+in+online+gaming+dispute/2100-1040_3-858414.html.

84. See generally RICHARD WATT, COPYRIGHT AND ECONOMIC THEORY 24-70 (2000) (analyzing the economics of copyright piracy). For a discussion of the ways in which copyright could be modified to take into account network effects, see Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 480 (1998).

thentication, it also allows competitors to more easily infiltrate the publisher's market without fear of enabling functionality for unauthorized users. Alternatively, the less-effective offline CD key authentication process actually creates a substantial pocket of unauthorized users which can keep innovators in secondary markets in check because they fear liability resulting from enabling functionality for unauthorized users.⁸⁵ By requiring CD key authentication during online gameplay, game publishers seem to have created an artificial trial period, allowing unauthorized users to "sample" their games in single-player mode, but pay for online use.⁸⁶ As a result, they have secured the right to host their games exclusively.



85. Of course by "allowing" this pocket of unauthorized users to exist, the copyright owner might see a decline in overall sales. Accordingly, the copyright owner can anticipate these losses and choose to increase the selling price of the software, a practice called indirect appropriability. Stan Liebowitz, *Back to the future: Can copyright owners appropriate revenues in the face of new copying technologies?*, in *THE ECONOMICS OF COPYRIGHT* 6-8 (Wendy J. Gordon & Richard Watt eds., 2003).

86. WATT, *supra* note 84, at 58-59 ("Perhaps the most common case in which piracy is favourable to the producer of originals is when intellectual property is bundled together with a second good for which the producer of originals is interested in maximal diffusion."); see Liebowitz, *supra* note 85, at 9-11 (discussing exposure effects).

When asked about legitimate customers now foreclosed from using alternate game servers, Blizzard stated on its website, “Unfortunately, software pirates have spoiled this situation for hobbyists.”⁸⁷ “[W]e sincerely hope that one day, no one will see any reason to seek alternatives to Battle.net for playing Blizzard games.”⁸⁸ But, if software pirates had not spoiled the situation for hobbyists, would Blizzard still be willing to allow alternate game servers?⁸⁹ Paul Sams, Blizzard’s Chief Operating Officer, declared the Eight Circuit’s decision a major victory against software piracy: “[T]he court is reiterating the message that creating unauthorized servers that emulate Blizzard’s Battle.net servers is without question illegal.”⁹⁰ But Blizzard had once argued that BnetD’s software was illegal because it could not prevent access to unauthorized users; it does not follow, as Sams suggests, that hosting services for popular videogames is illegal in and of itself. Blizzard’s not-so-subtle shift in rhetoric is representative of the impact *Davidson* has had on the gaming industry.⁹¹ What was once considered a campaign against software “pirates” has inexplicably morphed into a turf war for secondary services and add-on products.⁹²

87. Battle.net FAQ, *supra* note 49. In an effort to minimize fallout after successfully suing their own customers, Blizzard launched a Mod Support Website in October 2005 to “give something back to the community.” See generally Battle.net, Mod Support Website, <http://www.battle.net/mod/index.shtml> (last visited Oct. 29, 2005). Hobbyists can now create maps and join contests, but are of course still required to use Blizzard’s proprietary server during gameplay.

88. Battle.net FAQ, *supra* note 49.

89. Cindy Cohn of the Electronic Frontier Foundation remarked:

This reminds me a bit of the Aibo pet case, where Sony threatened one of its customers who wrote a computer program that made the Aibo do more tricks than Sony intended. Fortunately, Sony had the wisdom to withdraw their threat once public outcry began. Here, Blizzard is suing its customers for making a server that has more functionality and provides a better experience—by letting you play with just your friends and other things—than they do.

Wen, *supra* note 40.

90. *Blizzard Beats BnetD, Again*, RED HERRING, Sept. 2, 2005, <http://www.redherring.com/PrintArticle.aspx?a=13440§or=Industries>. Mike Morhaime, president and cofounder of Blizzard released an almost identical statement: “By ruling in our favor on every count, the court is sending a clear message that creating unauthorized servers which emulate Blizzard’s Battle.net servers is without question illegal.” Tim Surette, *Blizzard Wins Ruling Against BnetD*, GAMESPOT, Oct. 6, 2004, http://www.gamespot.com/news/2004/10/06/news_6109809.html.

91. See Brad King, *Lawsuit Could Stunt Online Games*, WIREDNEWS.COM, Apr. 12, 2002, <http://www.wired.com/news/games/0,2101,51747,00.html>; Schiesel, *supra* note 19.

92. For a brief history of emulation and how it exists separate from software piracy, see Jeffrey S. Libby, *The Best Games in Life Are Free? Videogame Emulation in a Copyrighted World*, 36 SUFFOLK U. L. REV. 843 (2003).

Blizzard, it appears, has forgotten that the DMCA was intended to target those who circumvent access controls that regulate access to copyrightable expression, not a vehicle to capture markets for downstream services.

The ultimate result from *Davidson* is one game, one online service, and no competition. The district court reasoned that BnetD had many choices, including the choice not to play Blizzard's videogames if it thought its license restrictions were unfair.⁹³ It did not, however, mention that virtually every publisher requires similar restrictions.⁹⁴ Given Blizzard's overwhelming victory in *Davidson*, it is not surprising that after purchasing a copy Blizzard's *World of Warcraft* for \$49.99, Blizzard now requires end users to pay a monthly fee to play the game online. Excluding record-breaking sales revenue, Blizzard generates an annual revenue stream of \$700 million based on subscription revenue from *World of Warcraft* alone.⁹⁵

93. *Davidson & Assocs. v. Internet Gateway*, 334 F. Supp. 2d 1164, 1179 (E.D. Mo. 2004). (“[BnetD] had the choice to select a different video game, to agree to the terms and gain the software and access to Battle.net, or to disagree and return the software for a full return of their money.”).

94. City of Heroes, User Agreement, http://www.plaync.com/help/eula_coh.html (last visited Mar. 16, 2006) (prohibiting reverse engineering); Dark Age of Camelot, EUALA, <http://support.darkageofcamelot.com/kb/article.php?id=072> (last visited Jan. 22, 2006) (prohibiting reverse engineering and requiring an end user to expressly waive any legal rights they have to do so); Eve Online, End User License Agreement, <http://www.eve-online.com/pnp/eula.asp> (last visited Mar. 16, 2006) (prohibiting reverse engineering and requiring an end user to expressly waive any legal rights they have to do so); EverQuest 2, User Agreement and Software License, http://eq2players.station.sony.com/en/support_article.vm?label=EQIIEULA (last visited Mar. 16, 2006) (prohibiting reverse engineering “except to the extent this restriction is expressly prohibited by applicable law.”); Guild Wars, End User's License Agreement, <http://www.guildwars.com/legal/user-agreement.html> (last visited Mar. 16, 2006) (prohibiting reverse engineering); RuneScape, Terms and Conditions, 2005, <http://www.runescape.com/lang/en/aff/runescape/terms/terms.ws> (prohibiting reverse engineering and prohibiting an end user from creating or providing any other means by which to play the game); The Saga of Ryzom, End User License Agreement, http://www.ryzom.com/?page=support_policies#legal_eula (last visited Jan. 22, 2006) (prohibiting reverse engineering); World of Warcraft, End User License Agreement, <http://www.worldofwarcraft.com/legal/eula.html> (last visited Jan. 22, 2006) (prohibiting reverse engineering and prohibiting end users from providing matchmaking services for the game).

95. Schiesel, *supra* note 19. Apart from subscription revenue, hosting games exclusively on proprietary servers offers a number of benefits. First, as a practical matter, exclusive hosting allows game developers to apply fixes, issue patches, and add features to their games without interference from third parties. COSTIKYAN, *supra* note 40, at 36. Second, it allows publishers to tightly integrate their game software with an online service, making it easier for users to establish a connection—the downside from the consumer's perspective, of course, is that there is only one connection to choose from. Pub-

B. Securing the Market for MMOGs

While none of the multiplayer online games at issue in *Davidson* were MMOGs, the court's holding has allowed game publishers to capture the multidimensional market for this new gaming technology.

As noted earlier, an MMOG is a videogame specifically designed for online gameplay. Usually, a user will purchase software at a retail store, install it, and instantly connect to a persistent online world where they can interact with hundreds and thousands of other gamers. The user must pay a monthly fee to maintain access to this world. Because of the importance of creating an online world, MMOGs require a stable player-base over an extended period of time. As publishers attempt to attract new users to the world of subscription-based online gaming, it is quite possible that they will reduce prices for game software, opting to rely more heavily on subscription revenue.⁹⁶ Because game publishers under *Davidson* can sue those who challenge their right to exclusively host games under the DMCA, publishers have the added benefit of being able to monitor their entire customer bases, gauge usage, develop new games based on that information, and advertise those games to those same customer bases.⁹⁷

lishers like Blizzard will be quick to point out that issuing fixes and patches are critical to maintaining a good name in the industry. In fact, the amount of centralized control publishers are looking for would arguably allow them to more easily handle the connectivity and usage problems that many—including the BnetD developers themselves—originally complained of. On the other hand, Blizzard already had full control over its games before BnetD came into existence. While centralized control might appear to make it easier to issue fixes and update software, the fact that consumers have no alternatives actually undermines a publisher's incentive to create those fixes. *Blizzard Beats BnetD, Again, supra* note 90 (“The irony is that the BnetD Project was created because gamers wanted to play Blizzard games with greater ease and with added features.”).

96. COSTIKIYAN, *supra* note 40, at 49 (“Suppose we have an online game with a \$10/month [subscription] fee. If we price it at \$50 (\$25 to publisher [after the retailer's percentage]), and sell 100,000 copies, and 50% of the purchasers wind up sticking around for a year, we've made \$8.5 million. If we *give* [the software] away, and distribute 200,000 copies, 50% of which turn into subscribers, we make \$12 million You can't give [the software] away; retailers won't carry it. But it makes sense to *reduce the price to the absolute minimum that will motivate the retailer.*”) (emphasis in original).

97. *Id.* While Battle.net uses banner advertisements, a number of publishers employ digital billboards and advertising spaces within virtual environments. Blackburn, *supra* note 10. A study conducted by Nielsen Interactive Entertainment found that in-game advertisements resulted in a 60% increase in new brand awareness. 50% surveyed reported that they found in-game ads made the experience more realistic and 54% said in-game advertising caught their attention. Daniel Terdiman, *In-game ads work, study says*, CNET NEWS.COM, Oct. 3, 2005, http://news.com.com/2102-1043_3-5887880.html?tag=st.util. print. Advertisers currently spend between \$90 and \$120 million annually in videogames and this number is estimated to rise to \$700 million by 2008. Blackburn, *supra* note 10.

Developers need not rely on subscription or advertising revenue alone, if at all. MMOGs feature complex virtual economies in which individual gamers can buy, sell, and trade virtual commodities, often for real money.⁹⁸ This practice—called real-money trade (“RMT”)—makes it very easy for developers to charge gamers a commission for every transaction that takes place in their online world separate from a monthly access fee.⁹⁹ The global market for virtual commodities is estimated as high as \$880 million annually.¹⁰⁰ Game developers like Sony initially tried to ban RMTs, but found that in just five years, the market for virtual commodities for its games reached \$200 million annually.¹⁰¹ Sony did an about-face and launched the Station Exchange, its own official trading site for virtual commodities.¹⁰²

RMTs also make MMOGs lucrative for individual players too. They can earn money by gathering virtual commodities and sell them at online stores for cash.¹⁰³ Services are available that allow players to rent powerful game characters, removing the need to spend countless hours building

98. See F. Gregory Latowska & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1, 29-37 (2004). See generally Edward Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (Ludwig-Maximilians-Universitat & Ifo Institute for Economic Research, Working Paper No. 618, 2001) (offering an economic analysis of the virtual world of Norrath).

99. The existence of RMT remains a controversial issue for developers and end users. Some argue that richer players are gaining an unfair advantage because they can purchase what they lack in skill, while others enjoy the economic realism virtual worlds have to offer. Dan Simmons, *Buying Success In Online Gaming*, BBC NEWS, Aug. 5, 2005, http://news.bbc.co.uk/1/hi/programmes/click_online/4747939.stm; Mark Wallace, *We The Avatars*, THE ESCAPIST, Sept. 20, 2005, http://www.escapistmagazine.com/issues/11/pdf/TheEscapist_11.pdf.

100. Edward Castronova, *Secondary Markets: \$880 Million*, TERRANOVA, Oct. 30, 2004, http://terranova.blogs.com/terra_nova/2004/10/secondary_marke.html. It is estimated that in 2005, the amount of money changing hands for virtual commodities in Asia is likely to be more than is exchanged for purchasing the games themselves. Simmons, *supra* note 99.

101. Simmons, *supra* note 99.

102. *Id.*

103. Latowska & Hunter, *supra* note 98, at 37-40. Unfortunately, RMT markets have also attracted thieves looking to make a quick profit. Sony, for example, cited consumer fraud as a reason it launched its own trading site. Matt Hines, *Sony Creates Auction Site For Game Artifacts*, CNET NEWS.COM, Apr. 20, 2005, http://news.com.com/Sony+creates+auction+site+for+game+artifacts/2100-1043_3-5678052.html?tag=st.rm. Despite security precautions, a group of individuals playing Sony's Everquest II recently employed a “duping bug” and wrongfully generated vast amounts of virtual currency, which the group attempted to sell back to Sony for a profit. Daniel Terdiman, *Cheaters Slam “Everquest II” Economy*, CNET NEWS.COM, Aug. 11, 2005, http://news.com.com/Cheaters+slam+Everquest+II+economy/2100-1043_3-5829403.html?tag=st.rc.targ_mb.

up one's own character.¹⁰⁴ Others simply sell their entire accounts, parceling out their amassed online wealth.

Whether a publisher charges for monthly access and/or opts for commissions based on RMTs,¹⁰⁵ it is argued that legal protection allegedly afforded under the DMCA will foster innovation in the market and will make MMOGs available to the public on a scale they would not have been available otherwise. Without exclusive hosting, it is argued, the entire structure of a virtual world would deteriorate as customers might splinter off into an infinite number of competing game servers. It is not clear, however, whether competition for hosting MMOGs would cause massive decentralization. Maintaining a game server for an MMOG is not a hobby; it requires constant maintenance because most of the work is done server-side, not by an individual's client software. Allowing innovators to add functionality to existing games—like introducing new virtual worlds, texture packs, missions, characters, environmental variables, or more sophisticated economic variables—would create a much better gaming experience for end users and help foster further innovation. This competition would also force a game publisher to keep up with the latest developments in online gaming.

IV. CONCLUSION

Davidson represents yet another blemish in the relatively short legal history of the DMCA. For game publishers, *Davidson* creates an unprecedented shield of market protection as well as a prime opportunity to de-

104. Mark Wallace, *Upward Mobility*, N.Y. TIMES, Jun. 26, 2005, <http://select.nytimes.com/search/restricted/article?res=F70B16FD3B5F0C758EDDAF0894DD404482> (describing a rental service, called GamePal, which costs \$130 a month in addition to a \$300 security deposit) (subscription service).

105. Business models for MMOGs are quickly multiplying. NCsoft sells the game software for their MMOG *Guild Wars*, but offers its customers free online services. Brendon Sinclair, *Guild Wars Enlists 1 Million*, GAMESPOT, Sept. 22, 2005, http://www.gamespot.com/news/2005/09/22/news_6134127.html. Publishers of *Project Entropia*, however, have taken a different route by relying exclusively on RMT-generated revenue. See *Project Entropia*, <http://www.project-entropia.com/Index.asp> (last visited Oct. 3, 2005). Offering both its game software and online access for free, *Project Entropia's* developers have tied the game's virtual currency directly to the US dollar, with the currency exchangeable at a fixed rate. Wallace, *supra* note 99. Similarly, developers at Red-Be-dlam are currently testing a new MMOG called *Roma Victor* which has no monthly subscription fee, but will have a variable exchange rate against real-world currencies. The prices of most virtual goods, therefore, will be driven by the players themselves. Wallace, *supra* note 99. See generally *Roma Victor*, <http://www.roma-victor.com> (last visited Oct. 4, 2005).

velop MMOGs without interference from competitors. Game publishers have creatively reused an existing technological protection measure—CD key authentication—to justify the tightest possible integration of their game software with various services or products associated with that game. More importantly, *Davidson* blurs the distinction between game software and matchmaking services, allowing publishers to market newly developed MMOGs not as game software, but as a pay-per-use service where a user is granted access to an online world.¹⁰⁶

Even if it is conceded that a game publisher should be allowed to combine copyright protection and restrictive licenses to, in effect, ban reverse engineering, exclusively host their games, charge for monthly access, and exploit all related markets, using CD key authentication to effectuate that control stretches the DMCA beyond its essential purpose.

106. See COSTIKYAN, *supra* note 40, at 49, 52 (“[P]ublishers of games under the ‘retail sale plus online subscription’ model are going to realize that they aren’t in the business of selling boxes any more. Selling boxes is a necessary evil; online subscriptions is where the money’s at.”); Zackariasson & Wilson, *supra* note 19, at 49 (arguing that MMOGs have four characteristics of services: intangibility, inseparability, variability, and perishability).