FIGHTING CHEATERS IN GAMES AFTER *BLIZZARD V. BOSSLAND*: THE HISTORY AND FUTURE OF ANTI-CHEATS LITIGATION

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I. INTRODUCTION

The computer game industry has seen a rapid growth with advancements in computer and network technologies that allow large numbers of players to interact instantaneously online.[1] The hottest multiplayer online game in 2017 was arguably *PlayerUnknown's Battlegrounds* (PUBG), a shooting game that has reached thirty million sales worldwide.[2] A player of this game, however, would easily be familiarized with its dark side: cheaters.[3] In the eight months since the game's launch, the game developer Bluehole banned 700,000 accounts that had used cheating programs,[4] and the number is growing at 13,000 accounts per day.[5] Cheating programs, or cheats, are third-party programs unauthorized by the game developer, with the purpose of aiding a player's gameplay in otherwise impossible manners.[6] Their functions are highly various depending on the game mechanics.[7] In a shooting game like PUBG, some common functions of cheats include allowing a player to see through walls to identify other players, and aiming a gun automatically at others' heads.[8] Having such advantages usually means instant wins, unless other players use cheats as well.[9] Throughout the history of computer games, cheating has been a threat to virtually every single game by destroying the game experience of players who compete with the cheaters in games, especially multiplayer games where the mental reward is high to dominate other players.[10] Use of cheats has, of course, long been prohibited by game developers.[11] However, cheating still exists widely and rampantly in computer games, and the fight between game developers and cheats is sure to continue as long as there are players who find pleasure in taking unfair advantages over others.[12]

Many game developers have pursued litigation as an option to exclude those unauthorized third-party programs from their games.[13] In most cases, the cheats developer—usually a software company—is sued for monetary damages

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1. *See The Best Multiplayer Games on PC*, PCGAMESN, https://www.pcgamesn.com/best-multiplayer-games (last updated Feb. 18, 2019) (discussing some of the most popular online multiplayer games).

2. Ali Jones, *PUBG Celebrates 50 Million Sold with its First Ever Steam Sale*, PCGAMESN (June 19, 2018), https://www.pcgamesn.com/playerunknowns-battlegrounds/battlegrounds-sales-numbers.

3. *See PlayerUnknown's Battlegrounds*, STEAM, http://store.steampowered.com/app/578080/PLAYERUNKNOWNS_BATTLEGROUNDS (last visited Mar. 28, 2019) (displaying negative comments and votes from players about in-game cheating).

4. *How Crazy Are "PUBG" Cheats?*, BEIJING NEWS (Nov. 27, 2017), http://mp.weixin.qq.com/s/AnyqgB_iING6ak3Uedgimw.

5. Rob Thubron, *Up to 13,000 Cheaters Are Being Banned from PUBG Every Day*, TECHSPOT (Oct. 16, 2017, 8:11 AM), https://www.techspot.com/news/71415-up-13000-cheaters-banned-pubg-every-day.html.

6. *How Crazy Are "PUBG" Cheats?*, *supra* note 4.

7. Steamworks Development, *Anti-Cheat for Multiplayer Games*, YOUTUBE (Nov. 3, 2016), https://www.youtube.com/watch?v=hI7V60r7Jco.

8. *See How Crazy Are "PUBG" Cheats?*, *supra* note 4 (discussing many types of cheats with various functions).

9. *How Crazy Are "PUBG" Cheats?*, *supra* note 4.

10. Steamworks Development, *supra* note 7.

11. *See, e.g.*, BGH Oct. 6, 2016, I ZR 25/15 (citing Blizzard games' EULAs that prohibited cheats, bots, and hacks).

12. *See* Steamworks Development, *supra* note 7 (introducing the incentives for a player to cheat).

13. *See* Riot Games, Inc. v. Stefan Delgado Argote, No. 2:16-cv-5871-RSWL-AJW (C.D. Cal. Mar. 2, 2017) (providing an example other than Blizzard).

and injunction against selling the cheats.[14] One of the major battles in court has been between Blizzard Entertainment, a U.S. game developer well known for its online multiplayer games including *World of Warcraft*, and Bossland GmbH, a Germany-based software company specialized in developing cheats for Blizzard games.[15] With both parties being the leader in respective industries, the long struggle is finally coming to an end, as German and U.S. courts published several opinions in favor of Blizzard in late 2016 and early 2017.[16] Following the judgments, Bossland has terminated the sale of the accused products and services on its website.[17]

     This Note will examine how the litigation between Blizzard and Bossland would advance the law and affect the game and cheats industry, and what strategy in terms of both law and technology would be best for the game developers to fight cheating in the future. Part II will give an overview of the conflict and struggle between the game industry and the cheats industry both inside and outside the court. It will also address the difficulties of litigating against cheats developers. Part III will analyze the legal status regarding cheating in computer games before and after the series of cases between Blizzard and Bossland: *World of Warcraft I* and *World of Warcraft II* in Germany, and *Blizzard v. Bossland* in California (collectively, "*Blizzard v. Bossland*"). It will also analyze how the cases would drive the transformation of the cheats developers' business model. Part IV will give recommendations how game developers can adapt themselves to the rapidly evolving game and cheats industries. Particularly, it suggests that all decisions regarding anti-cheating, including those related to litigation, should be made with player education as the primary objective. It is also suggested that the game industry should work towards uniform solutions to cheating, such as third-party anti-cheats services and integration of anti-cheats systems into game publishing platforms.

II. Background

A. *What Are Cheats and Why Are They Bad?*

     "Cheats," "hacks," "exploits," and "bots" are loose terms for various third-party programs providing aid to game players.[18] In the early years of computer games, the players occasionally took advantage of bugs, loopholes, and backdoors of the game programs, which was considered relatively innocuous personal conduct since the games were off-line and no one else could be

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14. *See, e.g.*, Blizzard Entm't, Inc. v. Bossland GmbH, No. SA CV 16-1236-DOC (KESx), 2017 WL 412262 (C.D. Cal. Jan. 25, 2017) (discussing the relevant legal standards in denying Bossland's motion to dismiss).

15. *See* Kirk McKeand, *Cheat Makers Bossland Ordered to Pay Blizzard $8.6 Million for Copyright Infringement*, PCGAMESN (Apr. 4, 2017), https://www.pcgamesn.com/overwatch/overwatch-hacks-lawsuit-watchover-tyrant (summarizing the history of litigation between Blizzard and Bossland).

16. BGH Oct. 6, 2016, I ZR 25/15; BGH Jan. 12, 2017, I ZR 253/14; *Bossland GmbH*, 2017 WL 412262.

17. Bossland, *The Sad News–Honorbuddy and Others*, BUDDY F. (Nov. 11, 2017), https://www.thebuddyforum.com/threads/the-sad-news-honorbuddy-and-others.411956/.

18. Marc Mayer, *How to Beat the Cheats*, GAMES INDUSTRY L.J. (2017), https://www.msk.com/media/publication/14_8830485.pdf.

affected.[19]   Dramatic changes occurred with the rise of communication technology and online games with multiple players interacting with each other.[20] Since then, the cheats industry has grown to multimillion dollars in scale,[21] with a large variety of cheats that can be roughly categorized into three types. Free public cheats, often developed by amateur computer programmers, are the low-end products available for almost every computer game, but only with poor functionalities.[22] The mass of the industry consists of public commercial cheats which are developed, marketed, and maintained by registered software companies with legitimate businesses, such as Bossland.[23] The very high-end cheats are private exclusive cheats, which have emerged in recent years, and are developed and distributed privately among programmers, individual dealers, and players, often providing custom functionalities and personalized customer support.[24] Although the market size is not comparable to that of the public commercial ones, private exclusive cheats are at the center of the game community's attention because they represent the cutting-edge technology in the industry both in defeating other players in games and evading the game developers' anti-cheating measures.[25]

A programmer from Easy Anti-Cheat, a company providing anti-cheats solutions to game programmers and publishers, defines cheating as gaining an unfair advantage in games.[26] What is unfair is highly context specific,[27] and game developers sometimes tolerate the use of certain types of third party software that aids the gameplay.[28] Cheats and the acceptable aiding programs are on the same spectrum where no clear line separates them.[29] For example, Blizzard, in its online card game *Hearthstone*, allows players to use third party "deck trackers" to record what cards have been drawn and played so the players do not have to memorize or take record themselves.[30] In contrast, Blizzard has been going after Bossland, developer of the automation software *Honorbuddy*, in courts all over the world, for almost ten years, to exclude their products from Blizzard games.[31] Automation software, also called "bot," can take control of a player's game account and automatically develop the in-game character to spare the player some time-consuming and repetitive actions—a relatively uninteresting aspect of role playing games which does not require much player

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19. *See* Steamworks Development, *supra* note 7 (discussing players' attitudes towards cheats).
20. *Id.*
21. *How Crazy Are "PUBG" Cheats?*, *supra* note 4.
22. *See* Steamworks Development, *supra* note 7 (discussing different types of cheats).
23. *Id.*
24. *Id.*
25. *Id.*; *see also How Crazy Are "PUBG" Cheats?*, *supra* note 4 (discussing the difficulty of detecting privately distributed high-end cheats with anti-detection mechanisms).
26. Steamworks Development, *supra* note 7.
27. *Id.*
28. *See, e.g.*, Ben Brode (@bdbrode), TWITTER (Sept. 14, 2014, 6:56 AM), https://twitter.com/bdbrode/status/511151446038179840 ("[A]ny app that duplicates what you can do with a pencil and paper already is fine [in Hearthstone].").
29. Steamworks Development, *supra* note 7.
30. Brode, *supra* note 28.
31. *See* McKeand, *supra* note 15 (summarizing the history of litigation between Blizzard and Bossland).

skill.[32] *Honorbuddy* was the leading product among all bots for the Blizzard game *World of Warcraft* with more than 260,000 registered users.[33]

The sense of unfairness captures the essence of the conflict between game developers and cheats.[34] Unfair losses against cheaters greatly frustrates non-cheating players,[35] and the negative consequence to the game developer comes in two ways. First, many players would quit playing the game that they cannot win; according to a survey, more than one-third of U.S. gamers have experienced abandoning a game because of cheaters.[36] The players are also likely to leave negative comments about the game environment on game websites and Internet forums to discourage others from buying it.[37] Therefore, the game will struggle in both retaining players and acquiring new players, leading to the loss of sales and subscription fees.[38] Second, the players may start to cheat themselves, either for revenge or because they want to be on a level ground with the cheaters.[39] This often-overlooked effect creates a vicious cycle where cheating propagates among the players, leading to the meltdown of the game environment which will quickly make the game unplayable.[40] As result of this twofold effect, many online games have gone dead, which is why game developers try to eliminate cheating in their games at all costs.[41]

B.   Traditional Anti-Cheating Effort

Unfortunately, there is probably no unhackable game, and most, if not all, the popular online multiplayer games are currently under the threat of cheating.[42] However, since the major cheats developers are companies operating on a business model of player purchase or subscription to their products, it is possible to target them by striking the risk-reward balance to make the business unprofitable.[43] Most effort has been put into technological measures to fight cheats.[44] One strategy is to hinder the functionalities of cheats by preventive design of game mechanics.[45] For example, one common feature of cheats in many games is to reveal other players' in-game positions by hacking into the

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32. Bundesgerichtshof [BGH] [Federal Court of Justice] Oct. 6, 2016, I ZR 25/15, http://juris.bundesgerichtshof.de/cgibin/rechtsprechung/document.py?Gericht=bgh&Art=en&nr=77132&pos=0&anz=1.

33. *See* HONORBUDDY, https://www.honorbuddy.com [https://web.archive.org/web/20170929193659/https://www.honorbuddy.com/] (last visited Mar. 28, 2019) (claiming to have 260,000 registered users paying for the bot products).

34. Steamworks Development, *supra* note 7.

35. *Id.*

36. *See* Mayer, *supra* note 18, at 21 ("More than a third of US gamers had stopped playing a game due to cheating.").

37. Steamworks Development, *supra* note 7.

38. *Id.*

39. *Id.*

40. *Id.*

41. *See Top 10 Games Ruined by Hacks*, CHINAZ.COM (Feb. 12, 2011), http://www.chinaz.com/game/2011/0212/158329.shtml (discussing games allegedly ruined by cheats).

42. Steamworks Development, *supra* note 7.

43. *Id.*

44. *See id.* (discussing the technological strategies against cheating).

45. *Id.*

game server when the positions should have been unobservable without cheating.[46] Some games preclude this function of cheats by tracking and recording player position information on each players' computer but not on the game server.[47] Another strategy, perhaps the most important one, is prompt detection of cheating and exclusion of the cheaters by disabling their game accounts.[48] This is not only important for maintaining a healthy in-game environment, but also cuts down the revenue of cheats developers because the banned cheaters will no longer subscribe to the cheats.[49] In addition to various technological means for detection,[50] player reporting systems are often relied upon where players can report others they suspect of cheating and the game developers will then closely monitor the reported potential cheaters.[51]

However, the consequence of being caught cheating and having the game account disabled is becoming increasingly inadequate to disrupt the risk-reward balance of the cheats business.[52] As for the cheaters, the punishment for cheating hardly gets any harsher than the permanent ban of the particular game account they used while cheating.[53] Permanent bans might have been a considerable deterrence against cheating when the value of the game account was relatively high as compared to the cost of cheating, but the deterrence breaks apart easily when the price of cheats has grown tremendously in recent years.[54] For example, the monthly subscription fee of the best cheats for PUBG can go for over $100,[55] when the game itself costs $29.99.[56] It is hardly perceivable that those cheaters would mind buying another copy when their original accounts are banned; moreover, the cheats developers sometimes provide complimentary accounts with their products for the players to use, showing that the monetary loss from account bans may no longer meaningfully affect their profitability.[57] Although only a minority of cheats would cost several times the price of the game itself, higher price usually means more powerful functions.[58] Accordingly, those cheats are the most destructive to the game experience of other players, and would most likely tempt other players into cheating.[59]

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46. *See How Crazy Are "PUBG" Cheats?*, *supra* note 4 (discussing cheats' functions including revealing players' positions).

47. *Id.*

48. Steamworks Development, *supra* note 7.

49. *Id.*

50. First, game developers may monitor suspicious statistics such as sudden increase of win rate. Second, they can use signature scanning to detect a certain cheat, provided that they managed to obtain a copy of it. Third, heuristic methods are used where code flow behavior is monitored. Steamworks Development, *supra* note 7.

51. *See How Crazy Are "PUBG" Cheats?*, *supra* note 4 (discussing the reporting system in PUBG).

52. *Id.*

53. Steamworks Development, *supra* note 7.

54. *See How Crazy Are "PUBG" Cheats?*, *supra* note 4 (suggesting permanent ban is not adequate deterrence).

55. Steamworks Development, *supra* note 7.

56. *PlayerUnknown's Battlegrounds*, STEAM, http://store.steampowered.com/app/578080/ PLAYERUNKNOWNS_BATTLEGROUNDS (last visited Mar. 28, 2019).

57. *How Crazy Are "PUBG" Cheats?*, *supra* note 4.

58. *Id.*

59. Steamworks Development, *supra* note 7.

Therefore, anti-cheating would never be successful without effectively targeting the very high-end cheats.

C.   Litigation Has Been Difficult

1.   Every Difficulty a Plaintiff Can Have

While game developers have been trying every means possible to eliminate cheating, litigation has not always been the most effective and efficient option.[60] As plaintiffs, game developers' difficulties start from the very first step: identifying the defendant.[61] It is common that the developers of cheats are not registered corporate entities; they could be a group of programmers, members of a gamers community, or individual programmers challenging themselves by hacking into games just out of interest.[62] To make it even more difficult, cheats—especially the best ones known as private exclusive cheats[63]—are often distributed privately with extreme cautions, making it nearly impossible to track down the developers.[64] When the game developer successfully brings a cheat developer to court, the first obstacle is often jurisdiction and venue, where the defendant is not from the game developer's home jurisdiction.[65] Additionally, some cheats developers try to evade jurisdiction by outsourcing to foreign contractors.[66] Although cases suggest that the court may not support the evading defendants, this would no doubt add complexity and prolong the litigation.[67] Finally, litigation against cheats developers are often not economically sensible.[68]   Suing individual cheats programmers or players almost never justifies the cost of litigation.[69] When against corporate cheats makers, often great uncertainties exist as well with enforcement of the judgment, as they may have no properties within the reach of the court.[70] Therefore, the primary objective of plaintiff game developers in most cases is not to collect damages, but to obtain an injunction against the sale of cheats and the court's declaration that cheats are illegal.[71]

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60.   *See* Mayer, *supra* note 18 (discussing the difficulties the plaintiff faces in anti-cheats litigation).

61.   *Id.*

62.   *How Crazy Are "PUBG" Cheats?*, *supra* note 4; Steamworks Development, *supra* note 7.

63.   Steamworks Development, *supra* note 7.

64.   *Id.*

65.   *See, e.g.*, Blizzard Entm't, Inc. v. Bossland GmbH, No. SACV161236DOCKESX, 2017 WL 412262, *4 (C.D. Cal. Jan. 25, 2017) (dismissing Bossland's motion to dismiss based on lack of jurisdiction).

66.   *See, e.g.*, Riot Games v. Stefan Delgado Argote, 2:16-cv-5871-RSWL-AJW (C.D. Cal. Mar. 1, 2017) (finding the defendants outsourcing to foreign contractors to evade litigation).

67.   *Id.*

68.   Mayer, *supra* note 18.

69.   *Id.*

70.   *Id.*

71.   *Id.*

2.   Slow Development of Case Law

After more than ten years of effort litigating in court, game developers still seem to be in search of a well-established strategy.[72] On the one hand, the law has been slow in reacting to the rapid developments in the technology intensive field of computer games and programs.[73] On the other hand, most cases are resolved through default judgment or settlement;[74] in other cases, courts do not issue published opinions.[75] While game developers have rested their claims upon a wide range of legal theories, there has been very little substantive argument from the cheat developers' side as they often default or prefer to settle.[76] As result, courts have rarely expressed well-explained opinions on substantive issues and game developers have been left without good directions of case law.[77] In this sense, *Blizzard v. Bossland* in the German court is a rare example where Blizzard as plaintiff overcame all the obstacles in pursuing the lawsuit, while Bossland as defendant perceived enough interests in arguing the case all the way to the Supreme Court of Germany.

The laws and litigation over cheating in games have only received relatively minor attention from the legal community, given the size of the rapidly growing game industry and the closely associated cheating industry.[78] Currently, no law review article on this subject can be found after 2013,[79] probably due to the lack of thoroughly argued cases and substantive court opinions. But the conclusion of *Blizzard v. Bossland*, a major event in the game industry, has drawn some coverage in legal news and communications,[80] and we may see more vigorous discussion in the future.

III. ANALYSIS

A.   The Legal Arguments and Status Before Blizzard v. Bossland

1.   Tortious Interference with Contractual Relations

The most intuitive argument by game developers in courts is probably tortious interference with contractual relations, where the plaintiff claims that the defendant has caused damage by intentionally interfering with the contractual relation between the plaintiff and a third party.[81] Tortious interference is a state law tort claim in the U.S. and under this theory, game

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72. *Id.*

73. *Id.*

74. *Id.*

75. For example, no opinion was issued for the case between Blizzard and Bossland in the U.K. that resulted in Bossland shutting down its operation in the U.K. in 2017.

76. Mayer, *supra* note 18.

77. *Id.*

78. *See How Crazy Are "PUBG" Cheats?*, *supra* note 4 (describing the size of the cheats industry).

79. *See* Jennifer Miller, *The Battle over "Bots": Anti-Circumvention, the DMCA, and "Cheating" at World of Warcraft*, 80 U. CIN. L. REV. 653, 654–55 (2011), (discussing the *MDY Industries* case).

80. *See, e.g.*, Jason Schossler, *German Software Maker Must Face Gaming Copyright Suit in California, Judge Says*, 29 WESTLAW J. ENT. INDUSTRY 1, 1 (2017) (reporting on *Blizzard v. Bossland* in California).

81. Mayer, *supra* note 18.

developers can argue that their end-user license agreements (EULAs) with the players for installing and playing the computer games are contracts with terms prohibiting the use of cheats and bots during gameplay, while the cheats developers have intentionally induced the players to breach those terms by selling the cheats.[82] Interestingly, the first important case in the U.S. court system was brought to the Arizona District Court by an automation bot developer MDY Industries in 2010 against Blizzard, seeking declaratory judgment that the bots it sold were legal.[83] The District Court granted summary judgment for Blizzard on the tortious interference with contractual relations claim, but the Ninth Circuit reversed on appeal.[84] Three years later in 2013, Blizzard sued another bot developer Ceiling Fan Software LLC in California, where the California District Court granted Blizzard summary judgment on the tortious interference claim;[85] Ceiling Fan Software did not appeal.

To some extent, the opposite outcomes reflect the different legal standards in Arizona and California. To establish tortious interference with contractual relations, Arizona courts require a showing of "impropriety of interference,"[86] for which a seven-factor test from the Restatement is employed.[87] In addition to the interfering conduct, this seven-factor test also involves subjective determinations of the defendant's motive and interests sought, as well as policy considerations to balance the defendant's freedom of action and the plaintiff's contractual interests.[88] Based on those factors, the Arizona court concluded that the facts did not support a finding of impropriety for the purpose of summary judgment.[89] On the other hand, California courts do not require impropriety of interference, but instead require "actual breach or disruption of the contractual relationship."[90] This element is far easier to prove on the plaintiff's part, since it focuses on objective, factual determinations whether the contract is actually breached.

But more importantly, it is Blizzard's efforts against bots that helped Blizzard earn the court's support. In declining to find improper interference, the *MDY Industries* court observed:

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82. MDY Indus., LLC v. Blizzard Entm't, Inc., 629 F.3d 928, 956 (9th Cir. 2010).

83. *Id.*

84. *Id.*

85. Blizzard Entm't, Inc. v. Ceiling Fan Software LLC, 28 F. Supp. 3d 1006, 1015 (C.D. Cal. 2013).

86. *MDY Indus.*, 629 F.3d at 956 ("To recover for tortious interference under Arizona law, Blizzard must prove: (1) the existence of a valid contractual relationship; (2) MDY's knowledge of the relationship; (3) MDY's intentional interference in inducing or causing the breach; (4) the impropriety of MDY's interference; and (5) resulting damages.").

87. *Id.* ("To determine whether a defendant's conduct was improper, Arizona employs the seven-factor test of Restatement (Second) of Torts § 767. The seven factors are (1) the nature of MDY's conduct, (2) MDY's motive, (3) Blizzard's interests with which MDY interfered, (4) the interests MDY sought to advance, (5) the social interests in protecting MDY's freedom of action and Blizzard's contractual interests, (6) the proximity or remoteness of MDY's conduct to the interference, and (7) the relations between MDY and Blizzard.").

88. *Id.*

89. *Id.*

90. *Ceiling Fan Software*, 28 F. Supp. 3d at 1015 (granting Blizzard summary judgment against a bot maker based on a tortious interference claim, holding that all the five elements required by California law was found, namely, "(1) a valid contract between plaintiff and a third party; (2) defendant's knowledge of this contract; (3) defendant's intentional acts designed to induce a breach of disruption of the contractual relationship; (4) actual breach or disruption of the contractual relationship; and (5) resulting damage.").

> MDY added [anti-detection] features only after Blizzard added Warden to WoW. Blizzard did not change the EULA or ToU to proscribe bots such as Glider explicitly until after MDY began selling Glider . . . . MDY has introduced evidence that Glider enhances some players' experience of the game, including players who might otherwise not play WoW at all.[91]

Today, game developers including Blizzard almost invariably prohibit botting and cheating expressly in the EULAs, and many have introduced technological measures such as Blizzard's Warden for detection. In states requiring proof of impropriety of interference under the Restatement test, such as Arizona, most courts should readily find bots to be improper, as the court in *Ceiling Fan Software* noted that "the botting software has no other purpose other than to engage in game play that is expressly prohibited by the EULA and ToU."[92] In *Ceiling Fan Software*, Blizzard also successfully established economic and reputational harm resulting from bots:

> Blizzard [] expends hundreds of thousands of dollars combating the use of software bots, including Defendants' Bots, to ensure fair game play. It is also undisputed that tens of thousands of other game players lodge complaints against cheating players. Such complaints reflect dissatisfaction with those users' game playing experience and, by extension, reflect harm to WoW's and Blizzard's good will and reputation.[93]

Therefore, despite some variation in state laws, tortious interference has become a promising theory for game developers in the U.S. in most situations, where game developers are suing a third party (cheats developers) rather than the breaching party (players).[94] Its advantage lies in the fact that EULAs are generally regarded as valid and enforceable contracts, which gives game developers a powerful tool for policing in-game activities.[95]

2. *The Digital Millennium Copyright Act (DMCA)*

In addition to the contractual argument, game developers in the U.S. usually bring technological arguments as well under the Digital Millennium Copyright Act (DMCA).[96] In *MDY Industries v. Blizzard*, Blizzard also relied on the DMCA which prohibits manufacturing and offering to the public any product or service that is "primarily designed, produced, or marketed for, or has limited commercially significant use other than" "circumventing a technological

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91. *MDY Indus*., 629 F.3d at 956.

92. *Ceiling Fan Software*, 28 F. Supp. 3d at 1016; *see also MDY Indus*., 629 F.3d at 956 (finding all elements under the Arizona test present, except the fourth one).

93. *Ceiling Fan Software*, 28 F. Supp. 3d at 1016.

94. *See* Jessica Gallegos, *A New Role for Tortious Interference in the Digital Age: A Model to Enforce End User License Agreements*, 38 FLA. ST. U. L. REV. 411, 426 (2011) ("[T]ortious interference serves an important role by providing a practical remedy when end users breach the terms of EULAs and contract claims against the end users themselves would be too costly, both financially and politically.").

95. *Id.*; *see* Meridian Project Sys., Inc. v. Hardin Constr. Co., LLC, 426 F. Supp. 2d 1101, 1106–07 (E.D. Cal. 2006) (concluding EULAs are enforceable contracts based on case law).

96. *See* Mayer, *supra* note 18 (discussing the legal arguments available to game developers).

measure that effectively controls access to a work protected under this title."[97] In its games like *World of Warcraft*, Blizzard employed various technological measures—computer programs similar to anti-virus software—to detect players using cheats and bots and shut down their accounts; on the other hand, MDY Industries' bots featured anti-detection mechanisms to prevent them from being detected and subsequently banned, which is the largest concern of cheating players.[98] The Ninth Circuit held that under the DMCA, the bot detection programs were technological measures restricting the access to the copyright protected "dynamic non-literal elements" contained in Blizzard's server, and therefore the bots' anti-detection features were prohibited circumvention under the DMCA.[99]

DMCA claims have advantage when suing cheaters internationally. The anti-circumvention provisions in the DMCA were introduced to comply with the obligations under Article 11 of the WIPO Copyright Treaty to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures."[100] Therefore, anti-circumvention claims are conveniently transferable within member states of the Copyright Treaty. For example, the EU has incorporated the anti-circumvention obligation though Article 6 of the European Union Copyright Directive.[101]

Despite Blizzard's success in *MDY Industries v. Blizzard* over the DMCA issue,[102] there are still uncertainties as to the applicability of the DMCA. According to the judgment, the DMCA prohibits circumventing access control measures but does not prohibit cheating itself.[103] A cheating program would violate the DMCA if it is programmed to evade detection mechanisms implemented by the game developer, as in *MDY Industries*. However, if the cheating program does not have any anti-detection function, it seemingly does not violate the DMCA because there is no "circumvention."[104] Therefore, under *MDY Industries*, DMCA claims can only target the smart cheats which circumvent detection, but not the dumb cheats which cannot circumvent detection while still causing harm to the game before being detected and excluded.

Another issue is the requirement of technological measures for cheats detection.[105] Under the DMCA, there must be "a technological measure that effectively controls access to a work protected" in order for a prohibited

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97. 17 U.S.C. § 1201 (2018); *MDY Indus., LLC*, 629 F.3d at 953.

98. *MDY Indus., LLC*, 629 F.3d at 955 ("After Blizzard used Warden to ban a majority of Glider users in September 2005, MDY programmed Glider to be undetectable by Warden.").

99. *Id.*

100. WIPO Copyright Treaty art. 11, Dec. 20, 1996, S. Treaty Doc. No. 105-17 (1997), 2186 U.N.T.S. 121.

101. Daniel P. Homiller, *The Digital Millennium Copyright Act and the European Union Copyright Directive: Next Steps*, DUKE L., https://law.duke.edu/cspd/papers/nextsteps.doc (last visited Mar. 28, 2019).

102. *MDY Indus., LLC*, 629 F.3d at 938.

103. *See* Mayer, *supra* note 18 (discussing the ambiguity of the judgment that focuses on circumvention under the DMCA).

104. *Id.*

105. *See id.* ("[A] DMCA claim may be stronger or weaker, or may require extension of existing law, depending on how the cheat or bot operates.").

circumvention to occur.[106] In other words, if there is no access control measure, there is nothing to circumvent. As such, DMCA claims may be unavailable to smaller, independent game developers which are not able to invest in and implement thorough anti-cheats schemes like Blizzard does, because there are no technological measures at all to control access to copyrighted work, so the cheats do not circumvent anything in violation of the DMCA.[107] In addition, not all technological measures qualify as effective access control under the DMCA, which provides "a technological measure 'effectively controls access to a work' if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work."[108] Some online multiplayer games rely on players reporting possible cheaters,[109] which may not fit squarely in the DMCA's definition. In all, while DMCA claims proved to be viable for large companies like Blizzard that implement cheat detection software in their online servers, "[t]he precise contours of the DMCA are still somewhat uncertain" in anti-cheating.[110]

3.   Copyright Infringement

Although seemingly related to the dispute in the context of computer games consisting of copyrighted materials, the claim of copyright infringement is no longer heavily relied upon in the U.S. by game developers after *MDY Industries v. Blizzard*.[111] In *MDY Industries v. Blizzard*, Blizzard argued that the bot users accessed its copyrighted materials in games while violating the anti-bot provisions in the Terms of Use of the games which constituted direct infringement, and therefore the bot maker was also secondarily liable for copyright infringement.[112] The Ninth Circuit rejected this argument, holding that although the players might have broken the anti-bot covenants with Blizzard, there was no interference with Blizzard's exclusive rights of copyright.[113] The court seemed reluctant to find violation of the Terms of Use as precursor to copyright infringement, stating that it would largely go beyond the scope of copyright law to "designate any disfavored conduct during software use as copyright infringement."[114]

In a 2018 case *Epic Games, Inc. v. Mendes*, the California District Court denied granting default judgment against the defendant who developed and sold cheats for *Fortnite*, "a multiplayer survival-and-building action video game"

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106.   17 U.S.C. § 1201 (2018).

107.   *See* Steamworks Development, *supra* note 7 (raising the problem of the difficulty of small independent game developers to implement anti-cheating measures).

108.   17 U.S.C. § 1201(a)(3)(B) (2018).

109.   *See, e.g.*, *How Crazy Are "PUBG" Cheats?*, *supra* note 4 (discussing the reporting system in PUBG).

110.   *See* Mayer, *supra* note 18 ("The precise contours of the DMCA are still somewhat uncertain.").

111.   *Id.*

112.   MDY Indus., LLC v. Blizzard Entm't, Inc., 629 F.3d 928, 937–38 (9th Cir. 2010).

113.   *Id.* at 941 ("Were we to hold otherwise, Blizzard—or any software copyright holder—could designate any disfavored conduct during software use as copyright infringement, by purporting to condition the license on the player's abstention from the disfavored conduct . . . . This would allow software copyright owners far greater rights than Congress has generally conferred on copyright owners.")

114.   *Id.*

developed by the plaintiff Epic Games which resembles PUBG in many aspects.[115] The court rejected Epic Game's first copyright argument that the cheats injected computer codes into *Fortnite*'s code to create unauthorized derivative work, reasoning that it was cheat users—not the defendant himself—who injected the codes.[116] The court also rejected the second copyright argument that the YouTube advertisements of the cheats were unauthorized public performance.[117]

Under the current status of law, a typical complaint by a game developer would mainly focus on tortious interference with contract based on the applicable state law, and DMCA anti-circumvention concerning the anti-cheats measures employed in the games,[118] with some additional copyright or trademark claims. For example, in a case filed subsequent to *Epic Games, Inc. v. Mendes*, Epic Games sued other cheats developers and promoters for direct and contributory copyright infringement, intentional interference with contractual relations, breach of contract, and unfair and deceptive trade practices.[119]

B.   World of Warcraft I: Bots Under EU Copyright Law

This case in the Supreme Court of Germany, decided on October 16, 2016, concerned Blizzard's copyright infringement claim against Bossland.[120] Under the German copyright law, the main obstacle to a copyright claim is Article 69d(3) which provides:

> The person having a right to use a copy of a program shall be entitled, without the authorization of the right holder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.[121]

The Article 69d(3) is an implementation of Article 5(3) of EU Directive 2009/24/EC on the legal protection of computer programs, so similar issues will likely arise in cases in other EU states.[122]

Blizzard's theory focused on the development of bot programs that necessarily involved downloading and analyzing the program codes of Blizzard games and game client software, claiming that because limited licenses only for

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115.   Epic Games, Inc. v. Mendes, No. 17-cv-06223-LB, 2018 WL 2926086, at *2 (N.D. Cal. June 12, 2018).

116.   *Id.* at **1, 7 ("Epic did not move for default judgment on its claims for contributory copyright infringement.").

117.   *Id.* at *7–9.

118.   *See* Mayer, *supra* note 18 (suggesting the DMCA and tortious interference are the main arguments by game developers).

119.   Epic Games, Inc. v. Lucas, No. 5:18-CV-484-BO, 2018 WL 5306630 (E.D.N.C. Jan. 10, 2019).

120.   Bundesgerichtshoft [BGH] [Federal Court of Justice] Oct. 6, 2016, I ZR 25/15 (Ger.) ("The applicant claims that the defendant in his capacity as managing director of Bo. GmbH has copied the client software . . . . This is a violation of the copyright of their parent company.").

121.   URHEBERRECHTSGESETZ   [UrhG]   [COPYRIGHT   LAW],   Art.   69d(3),   *translation   at* https://germanlawarchive.iuscomp.org/?p=855#69d (Ger.).

122.   *Id.*

"non-commercial entertainment purposes" were given in the End User License Agreements, Bossland's commercial development of bots fell outside the scope of Article 69d(3) protection.[123] The Court of Appeals of Germany agreed with Blizzard's copyright argument, but the Supreme Court reversed, holding that Article 69d(3) made no distinction between private use and commercial use, and therefore, "to observe, study or test the functioning of the program" for commercial purposes would not violate the German copyright law despite the prohibition in the licensing agreements.[124] However, the Court affirmed the judgment in favor of Blizzard on another ground.[125] It reasoned that although duplicating the source code of Blizzard games and client software was not copyright infringement in light of Article 69d(3), the duplication of copyrighted "audio-visual game data" contained in the game programs is not covered by Article 69d(3) and would constitute copyright infringement.[126] In other words, the Court interpreted Article 69d(3) as differentiating not duplication of a computer program for commercial and private use, but copyrighted material contained in the program and the program code itself.[127]

Here, the Supreme Court of Germany found a new path to circumvent Article 69d(3), but it is unlikely this judgment will motivate game developers to heavily rely on copyright infringement claims in German and other EU courts in the future, especially when other theories are well-supported by the courts.[128] The Court's reasoning shifts the act of infringement from producing and selling bots to downloading the game and game client programs for the purpose of developing bots.[129] It is hardly intuitive to characterize the preparatory step of downloading and installing the games as the infringing act, rather than actually developing and distributing the bots.[130] Indeed, the Court itself seems not to be completely comfortable with such an interpretation of Article 69d(3), as the court opinion pointed out a potential loophole in the theory it adopted: the outcome might have been different if Bossland programmers never downloaded Blizzard games themselves, but instead had obtained information about the games from other persons.[131] In one way, the judgement seems to create too broad an exception to "the right to observe, investigate and test the functionality" under Article 69d(3);[132] following the Court's reasoning, a licensed user would have the right to study the functioning of a computer program only when the

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123.   BGH Oct. 6, 2016, I ZR 25/15, ¶ 11.

124.   *Id.* at ¶ 60 ("[D]espite the opinion of the Court of Appeals, to observe, examine and test the functionality of the computer program parts of the duplicated game client, even if they had used the client software for commercial purposes.").

125.   *Id.* at ¶¶ 65–67.

126.   *Id.*

127.   *Id.*

128.   *See* Mayer, *supra* note 18 (discussing possible claims by game developers in anti-cheats litigation).

129.   BGH Oct. 6, 2016, I ZR 25/15, ¶¶ 65–67.

130.   *Id.*

131.   *Id.* at ¶ 51 ("[I]t is irrelevant whether the defendant or the employees of Bo. GmbH could have obtained the information required for the development of the bots from other players who used the client software for their private game participation. The revision does not imply that the defendant or the employees of Bo. GmbH are dealt with in this manner.").

132.   UrhG Art. 69d(3).

program does not contain any copyrighted audio-visual data.[133] In another way, the Court's interpretation of Article 69d(3) goes beyond the purpose of Article 5(3) of EU Directive 2009/24/EC, which is to allow "black box analysis" consisting "reverse analysis techniques short of decompilation."[134] In concluding Bossland infringed copyright because duplication of "audio-visual game data" is not covered by Article 69d(3), the Court "is basically of the opinion that the development of bots in accordance with § 69d (3) of the UrhG is permissible."[135] As such, *World of Warcraft I* may be regarded as a "pyrrhic victory."[136]

Perhaps a better way for the Court to justify its ruling is to hold that Article 69d(3) does not apply to bot developers because they are not entitled to use the game program when the EULA prohibits developing bots. Since Article 69d(3) requires that the person "ha[s] a right to use a copy of a program" and "is entitled to" "perform[] any of the acts of loading, displaying, running, transmitting or storing the program," bot developers are excluded from its scope when they violate the EULA.[137] The Court did not adopt such a reasoning, and viewing this case and *MDY Industries* together, it seems that game developers have been struggling with copyright infringement arguments.[138] In both cases Blizzard based its copyright infringement claims on violation of terms of EULAs prohibiting bots, but the courts in Germany and the U.S. were both reluctant to find infringement solely based on breach of licensing agreements.[139] Despite judgment in Blizzard's favor, *World of Warcraft I* might not be the case which game developers have been hoping for.

C.   *World of Warcraft II: Blizzard's Victory Under Unfair Competition*

In *World of Warcraft II*, decided on January 12, 2017, the Supreme Court of Germany announced its opinion on Blizzard's argument on unfair competition, or market interference.[140] The Court readily accepted the causal chain that game developers tried to establish: the automation bots of Bossland created unfair advantages during online gameplay, thereby causing players to quit the game, and eventually resulting in economic loss to Blizzard.[141] As a foreign analogue of tortious interference with contractual relations, the market interference theory explains the conflict between game developers and cheats

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133. BGH Oct. 6, 2016, I ZR 25/15, ¶ 65.

134. Alan K. Palmer & Thomas C. Vinje, *The EC Directive on the Legal Protection of Computer Software: New Law Governing Software Development*, 2 DUKE J. COMP. INT'L L. 65, 78 (1992).

135. Christian Czychowski, *Germany: The Federal Supreme Court Rules on World of Warcraft*, KLUWER COPYRIGHT BLOG (June 1, 2017), http://copyrightblog.kluweriplaw.com/2017/06/01/germany-federal-supreme-court-rules-world-warcraft.

136. *Id.*

137. UrhG Art. 69d(3).

138. *See* Mayer, *supra* note 18 (discussing the difficulties in asserting a copyright infringement claim after *MDY Industries*).

139. MDY Indus., LLC v. Blizzard Entm't, Inc., 629 F.3d 928, 941 (9th Cir. 2010) (refusing to "designate any disfavored conduct during software use as copyright infringement.").

140. Bundesgerichtshoft [BGH] [Federal Court of Justice] Jan. 12, 2017, I ZR 253/14, ¶ 20 (Ger.).

141. *Id.* at ¶¶ 17–20.

developers.[142] While this theory seems more promising after courts' support in *Ceiling Fan Software*, *World of Warcraft II*, and *Blizzard v. Bossland* in California,[143] *World of Warcraft II* presented difficulties in damage calculation.[144] It is extremely difficult to evaluate exactly how much harm has been done to the game environment, and how many players have quit playing because of cheaters.[145] The extent of market interference may also be estimated from data such as sales figures of cheats and number of active cheats users, but those data are often in defendants' control.[146] In the present case, Blizzard did not provide calculation of damages in the complaint, but instead requested the Court to order Bossland to self-report its sales and revenue data to determine the extent of interference.[147] In contrast, the DMCA allows statutory damage to be calculated from number of instances of violation, which equals to how many copies of cheats or bots were sold.[148] In the U.S., the easier damage calculation could provide an incentive to sue under the DMCA. Even when the defendant defaults and provides no data, like in *Blizzard v. Bossland* in California,[149] the game developer may calculate damage under the DMCA based on the number of user accounts it caught cheating.[150] On the other hand, tortious interference claims remain a viable option, especially when the primary goal is not collecting damages but injunction as in most anti-cheats litigation,[151] and when a game developer does not implement "effective access control measures" protected by the DMCA anti-circumvention provisions.[152]

D.   *Blizzard Entm't, Inc. v. Bossland GmbH*[153]: *Jurisdiction Settled*

In parallel to the cases in Germany, Blizzard also sued Bossland in California where Blizzard's headquarters is located.[154] In this judgment, the District Court denied Bossland's motion to dismiss based on lack of personal jurisdiction when Bossland was a German company with no employees or properties in the U.S.[155]   The purposeful direction element for personal jurisdiction was discussed at length, where the court concluded that this case was analogous to the defamation case *Calder v. Jones*.[156] Up to today, this judgment has been cited by three District Courts in different circuits in computer

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142. *See* Steamworks Development, *supra* note 7 (explaining how cheating damages game developers).

143. Blizzard Entm't, Inc. v. Bossland GmbH, No. SA CV 16-1236-DOC (KESx), 2017 WL 412262 (C.D. Cal. Jan. 25, 2017); BGH Jan. 12, 2017, I ZR 253/14.

144. BGH Jan. 12, 2017, I ZR 253/14.

145. *Id.*

146. *See id.* at ¶ 14 (reciting Blizzard's request to order Bossland to disclose the information to calculate damage to "compensate the applicant for all the damage suffered . . . in the course of the acts").

147. *Id.*

148. *See Bossland GmbH*, 2017 WL 412262, at *7 (awarding statutory damage under the DMCA).

149. *Id.*

150. *See* Mayer, *supra* note 18 (pointing out the advantage of DMCA claims where statutory damages are allowed).

151. *Id.*

152. *Supra* Section III.A.2.

153. *Bossland GmbH*, 2017 WL 412262.

154. *Id.*

155. *Id.* at *18.

156. *Id.* at *5.

hacking cases where jurisdiction was at issue;[157] in the future, this opinion may become settled procedural case law in the field of computer software, including anti-cheats litigation.

Although this judgment does not concern the substantive matter, the court expressed strong disapproval to the business of cheats developers by calling it "parasitic in nature" and "undermining [game developers'] brand and profitability."[158] This provides another indication of the court's willingness to support the game developers' economic theory under tortious interference with contractual relations claims.[159] In *MDY Industries*, the Ninth Circuit did not find bots to be improper interference.[160] Seven years have passed since *MDY Industries* and the game industry has changed dramatically: the market is much bigger, and the in-game interaction is much more intense; cheating is more fatal to a game, and game developers invest more to fight cheating.[161] The series of cases from *MDY Industries* to *Blizzard v. Bossland* has no doubt presented a trend of the courts' increasing disapproval for cheats developers' business.[162] With this California case where the personal jurisdiction issue—often the first defense raised—was resolved in favor of Blizzard,[163] it may become easier for U.S. game developers to obtain summary judgment against out-of-state and foreign cheats developers for a faster settlement of the case.

E.   The Future of Cheats Industry

Although many proceedings are still pending in German and U.S. courts, Blizzard has achieved substantial success in stopping Bossland's business and possibly collecting damages in the future.[164] The long fight between them that lasted nearly a decade provides the best guide as to when and how a game developer can successfully sue cheats developers in courts.[165] As the duration of the litigations suggests, suing individual players or cheats programmers would almost never justify the costs of litigation.[166] Litigation becomes a practical option to fight against bots and cheats when the defendant, like

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157.   *See, e.g.*, NexGen HBM, Inc. v. ListReports, Inc., No. 16-cv-3143 (SRN/FLN), 2017 WL 4040808, (D. Minn. Aug. 25, 2017) (providing an example in a computer hacking related case where jurisdiction was at issue).

158.   *Bossland GmbH*, 2017 WL 412262, at *6.

159.   In some states, impropriety of the interference is an element of tortious interference. MDY Indus. v. Blizzard Entm't Inc., 629 F.3d 928, 955 (9th Cir. 2010).

160.   *Id.*

161.   Kellie Ell, *Video Game Industry is Booming with Continued Revenue*, CNBC (July 20, 2018, 6:47 PM), https://www.cnbc.com/2018/07/18/video-game-industry-is-booming-with-continued-revenue.html.

162.   *See* Blizzard Entm't Inc. v. Ceiling Fan Software LLC, 28 F. Supp. 3d 1006, 1015 (C.D. Cal. 2013) (granting Blizzard summary judgment against a bot maker based on a tortious interference claim); *Bossland GmbH*, 2017 WL 412262, at *6 ("Bossland's business is parasitic in nature—it functions by piggybacking on Blizzard's sale of its games and undermining the gaming environment Blizzard is seeking to create. But like a direct competitor, Bossland's actions are pointedly undermining Blizzard's brand and profitability. Indeed, Bossland's activity is even more intermeshed with Blizzard's business than a direct competitor's would be, as Bossland's products can be used only after a person has already purchased a Blizzard game.").

163.   Mayer, *supra* note 18 (discussing the jurisdiction based defense).

164.   *See* Bossland, *supra* note 17 (announcing termination of bots subscription service); *Bossland GmbH*, 2017 WL 412262, at *7 (awarding Blizzard damage under the DMCA).

165.   *See* McKeand, *supra* note 15 (summarizing the history of litigation between Blizzard and Bossland).

166.   Mayer, *supra* note 18.

Bossland, is an established corporate entity with identifiable persons who can be individually liable,[167] and has well-defined distribution routes which can be shut down through court injunction.[168] After *Blizzard v. Bossland*, DMCA claims will likely continue to be the primary argument because of the availability of statutory damage and the ease to collect evidence on plaintiffs' part;[169] economic and contractual arguments under tortious interference theories are also powerful weapons well-supported by the courts today, especially when a game does not have technological anti-cheats measures required for DMCA protection against circumvention.[170]

The trend reflected in the series of cases is in favor of game developers. Prior to *Blizzard v. Bossland*, courts had held some cheats illegal, where the cheats were powerful enough to instantly decide the outcome of a match between players.[171] In contrast, Bossland's *Honorbuddy* is an automation bot which is considered to be on the less vicious end of the spectrum of third-party aiding software since it merely automates manual work.[172]   The court seems increasingly willing to allow the game developers' control over the players' in-game behavior as online multiplayer games have significantly grown in terms of the number of players interacting,[173] where one individual player can impact many others. On the cheats developers' side, the recent development in court will likely, if not already, alter the risk-reward balance of the cheats business.[174] Even regardless of the outcome in court, the litigation cost itself could severely impact the cheats developers' financial condition as companies.[175] For example, in the middle of the multiple lawsuits with Blizzard in different countries, Bossland decided to terminate the lifetime licenses for some of its products to account for the quickly accruing legal expenses.[176] In the future, the legal risk may become prohibitively high for traditional corporate cheats developers like

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167.   *See* BGH Oct. 6, 2016, I ZR 25/15; BGH Jan. 12, 2017, I ZR 253/14 (affirming personal liabilities in both cases).

168.   *See, e.g.*, Joe Donnelly, *Overwatch Cheat Maker Ordered to Pay $8.6 Million in Damages to Blizzard*, PC GAMER (Apr. 4, 2017), http://www.pcgamer.com/overwatch-cheat-maker-ordered-to-pay-86-million-in-damages-to-blizzard (reporting Bossland shutting down its websites where bots were distributed).

169.   Mayer, *supra* note 18 (discussing the advantage of DMCA claims where statutory damages are allowed).

170.   *See id.* (discussing the uncertainties in asserting DMCA claims which require a showing of anti-circumvention measures).

171.   *See, e.g.*, Riot Games, Inc. v. Stefan Delgado Argote, 2:16-cv-5871-RSWL-AJW (C.D. Cal. Mar. 1, 2017) (finding a type of cheat illegal where the cheats were powerful in aiding the gameplay in a game published by Riot Games).

172.   *See* Steamworks Development, *supra* note 7 (explaining the spectrum of third-party programs that aids gameplay, where automation programs are located around the middle).

173.   *Compare MDY Indus., LLC*, 629 F.3d at 941 (refusing to allow game developers to control players' behavior under copyright law), *with* Blizzard Entm't, Inc. v. Bossland GMBH, 2017 WL 412262 (C.D. Cal. 2017) (expressing disapproval for the business of cheats developers).

174.   *See* Steamworks Development, *supra* note 7 (explaining the risk-reward balance that determines cheats developers' actions).

175.   *See* Bossland, *Important Change for Honorbuddy, Demonbuddy and HearthBuddy Lifetime Users*, BUDDY F. (Jan. 17, 2017), https://www.thebuddyforum.com/threads/important-change-for-honorbuddy-demonbuddy-and-hearthbuddy-lifetime-users.294249 ("Over the last couple of months, we have been weighed down by legal expenses and by low sales. The effect is simply that we are not generating enough cash to cover its costs right now.").

176.   *Id.*

Bossland.[177] In response, the business model in the cheats industry will likely shift away from the rigid seller-subscriber framework to private a network of programmers, distributors, and players.[178] Such transformation is not only driven by the legal risk, but also facilitated by technological advancements in online communication and private payment services like Venmo.[179] When cheats are distributed across a loosely connected network of players with no easily ascertainable sources, targeting the private parties involved would be considerably more difficult in the course of litigations from identifying the defendants to enforcing the judgment.[180] The game developers, therefore, must also proactively adapt themselves to the evolving game and cheats industries to fight cheating.

IV. RECOMMENDATION

A. *Player Education as the Primary Objective*

After *Blizzard v. Bossland*, it is certainly more likely that the court will support game developers over various legal issues and claims.[181] However, in the context of anti-cheating in online multiplayer games, the game developers must make a series of preliminary decisions before litigating, including why, when, and who to sue.[182] The answers to these questions will be highly context specific as much as what amounts to unfair cheating in a game.[183] While the game and cheats industries are rapidly evolving, the guiding principle in anti-cheating litigation should be to stand in players' shoes and set player education as the main objective.

The litigation between game developers and cheats developers has some unusual characteristics.[184] First, litigation is almost never the most efficient way to achieve the plaintiff game developers' goal—to eliminate cheating from games.[185] Litigation alone cannot exclude players with permanent licenses for cheats, and more importantly, cannot stop newly developed cheats from entering the game.[186] In addition, litigation is generally slow, easily lasting more than a

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177. *See* Steamworks Development, *supra* note 7 (explaining the risk-reward balance that determines cheats developers' actions).

178. *See id.* (discussing different types of cheats developers).

179. *See* WIKIPEDIA, *Venmo*, https://en.wikipedia.org/wiki/Venmo ("Venmo is a mobile payment service [that] allows users to transfer money to one another . . . using a mobile phone app or web interface.") (last visited Mar. 28, 2019).

180. Mayer, *supra* note 18.

181. *See* Blizzard Entm't, Inc. v. Bossland GmbH, No. SA CV 16-1236-DOC (KESx), 2017 WL 412262 (C.D. Cal. Jan. 25, 2017) (granting damage to Blizzard and rejecting Bossland's motion to dismiss based on lack of personal jurisdiction).

182. *See* Mayer, *supra* note 18 (discussing some considerations before litigation, including the choice of defendants).

183. *See* Steamworks Development, *supra* note 7 (explaining that what is unfair is highly context specific).

184. *See* Livia Albeck-Ripka & Ariel Bogle, *He Helped People Cheat at Grand Theft Auto. Then His Home Was Raided*, N.Y. TIMES (Nov. 7, 2018), https://www.nytimes.com/2018/11/07/world/australia/grand-theft-auto-cheat-mods-melbourne.html (explaining a case in which a game developer sued a cheat developer).

185. *See* Mayer, *supra* note 18 (discussing the difficulty of anti-cheats litigation).

186. *See* HONORBUDDY, *supra* note 33 (introducing subscription options for *Honorbuddy* including permanent licenses).

few years which can be comparable to the lifespan of a typical computer game.[187] Second, litigation often cannot justify its cost since game developers in many cases are not able to collect any damages.[188] Therefore, game developers should not sue only to win in the court, but to use litigation as a means to pressure and deter cheats developers, and to voice their determination of eliminating cheating to the player community.[189] But player education requires more than voicing the developers' opinion and should involve actively influencing the players' mindset. This can give game developers important advantages in fighting cheats and making their games successful by maintaining a healthy in-game environment.[190]

Player education is important because players are the party that connects game developers and cheats developers.[191] Cheating does not damage the game directly, but by giving the players negative experience to make them quit playing or discourage others from buying the game.[192] On the other hand, players' affiliation to the game and its developer is essential to a successful game.[193] Therefore, game developers must accurately perceive and understand the players' views in real-time regarding the in-game environment as well as their anti-cheating efforts to act accordingly.[194] This has never been easy because players' reaction is often unpredictable.[195] Even when measures against cheaters are announced, there could be negative player reaction either because the measure is too broad or too narrow; an anti-cheating programmer even recommends that game developers should never publicize the lists of accounts banned because of cheating.[196] When a negative feeling towards the game developer emerges in the player community, the game developer should immediately respond and remediate because emotions among players can be highly contagious.[197]

Currently, the primary objective of player education is to shift the players' perception of cheats and aiding programs in general.[198] There is still a general acceptance of third party programs that aids gameplay,[199] which gives rise to the idea that players are free to do what they want—even something that affects

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187. *See* Shawn Schuster, *What Is the Potential Lifespan of an MMO?*, ENGADGET (Sept. 20, 2008), https://www.engadget.com/2008/09/20/what-is-the-potential-lifespan-of-an-mmo (indicating it is hard to imagine a typical multiplayer game will be played for more than 10 years).

188. *See* Mayer, *supra* note 18 (discussing the difficulty in enforcing judgment).

189. *See id.* (discussing the objectives of anti-cheats litigation which is often not to collect damages but to seek declarations).

190. *See* Steamworks Development, *supra* note 7 (suggesting the reputation among player is the key to a game's success).

191. *See id*. (discussing how cheating affects games through its influence upon players).

192. *Id.*

193. *Id.*

194. *See id.* (discussing the importance of understanding player reaction to anti-cheats measures).

195. *Id.*

196. *See id*. (discussing unpredictable player reactions to the ban of cheats resulting from various interpretations made by players).

197. *See id*. (discussing how players affect each other in a community).

198. *Id.*

199. *Id.*

others—in the game since they own their copy of the game.[200] Although most players would agree that cheats altering the game mechanics aggressively—such as auto-aiming cheats in shooting games—should be banned, they do not necessarily agree with game developers as to where to draw the line between aiding programs which are acceptable and those which are not.[201] As a result, measures against some less aggressive aiding programs—such as deck trackers for *Hearthstone*—would sometimes irritate players as limiting their freedom.[202] Therefore, the key is to give players clear notice about what is approved and what is not. Game developers occasionally claim in courts to have communicated this through the EULAs,[203] but EULAs have hardly been any helpful in anti-cheating: players do not read them, and courts have never based their opinions solely on terms in the EULAs.[204] Instead, game developers should genuinely reach out to players, for example, by certifying third party programs or expressly announcing the acceptable ones to be used with their games.

Player education should also be an important consideration in litigations. For example, to achieve the purpose of deterring cheating through litigation,[205] game developers may have the option to sue cheats programmers, distributors, or cheating players.[206] Suing the cheating players would be a bad idea, since targeting certain individuals among all cheaters and within the gamers' community may seem unfair from the perspective of players. For example, Epic Games filed a lawsuit against a 14-year-old player who used cheats and demonstrated them on YouTube, which received fierce responses from the child's mother as well as other players.[207] Suing programmers is not advisable either, since players may consider them only responsible for developing the technology for cheats, but not for spreading the harm of cheating.[208] Instead, game developers should target cheats distributors that circulate and monetize the cheats, whom the players are likely the least sympathetic with. Such determinations are important because all the decisions by game developers should serve the goal of making the game and the industry better, and it is player acceptance that defines the success of a game.[209]

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200. *See* Bossland, *supra* note 17 ("It has always been our opinion that Honorbuddy provides no edge, except to empower players with less time than others to enjoy the game like anyone else.").

201. *See* Steamworks Development, *supra* note 7 (explaining the acceptance of aiding software among players).

202. *Id.*

203. *See* Bundesgericthshof [BGH] [Federal Court of Justice] Oct. 6, 2016, I ZR 25/15 (Ger.) (claiming violation of EULA as basis of copyright infringement).

204. *See, e.g.*, *MDY Indus.*, 629 F.3d at 941 (refusing to enforce EULA against cheating as copyright infringement).

205. Mayer, *supra* note 18.

206. *See* Steamworks Development, *supra* note 7 (discussing the supply chain of cheats).

207. Luke Plunkett, *14-Year Old Video Game Cheater Sued, Mom Says He's A Scapegoat [Update]*, KOTAKU (Nov. 26, 2017, 8:00 PM), https://kotaku.com/14-year-old-video-game-cheater-sued-mom-defends-him-1820752579 (Epic Games noted that it did not know the plaintiff's age; the case is settled); Ernesto, *Epic Games Settles First Copyright Case Against Fortnite Cheater*, TORRENTFREAK (Dec. 1, 2017), https://torrentfreak.com/epic-games-settles-first-copyright-case-against-fortnite-cheater-171201/.

208. *See* Steamworks Development, *supra* note 7 (discussing the cycle of player acquisition, retention, and referral to new players as how a game develops its player base).

209. *Id.*

B.   *Working Towards Uniform Solutions to Cheating*

While litigation remains an option for some purposes, including deterrence of cheating, game developers have no choice but to fight technology with technology if they want to promptly minimize the harm by cheats to their games.[210] The game industry should work towards a uniform solution applicable to different games and game publishing platforms, instead of each developer working on its own to fight cheating. Examples of such uniform solutions include an anti-cheating system integrated with game publishing platforms and third-party anti-cheating services.[211]

Collective efforts in anti-cheating brings immediate advantage in the availability of data.[212] Since the detection of cheating in large part depends on monitoring and analyzing characteristic player behaviors and program code flows, more data means quicker and more accurate detection.[213] Since many games are built with the same programming interface, cheats can often easily be modified to function in multiple games.[214] While cheats programmers have long been taking advantage of the similarities among different games, game developers should also do so in spotting and fixing common loopholes in game programs, as well as detecting common code patterns of cheats.[215]

The best place to implement such a uniform anti-cheating system is game publishing platforms such as *Steam* and *GOG.com*.[216] In addition to the technological convenience, because of the fact that those platforms are universal interface for players to buy, manage, and play games,[217] their social attributes also contribute significantly to the effectiveness of anti-cheating.[218] *Steam*, for example, also serves as an online community where players can connect and interact with each other.[219] Currently, the *Steam* platform has its own anti-cheating system VAC (Valve Anti-Cheat System) but it only covers a limited number of games compared with the large variety of games available on *Steam*.[220] However, when a player is banned for cheating in any of the games covered by VAC, the status of the ban will appear on their profile page which cannot be removed or hidden from other players.[221] The damage to reputation

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210.   Mayer, *supra* note 18.

211.   *Valve Anti-Cheat System (VAC)*, VALVE, https://support.steampowered.com/kb_article.php?ref=7849-Radz-6869#notvac (last visited Feb. 25, 2019); EASY ANTI-CHEAT, https://www.easyanticheat.net (last visited Mar. 28, 2019).

212.   *See* Steamworks Development, *supra* note 7 (discussing the adequacy of data as the key in detecting cheats).

213.   *See id.* (discussing detection methods that requires capturing the features of a cheat).

214.   *Id.*

215.   *See id.* (indicating the programming interface commonly used in different game results in same vulnerabilities of them).

216.   STEAM, http://store.steampowered.com (last visited Mar. 28, 2019); GOG.COM, https://www.gog.com/ (last visited Mar. 28, 2019).

217.   *Id.*

218.   Steamworks Development, *supra* note 7.

219.   *Valve Anti-Cheat System (VAC)*, *supra* note 211.

220.   *Id*.

221.   Patrick Klepek, *The Secret Shame of Steam Cheaters That Lasts Seven Years*, WAYPOINT (Mar. 1, 2017, 1:09 AM), https://waypoint.vice.com/en_us/article/vvjg9x/the-secret-shame-of-steam-cheaters-that-lasts-seven-years.

just like when cheating in the real world—in a poker game, for example—provides additional deterrence against cheating by attaching a kind of real world consequence which in many cases is more effective than the deterrence from merely losing the game account.[222]

Finally, working towards a uniform anti-cheating solution would give rise to common understandings of how game design and programming should be, which could inspire the next generation of programming interface that is less susceptible to cheats.[223] For example, *Microsoft TruePlay* is a new anti-cheating engine built into the Windows 10 operating system, which game developers can optionally use to give game programs additional protections when running.[224] In all, both game developers and the whole game industry have much to benefit from integrating all the efforts rather than fighting cheats alone.

V. CONCLUSION

The recent cases between Blizzard and Bossland in Germany and California marked a significant step in the game industry's struggle against cheating, where the courts seem to have accepted the game developers' economic theory against cheating. In addition, the case in California may lead to the settlement of jurisdictional issues that often arise in cheats and computer hacking related litigations. In the U.S., DMCA and tortious interference with contractual relations claims will likely continue to be the main arguments of game developers, and Blizzard's victory against Bossland makes it seem more viable for game developers to litigate in the future. As a result, corporate cheats developers like Bossland will be exposed to an increasingly high legal risk that drives the transformation of the cheats industry from the traditional seller-subscriber framework to a loose private network of programmers, distributors, and players. Litigation has never been the most efficient way to exclude cheating from games, so the decision to litigate must be justified by other objectives such as deterrence of cheating.[225] Among those objectives, player education should be the key consideration in the future, since players' understanding and support over critical issues such as anti-cheating is essential to a game's success. With regard to technological measures to fight cheats, the game industry should work towards a uniform solution applicable to different games and publishing platforms to take advantage of the better availability of data and the common programming features of games, which may be integrated into game publishing platforms as anti-cheating systems. The common

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222. Steamworks Development, *supra* note 7.

223. *See id.* (discussing cheats taking advantage of the susceptibilities of common programming interfaces).

224. Greg Synek, *Microsoft TruePlay Is an Anti-Cheat Engine Built into Windows 10*, TECHSPOT (Oct. 19, 2017, 11:54 AM), https://www.techspot.com/news/71488-microsoft-trueplay-anti-cheat-engine-built-windows-10.html; *TruePlay*, MICROSOFT, https://msdn.microsoft.com/en-us/library/windows/desktop/mt808781(v=vs.85).aspx (last visited Mar. 28, 2019).

225. *See* Vincenzo Giuffré, *Chilling Effects of a Lawsuit in The Video Game Industry*, GAMING TECH L. (Nov. 5, 2018), https://www.gamingtechlaw.com/2018/11/gaminglawpills-lawsuit-video-game.html (explaining the various legal strategies for litigation surrounding video games).

understandings of fighting cheats could eventually inspire the next generation of programming interface that is less susceptible to cheats.