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## NOTE

### SPARE THE MOD: IN SUPPORT OF TOTAL-CONVERSION MODIFIED VIDEO GAMES

Video games are big business. In terms of revenue, the Mario brothers have far surpassed the Coen brothers.<sup>1</sup> While video game players are often portrayed as passive consumers of content,<sup>2</sup> many players in fact contribute substantially to their own entertainment experience, as well as to others'. Players generate new levels, challenges, characters, and even entire games by modifying, or "modding," game code using either in-game editors or external software development kits.<sup>3</sup> The most extensive type of "mod" is the "total conversion," in which modders strip away the content of the original game — its art-work, characters, plot, story, and music — and replace it with entirely new content that runs on the same software architecture, or "engine," as the original. When these mods are "add-on," rather than "stand-alone," they still require the original game in order to function.<sup>4</sup> While most of the game industry now invites the controlled participation of game modifiers, the industry significantly limits how modders may profit from their creations.<sup>5</sup> Copyright is a key tool in maintaining the industry's monopsony on user-created mods.

This Note argues that total-conversion add-on modifications, even those created for a commercial purpose, should qualify as nonderivative works, or alternatively, as fair use.<sup>6</sup> Intellectual property theory

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<sup>1</sup> Cf. ARTHUR ASA BERGER, VIDEO GAMES 24–26 (2002) (noting that the game industry outpaced other entertainment industries in sales and growth during the late 1990s).

<sup>2</sup> See, e.g., *Obama Campaign Theme: Video Games as Metaphor for Underachievement*, GAMEPOLITICS.COM (Feb. 20, 2008), <http://www.gamepolitics.com/2008/02/20/obama-campaign-theme-video-games-as-metaphor-for-underachievement>.

<sup>3</sup> See Andrew V. Moshirnia & Anthony C. Walker, *Reciprocal Innovation in Modding Communities as a Means of Increasing Cultural Diversity and Historical Accuracy in Video Games* 362 (Situating Play, Proceedings of DiGRA 2007 Conference, 2007), available at <http://www.digra.org/dl/db/07311.28264.pdf>.

<sup>4</sup> See David Kushner, *It's a Mod, Mod World*, IEEE SPECTRUM (Feb. 2003), <http://spectrum.ieee.org/consumer-electronics/gaming/its-a-mod-mod-world>.

<sup>5</sup> *Id.*

<sup>6</sup> This Note focuses on commercial modding, although noncommercial modding may have a stronger claim to fair use. This focus is necessary for three reasons: (1) noncommercial modding can be easily recast in terms of commercial benefit due to possible benefit accruing to a modder's occupational reputation, so a purely noncommercial analysis would be of little aid; (2) sophisticated modding is in decline due to a lack of financing, and allowing commercial modding may alleviate this problem; and (3) courts have noted that fair use should not turn on the characterization of the use as commercial or noncommercial, as nearly any benefit may be characterized as belonging to either category. This Note also focuses on total-conversion add-on mods in relation to the properties of the original game. The analysis centers on the act of modding and the use of the underlying game engine, rather than on the copyrightable elements of a game's content. Total

supports granting modders property rights in their total-conversion mods to reward modders adequately for their labor and to encourage generative activity by video game users. Furthermore, case law suggests that total-conversion mods could be considered nonderivative works, utilizing functional software elements outside of copyright. The law should recognize that games are composed of two parts, a platform (the game engine) and an application (the game content). Modders are simply utilizing an available platform,<sup>7</sup> stimulating peer production, harnessing diverse creativity, and enriching communication in the social sphere. If courts find that mods are derivative works, total conversions should fall within the ever-changing and often unpredictable fair use safe harbor.

Part I provides an overview of video game architecture and the nature of mods, as well as the potential benefits and costs of total-conversion mods. This Part details the common industry approach to mods — encouraging and exploiting consumer production while restricting sale. Part II examines the problem of modding from the perspective of intellectual property theory and demonstrates that it would be beneficial as well as fair to grant modders ownership of total-conversion add-on mods. Part III explains how the law may solve this problem: case law suggests that judges may consider total-conversion mods to be nonderivative works, or alternatively, derivative works falling under fair use.

## I. OVERVIEW OF VIDEO GAMES AND MODDING

At the outset, it is important to distinguish between the two primary components of modern video games: the game engine and the game content. The game engine is a collection of reusable software modules that require time-consuming labor and large amounts of financing to develop.<sup>8</sup> The game engine typically includes a renderer,<sup>9</sup>

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conversions are typically seen as the high point of user creativity. Furthermore, add-ons do not contain the underlying game engine, so focusing on these mods rather than on stand-alone mods allows us to sidestep issues of emulation or circumvention of digital rights management. Emulation involves replicating or pirating the entirety of the game. Digital rights management refers to encryption or other techniques used to thwart copying. Circumventing digital rights management is prohibited under the Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.). See 17 U.S.C. § 1201 (2006).

<sup>7</sup> A platform allows for communication and (ideally) collaboration. See generally YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* (2006).

<sup>8</sup> See ALAN THORN, *GAME ENGINE DESIGN AND IMPLEMENTATION* § 1.61, at 20–21 (2011).

<sup>9</sup> A rendering engine or renderer generates an image from a model. The attributes of models, including geometry, lighting information, and textures, are stored in scene files, which in turn are processed by rendering engines.

a physics engine,<sup>10</sup> sound, and artificial intelligence.<sup>11</sup> This suite allows for rapid development of games.<sup>12</sup>

Game content comprises art, sound, characterization, story, visual style, genre, and game objectives. Game developers can design a range of different content to fit a single engine. For example, the Source engine powers a diverse set of games including *Half-Life 2*, *Portal*, *Team Fortress 2*, and *Counter-Strike: Source*.<sup>13</sup> It helps to conceive of a game engine as a platform, with the game code running on top of this platform. Although game content developers do create customized engines exclusively for their games, it is common for game companies to license successful engines, such as the Unreal engine, to these developers.<sup>14</sup>

A mod is “an alteration or creation of files for a game engine, which allow it to modify the gameplay style, graphics, environments, [and] models.”<sup>15</sup> Modders do not have the same access to game resources as licensees do. For example, licensees of the Source engine have legal and physical access to every part of the engine, save for third-party proprietary sound and physics libraries.<sup>16</sup> In contrast, modders do not have access to significant portions of the engine, including the source code for the rendering, networking, and physics systems.<sup>17</sup>

A total conversion drastically changes the rule set, appearance, and game mechanics of a commercial product. The most famous total-conversion mod is *Counter-Strike*, which critics widely laud as the best tactical-shooter game of all time.<sup>18</sup> Built on the *Half-Life* engine,

<sup>10</sup> A physics engine is software that allows simulation of physical systems. A simple example of a task performed by a physics engine is collision detection, in which the engine determines whether (and to what effect) one in-game object strikes another in-game object.

<sup>11</sup> See BRENT RABOWSKY, INTERACTIVE ENTERTAINMENT: A VIDEOGAME INDUSTRY GUIDE 82 (2009) (describing the components of a game engine).

<sup>12</sup> See *id.* at 81.

<sup>13</sup> See *Source Engine*, VALVE, <http://source.valvesoftware.com> (last visited Dec. 4, 2011). These games represent a range of genres and substantially differ in their art direction, style, story, and feel.

<sup>14</sup> See *Licensing*, UNREAL TECH., <http://www.unrealengine.com/licensing> (last visited Dec. 4, 2011).

<sup>15</sup> *Modification*, VALVE DEVELOPER COMMUNITY, <http://developer.valvesoftware.com/wiki/Modification> (last modified Feb. 12, 2011, 4:34 AM).

<sup>16</sup> See David B. Nieborg & Shenja van der Graaf, *The Mod Industries? The Industrial Logic of Non-Market Game Production*, 11 EUR. J. CULTURAL STUD. 177, 183 (2008).

<sup>17</sup> *Id.* at 183–84. It is also important to distinguish between mods that adjust the original game engine and mods that import, and thus implicate, other copyrighted content. Mods that infringe on third-party content raise different, and fairly self-evident, copyright concerns, though video game companies vary in the degree to which they tolerate these mods. See *Copyright Infringement Warning*, MOD DB, <http://www.moddb.com/forum/thread/copyright-infringement-warning> (last visited Dec. 4, 2011) (discussing which companies “fox” or “kill” mods).

<sup>18</sup> See, e.g., Clayton Wolfe, *Counter-Strike*, IGN (Nov. 22, 2000), <http://pc.ign.com/articles/165/165191p1.html>.

*Counter-Strike* transformed what was a traditional single-player shooter into a team-based game<sup>19</sup> featuring hostage taking, bomb planting, and the assassination or rescue of diplomats.

A. *The Benefits and Costs of Total-Conversion Add-on Mods for the Game Industry*

After the great success of the *Counter-Strike* mod for *Half-Life*, most companies realized the potential benefits of modding.<sup>20</sup> Modded content can extend the shelf life of a property by introducing constant updates and revisions to an otherwise outdated game.<sup>21</sup> Scholar Olli Sotamaa remarks that companies now take efforts to project the image that users are coauthors who will produce game maps and scenarios.<sup>22</sup> Users further contribute by improving the artificial intelligence of a game. In the first-person shooter genre, modder-authored bots<sup>23</sup> provide players with the ability to play against computer-controlled opponents in multiplayer scenarios. In other genres, user-authored mods may improve artificial intelligence in path finding, battlefield tactics, and diplomacy.<sup>24</sup> Modding has thus contributed to the development of democratic innovation in the gaming sphere.<sup>25</sup>

Adding unfamiliar content that keeps games fresh and engaging, total-conversion modding provides especially significant benefits to game companies. Game companies benefit from stronger brand identity and longer-tailed sales curves, as first purchasers retain their games and latecomers keep demand high.<sup>26</sup> Modding communities often

<sup>19</sup> See SATISH NAMBIAN & MOHANBIR SAWHNEY, *THE GLOBAL BRAIN* 159 (2008).

<sup>20</sup> See Julian Kücklich, *FCJ-025 Precarious Playbour: Modders and the Digital Games Industry*, *FIBRE CULTURE J.* (Dec. 1, 2005), <http://five.fibreculturejournal.org/fcj-025-precarius-playbour-modders-and-the-digital-games-industry>.

<sup>21</sup> Olli Sotamaa, "Have Fun Working with Our Product!": *Critical Perspectives on Computer Game Mod Competitions 2* (Proceedings of DiGRA 2005 Conference: Changing Views — Worlds in Play, 2005), available at <http://www.digra.org/dl/db/06278.00528.pdf>.

<sup>22</sup> See *id.* at 4.

<sup>23</sup> Bots are computer-controlled teammates or opponents. Bots were originally authored to provide human-like competition in multiplayer games. The most famous of these early bots was Reaper Bot, for the game *Quake*, authored by Steve Polge. See Kevin Parrish, *In Pictures: 20 of Our Favorite PC Game Mods*, *TOM'S HARDWARE* (Aug. 13, 2010, 2:10 AM), <http://www.tomshardware.com/picturestory/533-14-gaming-mod-quake-half-life.html>.

<sup>24</sup> See, e.g., *DarthMod: Shogun II*, *MOD DB*, <http://www.moddb.com/mods/darthmod-shogun-2> (last visited Dec. 4, 2011).

<sup>25</sup> See ERIC VON HIPPEL, *DEMOCRATIZING INNOVATION* 121 (2005); see also Hector Postigo, *From Pong to Planet Quake: Post-Industrial Transitions from Leisure to Work*, 6 *INFO. COMM. & SOC'Y* 593, 605 (2003) ("[P]erhaps information communication technologies have allowed hobby and leisure to become commodities that are massively produced and consumed, a process by which cultural forms are created by the masses for the masses" (emphasis omitted)). See generally Carliss Baldwin & Eric von Hippel, *Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation* (MIT Sloan Sch. of Mgmt., Working Paper No. 4764-09, 2010), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1502864](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502864).

<sup>26</sup> See Nieborg & van der Graaf, *supra* note 16, at 178; Sotamaa, *supra* note 21, at 3.

drive industry “buzz” for products. Total conversions attract the attention of potential game buyers, in part because modding communities widely publicize the availability of innovative conversions.<sup>27</sup> Furthermore, a very attractive total conversion may increase sales of the original game. The clearest example of a mod surpassing its mother game in popularity is *Counter-Strike*.<sup>28</sup> Valve eventually purchased *Counter-Strike* and marketed the mod as a stand-alone game.<sup>29</sup>

However, the fact that the majority of mods are add-on (meaning the user must first install the underlying game) does not ensure that mods will always have a positive effect on the underlying commercial game. Commercial game creators may worry about damage to the brand, either through the public revelation of inappropriate game code or through offensive mods. While these worries have been most acute with respect to partial mods, the general principle remains the same: consumers will associate modified content with the game company’s content.

Modding may harm the underlying game by revealing inappropriate game code. The most famous example of this danger was the *Hot Coffee* mod for *Grand Theft Auto: San Andreas*.<sup>30</sup> Rockstar Games, the company that designed the *Grand Theft Auto (GTA)* series, had included a minigame in which the main character could have sex with a girlfriend. The company decided to deactivate the minigame but included the abandoned code in the released game.<sup>31</sup> A modder discovered the code and authored a patch to make the minigame accessible.<sup>32</sup> Though Rockstar originally claimed that the minigame was the work of modders,<sup>33</sup> the company eventually admitted authorship.<sup>34</sup> This admission had immediate consequences. The Entertainment Software Rating Board (ESRB), the main rating organization for video

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<sup>27</sup> See, e.g., Andrew Moshirnia, *Mods and Inevitable Take-Downs*, JUST ENRICHMENT (Oct. 17, 2011, 1:11 AM), <http://justenrichment.com/2011/10/17/mods-and-inevitable-take-downs>.

<sup>28</sup> See Kevin Bowen, *Top Ten Reasons Half-Life Is Still #1*, GAMESPY (Feb. 9, 2003), <http://www.gamespy.com/articles/489/489723p4.html> (“Anywhere from 75% to 90% of the people playing *Half-Life* online at any given time are playing *Counter-Strike*, which began life as a simple *Half-Life* modification just like any other.”).

<sup>29</sup> *Counter-Strike: Global Offensive Announced*, NEOWIN.NET (Aug. 12, 2011, 6:33 PM), <http://www.neowin.net/news/counter-strike-global-offensive-announced>.

<sup>30</sup> See HAROLD GOLDBERG, *ALL YOUR BASE ARE BELONG TO US* 237 (2011).

<sup>31</sup> See *id.*

<sup>32</sup> See *id.*

<sup>33</sup> Curt Feldman, *Rockstar Games Blames Hot Coffee on Hackers*, GAMESPOT (July 13, 2005, 10:53 AM), <http://www.gamespot.com/news/6128953.html?sid=6128953>.

<sup>34</sup> *Rockstar Admits Sex Scenes Were Built into Game*, GAMERS GAME (July 20, 2005), <http://www.gamersgame.com/blog/720051>.

games, changed the rating of the game from Mature to Adults Only.<sup>35</sup> This caused many major retailers to pull the game from their stores.<sup>36</sup>

Of course, modders may damage a brand even without exposing embarrassing underlying code. Modders themselves may insert extremely offensive content into a game.<sup>37</sup> These concerns are somewhat lessened by the fact that a total-conversion mod replaces the original content of a game rather than merely altering existing game elements. It makes sense that the general viewing public would more easily associate the content of a mod with a game company if at least some original content remains. However, the media's treatment of video games is rarely subtle,<sup>38</sup> and companies may rightly fear that any negative content running atop their engines will cause some blowback.

### B. How Game Companies Limit Modders' Ability to Profit from Total-Conversion Mods

Companies typically encourage modding, while simultaneously reserving the right to appropriate mods and barring the commercial sale of mods through End User License Agreements (EULAs).<sup>39</sup> Modders

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<sup>35</sup> Tor Thorsen, *San Andreas Rated AO, Take-Two Suspends Production*, GAMESPOT (July 20, 2005, 3:15 PM), <http://www.gamespot.com/news/6129500/san-andreas-rated-ao-take-two-suspends-production>.

<sup>36</sup> *Id.* A user-authored topless mod in *Elder Scrolls IV: Oblivion* prompted a similar rerating. See Michael Zenke, *The Breasts that Broke the Game*, ESCAPIST (June 12, 2007, 8:03 AM), [http://www.escapistmagazine.com/articles/view/issues/issue\\_101/561-The-Breasts-That-Broke-The-Game.2](http://www.escapistmagazine.com/articles/view/issues/issue_101/561-The-Breasts-That-Broke-The-Game.2) ("The speed with which the ESRB revoked the 'T' rating should have publishers of mod-able games thinking hard about their priorities. Which is more important: a thriving mod community, or a rating you can bank on?").

<sup>37</sup> These mods may be pornographic, misogynistic, racist, or extremely violent. One example of a misogynistic mod is the *Army Men* mod for *Fallout 3: New Vegas*, in which all women in a faction are removed from positions of power and given menial jobs. FatherAzerun, *Mature Discussion: "Offensive" Mods*, NEXUS FORUMS (Dec. 12, 2010, 6:43 PM), <http://www.thenexusforums.com/index.php?topic/275659-mature-discussion-offensive-mods>. Other offensive examples include *Super KKK Bros. 2*, see Riv, *Super KKK Bros. 2 (NES ROM)*, JASONRIVERA.COM (Feb. 22, 2011, 6:15 PM), [http://www.jasonrivera.com/viewarticle.php?art\\_id=934](http://www.jasonrivera.com/viewarticle.php?art_id=934), and exaggerated blood mods for the *GTA* series, see *Exaggerated Blood Mod*, GTAGARAGE.COM, <http://www.gtagarage.com/mods/show.php?id=5715> (last visited Dec. 4, 2011).

<sup>38</sup> See Winda Benedetti, *Were Video Games to Blame for Massacre?*, MSNBC.COM (Oct. 20, 2007, 10:05 PM), [http://www.msnbc.msn.com/id/18220228/ns/technology\\_and\\_science-games/t/were-video-games-blame-massacre](http://www.msnbc.msn.com/id/18220228/ns/technology_and_science-games/t/were-video-games-blame-massacre) (discussing media treatment of video games after the Virginia Tech campus shooting).

<sup>39</sup> Kücklich, *supra* note 20 ("[M]ods usually remain the property of the game's manufacturer, and while some modders have received payments . . . , they are usually barred from receiving royalties . . ."). A full discussion of EULAs is outside the scope of this Note, due in no small part to the fact that there is general confusion regarding the enforceability of EULAs that purport to abrogate rights protected in the Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. §§ 101-810 (2006)). For example, EULAs commonly forbid reverse engineering, but case law indicates that this practice is a fair use. See *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1514 (9th Cir. 1992). However, courts have sometimes avoided the issue of whether EULAs may have terms contrary to federal law by finding that the software at issue is

can profit from mods in three ways, none of which involves direct marketing to consumers: (1) selling the mod to the developer, (2) obtaining employment by using mods as part of a future game developer portfolio,<sup>40</sup> and (3) winning modding contests hosted by developers.<sup>41</sup> In each of these scenarios, the game developer bars the modder from entering the market. Under the terms of the EULA, modders cannot sell the mod for profit to anyone other than the game developer. Developers thus establish a monopsony on user-created mods.

It is important to note that none of the aforementioned profit-making ventures guarantee easy financial reward for modders.<sup>42</sup> Total conversions are particularly difficult to craft. Further, developers rarely purchase mods.<sup>43</sup> The success of *Counter-Strike* seems to have encouraged total-conversion teams to devote significant resources to projects that, while valued by consumers, will not trigger developer largesse.<sup>44</sup>

Modders and industry figures note that while video game play has increased, the number and quality of total-conversion mods has not kept pace.<sup>45</sup> Game developers frequently blame this development on the increasing complexity of games, which frustrates amateur programming.<sup>46</sup> Modders tend to blame the downturn on a lack of resources,<sup>47</sup> noting that quality total conversions require massive teams and financing, both of which are difficult to establish when the chances for profit are remote and the likelihood of receiving a take-

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licensed rather than sold, meaning that the protections of the Copyright Act are not implicated. *Compare* Krause v. Titleserv, Inc., 402 F.3d 119, 124 (2d Cir. 2005) (finding ownership), *with* Vernor v. Autodesk, Inc., 621 F.3d 1102, 1103–04 (9th Cir. 2010) (finding licensure). This is to say nothing of the wider argument that EULAs should be unenforceable as contracts of adhesion, especially in the video game context. See Alfred Fritzsche V, *Trespass to (Virtual) Chattels: Assessing Online Gamers' Authority to Sell In-Game Assets Where Adhesive Contracts Prohibit Such Activity*, 8 U.C. DAVIS BUS. L.J. 234, 261 (2007).

<sup>40</sup> See Victoria Murphy Barret, *It's a Mod, Mod Underworld*, FORBES, Dec. 12, 2005, at 64.

<sup>41</sup> Sotamaa, *supra* note 21, at 6–7. Modding contests require modders to turn their mods over to developers in exchange for the possibility of attaining recognition and prize money. For a greater exploration of the issues attending modern modding competitions, see generally *id.*; and Olli Sotamaa, *On Modder Labour, Commodification of Play, and Mod Competitions*, FIRST MONDAY, Sept. 3, 2007, <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/rt/printerFriendly/2006/1881>.

<sup>42</sup> Kücklich, *supra* note 20.

<sup>43</sup> See ACPaco, *Mistakes Mod Teams Make*, PLANET HALF-LIFE (Nov. 16, 2006), <http://planethalf.life.gamespy.com/View.php?view=Editorials.Detail&id=20>.

<sup>44</sup> See *id.*

<sup>45</sup> See, e.g., Alex J. Champandard, *What's Up with the Mod Scene and Independent Bots?*, AIGAMEDEV.COM (Jan. 8, 2008), <http://aigamedev.com/open/articles/mod-scene-bots>.

<sup>46</sup> See *id.*

<sup>47</sup> See, e.g., Jim Rossignol, *Battlefield 3: No Plans for Modding Tools*, ROCK, PAPER, SHOTGUN (July 6, 2011, 8:55 AM), <http://www.rockpapershotgun.com/2011/07/06/battlefield-3-no-plans-for-modding-tools>.

down notice is high.<sup>48</sup> One modder noted that “modding as we know it, the golden age of modding, is dying, and is being reduced to its origins — replacing *Castle Wolfenstein*’s sprites with Smurfs, and such.”<sup>49</sup>

The result of this system is that modders have only limited avenues to profit from total-conversion mods. Through the use of EULAs, the game industry effectively restricts the ability of modders to produce total-conversion mods, appropriating for itself most of the profit from modding activity.

## II. INTELLECTUAL PROPERTY THEORY MILITATES IN FAVOR OF FINDING TOTAL CONVERSIONS TO BE FAIR USE FOR GENERATIVITY, FAIRNESS, AND PERSONALITY REASONS

While the current system may pose difficulties to modders, one may still believe that the current property rights scheme does not present a serious problem. After all, one could conclude that modders deserve nothing because they are working voluntarily on enjoyable projects. This Part examines the question of total-conversion modding through the lens of various intellectual property theories. This analysis shows that, from a variety of perspectives, granting modders ownership of their creations would be desirable. The major families of intellectual property theory — social utility theory, labor-desert theory, and personality theory — all support total-conversion modding, either as a means to enrich society by fostering generativity and creativity or as a means to increase fairness in a field where game developers invite and then exploit free labor.

### A. Social Utility Theory

The social utility theory of intellectual property argues that lawmakers ought to craft property rights to maximize net social welfare.<sup>50</sup> Ideally, lawmakers will grant enough exclusive rights to stimulate innovation but will not expand the scope of such rights to an extent that would prevent society’s enjoyment of those innovations. The social

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<sup>48</sup> See, e.g., John Lanchester, *Is It Art?*, LONDON REV. BOOKS, Jan. 2009, at 18 (suggesting that video games are simply not as generative due to cost); Brian Crecente, *Msoft Pulls Plug on Halo RTS Mod*, KOTAKU (Sept. 9, 2006, 1:00 PM), <http://kotaku.com/199568/msoft-pulls-plug-on-halo-rts-mod> (implying fear of take-down notices).

<sup>49</sup> Sajt, Comment to *John Carmack on Modding*, INSIDE 3D (May 7, 2006, 1:04 AM), <http://forums.inside3d.com/viewtopic.php?t=362&postdays=0&postorder=asc&start=15>. The modder was referring to *Castle Smurfenstein*, authored in 1983, which was a skin for the Apple 2 version of *Castle Wolfenstein* and was generally acknowledged as one of the first mods. See MATT MASON, *THE PIRATE’S DILEMMA: HOW YOUTH CULTURE IS REINVENTING CAPITALISM* 89–90 (2008).

<sup>50</sup> See William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659, 1687–88 (1988). The social utility theory of intellectual property is “the most venerable and oft-recited of the justifications for the American law of intellectual property.” *Id.* at 1688.

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utility theory supports granting modders property rights in total-conversion mods so long as one assumes that creating an infrastructure that fosters generativity will further the public good more than would incentivizing a few dominant innovators. There is good reason to accept this assumption.

Two main models of utility-maximizing innovation are centralized and decentralized innovation.<sup>51</sup> In a centralized innovation model, a limited number of innovators develop products for general consumption. The quintessential example of centralized innovation is AT&T's government-sanctioned monopoly, which gave Bell Labs sole responsibility for improving the telecommunications network of the United States.<sup>52</sup> In a decentralized innovation model, sometimes likened to democratic innovation, innovation occurs across the producer/consumer spectrum. The clearest examples of decentralized innovation take place on the internet, where both companies and individual users serve as producers.<sup>53</sup>

Currently, the game engine industry follows a centralized innovation model. While the game industry is certainly not as monolithic as the telecom industry of the 1960s and 1970s, game engine development is performed by only a few companies. A few game developers focus on building impressive engines, licensing those engines, and then developing successive iterations of those engines. This approach might yield more powerful or versatile core engines, but it reduces the generativity of each end user. More simply put, this approach favors engine development over content development.

Allowing total-conversion modding would push the industry closer to a decentralized model. This approach would likely favor content development over engine development.<sup>54</sup> The implicit trade-off is that increased modding may result in more innovative uses of engines and more generative activity by users but may also result in less engine development. There are various indications that such a model would maximize social utility by encouraging social creativity through user education and by actually incentivizing robust engine development.

Numerous studies have shown the educational benefits of modding, as well as the snowball effect of successful mods' inspiring future in-

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<sup>51</sup> See generally VON HIPPEL, *supra* note 25; Baldwin & von Hippel, *supra* note 25.

<sup>52</sup> See TIM WU, THE MASTER SWITCH 104-05 (2010).

<sup>53</sup> See BENKLER, *supra* note 7, at 1-2.

<sup>54</sup> This approach also raises a common question posed in opposition to aiding modders — why ought society create incentives for a behavior that is already occurring in a select population? However, providing an economic incentive, or at the very least removing the omnipresent threat of litigation, will encourage more game players to engage in modding and more modders to engage in more ambitious mods.

novation.<sup>55</sup> There is good reason to believe that the social benefit of turning video games into a platform or network for user creativity dwarfs other market concerns.<sup>56</sup>

Widespread experimentation has occurred when game developers have made their engines freely available. For example, when iD Software released the Quake and Quakeworld engines under a General Program License in 1999, the result was a massive proliferation of modified Quake engines.<sup>57</sup> This decentralized innovation resulted in user experimentation with different coding techniques, renders, and design philosophies.<sup>58</sup> While this approach may not have produced superior engines, society likely benefits more from the development of creative and generative game users or networked users than from the development of more sophisticated game engines.<sup>59</sup>

Furthermore, even without the positive externalities of greater social creativity, an increase in the number of mods, even of those directly marketed to consumers, may not harm game developers. The proliferation of mods would likely allow game companies to charge more for games with novel engines, as developers seek to extract some of the additional value of the game as a gateway to desirable mods.<sup>60</sup>

The likely result of allowing commercial modding would be an increase in modding overall, more expensive anchor games with novel engines, and a greater variety of modified games in the marketplace. Nongenerative consumers would pay higher prices for initial engine games, thereby subsidizing the activities of modders, who in a non-fair use regime would need to purchase additional engine licenses. Mod-

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<sup>55</sup> See, e.g., Andrew Moshirnia & Maya Israel, *The Educational Efficacy of Distinct Information Delivery Systems in Modified Video Games*, 21 J. INTERACTIVE LEARNING RES. 383, 385–86 (2010); Nieborg & van der Graaf, *supra* note 16, at 179; Magy Seif El-Nasr & Brian K. Smith, *Learning Through Game Modding*, ACM COMPUTERS ENT., Jan. 2006, at 1, 1–2.

<sup>56</sup> Several commentators have made this argument with respect to other media. See BENKLER, *supra* note 7, at 3–7 (discussing the “flourishing nonmarket sector of information, knowledge, and cultural production, based in the networked environment,” *id.* at 7); Jonathan L. Zittrain, *The Generative Internet*, 119 HARV. L. REV. 1974, 1980 (2006) (noting that the generativity of the “grid of PCs connected by the Internet” is what makes the internet so valuable). See generally LAWRENCE LESSIG, *THE FUTURE OF IDEAS* (2001).

<sup>57</sup> See jonchappell, *Quake*, GCN (Aug. 20, 2005, 6:58 AM), <http://gamecentralnetwork.net/?id=1891>.

<sup>58</sup> See Spirit, *Quake Engine Comparison*, QUADDICTED.COM (Apr. 2008), [http://web.archive.org/web/20110715134654/http://www.quaddicted.com/engines/engine\\_comparison.html](http://web.archive.org/web/20110715134654/http://www.quaddicted.com/engines/engine_comparison.html) (accessed by searching for “http://www.quaddicted.com/engines/engine\_comparison.html” in the Internet Archive Wayback Machine).

<sup>59</sup> Cf. Zittrain, *supra* note 56, at 2039–40 (arguing that the openness and generativity of the internet has led to “progress in information technology, which in turn has led to extraordinary progress in the development of forms of artistic and political expression,” *id.* at 2040).

<sup>60</sup> An equally plausible beneficial outcome for game manufacturers would be increased demand across platforms, stimulated by lower prices for modded games. Cf. Douglas Lichtman, *Property Rights in Emerging Platform Technologies*, 29 J. LEGAL STUD. 615, 619 (2000).

ders may finally receive a direct financial reward for their labor by selling add-on games at a discount, or they may benefit merely by releasing games free from the fear of imminent cease-and-desist letters. It follows that games with a large mod library will command larger prices and stay in demand for longer periods.<sup>61</sup> The social utility model thus strongly supports granting modders property rights in their total-conversion mods as a means of maximizing social utility through increased creativity and democratic production.

### B. Labor-Desert Theory

The Lockean labor-desert theory is the primary labor theory undergirding property law. In his *Second Treatise of Government*, Locke argues that a person may appropriate resources from the commons through labor.<sup>62</sup> That is, an individual may distinguish her goods from the commons and thereby be justly rewarded for laboring. The import of labor theory on modding is unclear. Viewed from the Lockean perspective, uncompensated modding may be framed as voluntary, non-commons-based labor<sup>63</sup> or as the unjust denial of benefits from a composite work.<sup>64</sup> However, moving laterally within the labor-desert theory family, away from Locke and toward modern equity theory, reveals strong support for fair-use modding.

Locke's property theory seems particularly ill fitted to intellectual property in general and software intellectual property in particular. Professor Seana Valentine Shiffrin has argued persuasively that the natural law justification put forth by Locke is inapplicable to intellectual property because the "fully effective use of an idea . . . does not require . . . prolonged exclusive use or control."<sup>65</sup> Professor William Fisher has also criticized Lockean theory as applied to intellectual property on the basis that Locke puts forth six different justifications for property rights but neglects to signal "which of these various rationales . . . [is] primary."<sup>66</sup> Due to the fact that the initial approach adopted in regard to Lockean intellectual property theory "will often

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<sup>61</sup> See Kücklich, *supra* note 20.

<sup>62</sup> JOHN LOCKE, *TWO TREATISES OF GOVERNMENT* 287–88 (Peter Laslett ed., Cambridge Univ. Press 1988) (1690).

<sup>63</sup> If under the Lockean model a laborer has near-exclusive control of the fruits of her labor, then the engine developer ought to have the right to exclude uses of her product.

<sup>64</sup> Under this account, the game developer provides the game engine, while the modder provides the content. The game developer sees profits from increased game sales and asset longevity. The modder is merely requesting her fair share of these fruits.

<sup>65</sup> Seana Valentine Shiffrin, *Lockean Arguments for Private Intellectual Property*, in *NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY* 138, 156 (Stephen R. Munzer ed., 2001).

<sup>66</sup> William Fisher, *Theories of Intellectual Property*, in *NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY*, *supra* note 65, at 168, 185.

make a difference” in outcome, the ambiguous text cannot form the foundation of a well-formed system.<sup>67</sup>

A more fruitful approach within this theory family may be to move away from traditional Lockean labor theory and toward an analysis based on equity theory.<sup>68</sup> This approach focuses on distributive justice based on individual contributions to a joint venture.<sup>69</sup> Equity theory essentially says that what is fair is what is proportional.<sup>70</sup> When determining how to divide surpluses, individuals rely on a complex social index comprising empathetic preferences and a natural sense of fair play.<sup>71</sup> Individuals faced with a profession or activity outside of their own experience analogize to existing schemata.

Into the public’s experiential void, the game industry projects the notion that modders gain no property rights in their creations because the act of modding is voluntary and fun. The strange relationship between the game industry and modding culture involves attempts by the former to encourage, exploit, and manipulate the latter.<sup>72</sup> Professor Julian Kücklich describes modding as “playbour,”<sup>73</sup> a mix of free labor and leisure that lets the industry sidestep copyright issues through the “ideological masking of modding as a collaborative process.”<sup>74</sup> Though the game industry tries to craft an image of creating games that encourages and enables participation by all comers, “it is becoming more and more evident that such a position constitutes a fabrication and, above all, an ideology.”<sup>75</sup> Unlike home coding of open source plug-ins for commercial software, modding is cast in terms of play and thus modders must assume the role of voluntary, nonprofit actors.<sup>76</sup> This arrangement leads to a perverse market in which developers encourage modders to create products while simultaneously denying modders any intellectual property rights in their own creations.

<sup>67</sup> *Id.* at 186.

<sup>68</sup> Equity theory originates from the works of Aristotle: “This, then, is what the just is — the proportional; the unjust is what violates the proportion. Hence one term becomes too great, the other too small, as indeed happens in practice; for the man who acts unjustly has too much, and the man who is unjustly treated too little, of what is good.” ARISTOTLE, *NICOMACHEAN ETHICS* bk. V, at 85 (Lesley Brown ed., David Ross trans., Oxford Univ. Press 2009) (c. 384 B.C.E.).

<sup>69</sup> See William W. Fisher III, *When Should We Permit Differential Pricing of Information?*, 55 *UCLA L. REV.* 1, 29–30 (2007); Elizabeth Hoffman & Matthew L. Spitzer, *Entitlements, Rights, and Fairness: An Experimental Examination of Subjects’ Concepts of Distributive Justice*, 14 *J. LEGAL STUD.* 259, 265–66 (1985).

<sup>70</sup> See ARISTOTLE, *supra* note 68, bk. V, at 85.

<sup>71</sup> See Ken Binmore, *Egalitarianism Versus Utilitarianism*, 10 *UTILITAS* 353, 355 (1998).

<sup>72</sup> See Postigo, *supra* note 25, at 603–04.

<sup>73</sup> Kücklich, *supra* note 20.

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

<sup>75</sup> *Id.* (quoting Erkki Huhtamo, *Game Patch — The Son of Scratch*, SWITCH (July 16, 1999), [http://switch.sjsu.edu/nextswitch/switch\\_engine/front/front.php?artc=119](http://switch.sjsu.edu/nextswitch/switch_engine/front/front.php?artc=119)) (internal quotation marks omitted).

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

Equity theory strongly supports total-conversion modding, provided that modding is divorced from the false “playbour” construct. Little if anything separates modders from other hobbyist programmers who are afforded property rights in their creations. Resisting the playbour paradigm, individuals may analogize the actions of modders to those of app authors<sup>77</sup> or amateur programmers. Framing the issue in this light avoids questions of commons or noncommons labor and shifts the focus to the perceived inputs and outcomes of modders crafting mods in a monopsonistic environment. Modders pour great amounts of creative energy into generating mods that benefit game developers but see little if any financial profit from this venture. While game developers have provided the platform for modded applications, it seems unfair for these same developers to be the sole beneficiaries of third-party enhancements to those applications.

### C. *Personality Theory*

The personality theory of intellectual property protection posits that the artist defines herself through art. The creation of artistic works binds the artist to her products. Accordingly, the artist ought to have moral rights over the use of her works.<sup>78</sup> This theory strongly supports the notion of granting total-conversion mods fair use protection because total conversions use the underlying game engine rather than the game’s content, and game engines are the least conventionally artistic aspect of video games.

Personhood is not strongly implicated by use of a software platform. In the case of total conversions, none of the original artist’s content is being used. Instead, the modder is using the underlying game engine as a canvas.<sup>79</sup> One does not normally conceptualize the artist as pouring herself into a platform so much as to preclude the creation of other works on that platform.<sup>80</sup>

## III. MODS AS NONDERIVATIVE WORKS OR AS FAIR USE

Under any of the three intellectual property theories, total-conversion mods should constitute nonderivative works or, alternatively, qualify as a fair use of game engines. Case law provides some support for both positions but does not resolve the question of the legal

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<sup>77</sup> See *iOS Developer Program*, APPLE DEVELOPER, <http://developer.apple.com/programs/ios> (last visited Dec. 4, 2011).

<sup>78</sup> See Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L.J. 287, 330 (1988).

<sup>79</sup> See Hemos, *John Carmack Answers*, SLASHDOT (Oct. 15 1999, 10:04 AM), <http://slashdot.org/story/99/10/15/1012230/John-Carmack-Answers> (“I was completely sure that making games that could serve as a canvas for other people to work on was a valid direction.”).

<sup>80</sup> This argument becomes even stronger if one considers the personal expression of the modder.

status of total conversions. This uncertainty is due in part to the fact that cases focus on modding through physical attachments and frequently conflate a game's content with its underlying engine. The case law ultimately suggests that while partial mods may be derivative works, total conversions may be nonderivative. Two important facts militate in favor of a finding that total conversions are nonderivative: (1) courts have specifically noted that the story, rather than the engine, of a game is the primary concern of copyright; and (2) several courts seem willing to favor fair use when the software at issue contains both expressive and functional elements. A finding of fair use is important because courts will be less likely to enforce EULA provisions that contradict federally protected rights. While EULAs are an important part of the game developer monopsony for modified games, there is a good argument for focusing on the underlying statutory rights of modders.

#### A. Total Conversions as Nonderivative Works

The Copyright Act of 1976<sup>81</sup> grants the owner of a copyright "exclusive rights to . . . prepare derivative works based upon the copyrighted work."<sup>82</sup> Even if a work is found to be an unauthorized derivative work, it may be noninfringing if it qualifies as fair use.<sup>83</sup> Before analyzing whether total-conversion mods are protected under fair use, one must first determine if courts will consider these mods to be derivative works.

Three cases, all involving partial mods, constitute the relevant jurisprudence on modding. These partial-mod cases have the potential to lead courts astray, as total-conversion mods present different challenges for analysis. Furthermore, two of these cases focused on hardware-based modding, a method that has largely fallen out of practice. However, as courts may be unfamiliar with total conversions, it is likely that courts will look to these cases for guidance. A careful reading of this case law supports the finding that total-conversion add-on mods are not derivative works.

The first of these cases, *Midway Manufacturing Co. v. Artic International, Inc.*,<sup>84</sup> involved a company's manipulation of circuit boards to accelerate the rate of play in *Galaxian*.<sup>85</sup> The court found that video game copyright holders should have a monopoly over accelerated versions of their games, establishing the rule that partial mods are de-

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<sup>81</sup> Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. §§ 101-810 (2006)).

<sup>82</sup> 17 U.S.C. § 106. A derivative work is "a work based upon one or more preexisting works." *Id.* § 101.

<sup>83</sup> *See id.* § 107.

<sup>84</sup> 704 F.2d 1009 (7th Cir. 1983).

<sup>85</sup> *Id.* at 1010.

ivative works.<sup>86</sup> The second in this line of cases, *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*,<sup>87</sup> broadened protection for partial mods. The court considered whether the sale of the Game Genie, a physical device used to interrupt and modify video game code, violated the copyrights of the original game developer.<sup>88</sup> The court held that devices that do not house copyrighted code and merely alter the game experience were nonderivative.<sup>89</sup> *Micro Star v. FormGen Inc.*<sup>90</sup> dramatically narrowed *Galoob*, essentially holding that a modification involving any of the storyline of the original game incorporates copyrightable elements and thus constitutes a derivative work.<sup>91</sup> However, while *Micro Star* undercut *Galoob*'s protection for partial mods, it actually preserved and more clearly explained protection for total-conversion mods.

In *Micro Star*, the Ninth Circuit considered whether the third-party sale of user-generated levels for a video game, *Duke Nukem*, constituted infringement.<sup>92</sup> The court held that the levels infringed on the *Duke Nukem* storyline and characters.<sup>93</sup> *Micro Star* signaled that modification files that do not contain any copyrighted information, but rely only on information already stored in existing game libraries, may still constitute an infringement. *Micro Star*'s level code did not contain copyrighted art files, for example, but did reference the model files in the *Duke Nukem* library.<sup>94</sup> In light of the fact that modifications must rely on some underlying data of the original game, specifically triggers for the underlying engine, some courts may find that use of any part of a game engine constitutes an infringing derivative work.

However, this approach would miss the point. Contrary to this natural intuition, *Micro Star* does not close the door on commercial modding.<sup>95</sup> Indeed, it may be interpreted as protecting total-conversion mods. The court noted that the use of different characters

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<sup>86</sup> *Id.* at 1014.

<sup>87</sup> 964 F.2d 965 (9th Cir. 1992).

<sup>88</sup> *Id.* at 967.

<sup>89</sup> *Id.* at 968. The court also warned against extending copyright further in the context of video games, as this "would chill innovation and fail to protect 'society's . . . interest in the free flow of ideas, innovation, and commerce.'" *Id.* at 969 (quoting *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984)). For an explanation of the Game Genie in the words of its own marketers, see *onlinevideogameplaye, Nintendo Game Genie Commercial*, YOUTUBE (May 18, 2006), <http://www.youtube.com/watch?v=6xi4m2qnZaY>.

<sup>90</sup> 154 F.3d 1107 (9th Cir. 1998).

<sup>91</sup> *See id.* at 1112.

<sup>92</sup> *Id.* at 1109.

<sup>93</sup> *Id.* at 1112.

<sup>94</sup> *See id.* at 1111.

<sup>95</sup> *See, e.g.,* ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 917 (3d ed. 2003) (suggesting that *Micro Star* might not have involved derivative work and questioning the consistency of *Micro Star* with *Galoob*).

in a different setting would not implicate the “protected expression of [*Duke Nukem*].”<sup>96</sup> The *Micro Star* court thus sought to protect the game’s story, not its underlying engine. *Micro Star* should therefore be interpreted as protecting only the expressive elements of a game.<sup>97</sup>

This interpretation is in accord with the expressive/functional dichotomy proffered in the case law on reverse engineering. The Ninth Circuit in particular has repeatedly noted that copyright is not to be used as a vehicle to monopolize functional elements. In *Sega Enterprises Ltd. v. Accolade, Inc.*,<sup>98</sup> the court’s reasoning suggested that computer programs may contain both expressive (the story) and functional (the physics system) code.<sup>99</sup> This “hybrid nature of computer programs”<sup>100</sup> counseled caution in extending copyright protection for potentially functional elements.<sup>101</sup> *Sony Computer Entertainment, Inc. v. Connectix Corp.*<sup>102</sup> cemented this distinction between functional and expressive software elements.<sup>103</sup>

While some circuit courts have not explicitly adopted this software expressive/functional dichotomy in the modding context, others have applied the doctrine in cases of hardware copying. For example, in *Incredible Technologies, Inc. v. Virtual Technologies, Inc.*,<sup>104</sup> the Seventh Circuit denied an infringement claim where a game company had copied the button layout and trackball configuration of the arcade

<sup>96</sup> *Micro Star*, 154 F.3d at 1112 n.5.

<sup>97</sup> See 17 U.S.C. § 102(b) (2006); see also Zvi Rosen, *Mod, Man, and Law: A Reexamination of the Law of Computer Game Modifications*, 4 CHI.-KENT J. INTELL. PROP. 196, 203–04 (2005) (“[A] total conversion falls afoul of neither of the prongs from *Micro Star* . . . The game’s underlying engine is a purely functional element, embodying no conception of artistic merit or beauty, and as such is not copyrightable.”).

<sup>98</sup> 977 F.2d 1510 (9th Cir. 1992).

<sup>99</sup> See *id.* at 1524.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.* at 1524–25.

<sup>102</sup> 203 F.3d 596 (9th Cir. 2000).

<sup>103</sup> *Id.* at 602 (“The object code of a program may be copyrighted as expression, 17 U.S.C. § 102(a), but it also contains ideas and performs functions that are not entitled to copyright protection.”). Complicating matters is the fact that the passage of the Digital Millennium Copyright Act arguably invalidated most case law involving reverse engineering. See Joe Linhoff, Note, *Video Games and Reverse Engineering: Before and After the Digital Millennium Copyright Act*, 3 J. ON TELECOMM. & HIGH TECH. L. 209, 229 (2004). Some commentators have noted that developers may take steps, such as encrypting their code, to thwart modders. See, e.g., John Romero, *Oblivion Re-Rated = Bad News*, PLANET ROMERO (May 4, 2006), <http://planetromero.com/2006/05/oblivion-re-rated-bad-news>. This practice would also place the code under the protection of anticircumvention laws, which are not vulnerable to fair use challenges. See Linhoff, *supra*, at 233; see also *RealNetworks, Inc. v. DVD Copy Control Ass’n*, 641 F. Supp. 2d 913, 942 (N.D. Cal. 2009). However, this fear is likely overblown. As noted previously, developers have strong incentives to make their games moddable. It is unlikely that commercial fair-use mods would dilute demand for the original game such that developers would take such drastic steps. Furthermore, encryption or removal of game features tends to encourage hackers to target the walled-off platform.

<sup>104</sup> 400 F.3d 1007 (7th Cir. 2005).

game *Golden Tee* in its own PGA Tour arcade game.<sup>105</sup> The court noted that functional elements are properly the realm of patent rather than copyright law.<sup>106</sup>

In light of *Micro Star* and reverse-engineering case law, courts should conclude that while partial mods may be derivative works, total conversions are not. Modders arguably do not infringe on the underlying game engine at all because add-on mods require that the user already have a copy of the engine. That is, modders are not distributing copies of the game engine but merely designing applications for users to overlay on previously purchased engines.

### *B. Total-Conversion Mods as Candidates for Fair Use*

The previous section argued that courts should find total-conversion mods to be nonderivative works. However, there are a number of reasons why courts may incorrectly conclude that total-conversion mods are derivative. Courts could fail to distinguish the game engine from game content, overlook the differences between partial and total-conversion mods, consider the engine so intertwined with expression as to be expressive, or view mods that rely on underlying game engines as appropriating those resources. Therefore, it is still necessary to conduct a fair use analysis.

Courts will apply a fair use analysis if they find that total-conversion mods are derivative works. The Copyright Act grants the creator of a copyrighted expression the exclusive right to authorize derivative works. However, the fair use doctrine allows individuals “to use copyrighted material in a reasonable manner without the consent of the copyright owner.”<sup>107</sup> Section 107 of the Copyright Act outlines four nonexhaustive factors that determine whether a work falls within the fair use exception:

- 1) [T]he purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- 2) the nature of the copyrighted work;
- 3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- 4) the effect of the use upon the potential market for or value of the copyrighted work.<sup>108</sup>

The fair use analysis is exceptionally amorphous.<sup>109</sup> Courts may adopt a mechanistic approach to the four factors but may disagree on

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<sup>105</sup> *Id.* at 1010, 1015.

<sup>106</sup> *Id.* at 1012.

<sup>107</sup> *Narell v. Freeman*, 872 F.2d 907, 913 (9th Cir. 1989).

<sup>108</sup> 17 U.S.C. § 107 (2006).

<sup>109</sup> The Supreme Court has noted that the application of the doctrine will change from case to case, due to the inclusion of unenumerated factors and the need to weigh each factor against the others. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577–78 (1994).

the relative weight of each factor.<sup>110</sup> Furthermore, commentators constantly urge courts to consider additional factors, such as fairness.<sup>111</sup> While the ever-shifting fair use doctrine is frustratingly difficult to predict,<sup>112</sup> several factors appear to favor the finding that total-conversion mods are fair use.

A fair use analysis of a modified game must consider at least two separate assets: the game content (including characters, storylines, art, and music) and the copyrighted engine on which the game runs. The first analysis is fairly simple in the case of a total conversion; such a mod, as defined in this Note, uses no elements of game content. However, the question of the fair use of an underlying game engine is less clear.

*C. Applying the Fair Use Factors Generally Favors a Finding of Fair Use, but the Mutability of the Doctrine Provides Little Certainty*

*Factor One.* — The first factor asks the court to consider the character of the use. Courts commonly deem transformativeness as one of the most, if not the most, important factor in determining fair use.<sup>113</sup> A work is transformative if it “adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message.”<sup>114</sup> While not required for a finding of fair use, transformativeness typically results in the work being granted fair use protection.<sup>115</sup> Total conversions are likely to transform game content, in light of the fact that the mod uses no original creative assets.<sup>116</sup> It is far more difficult to determine if a total conversion is transformative with regard to the underlying game engine.

The entire notion of transformation is difficult to translate to the concept of a game platform. The game engine may be merely repurposed in a mod, with few or no changes to the underlying system architecture. While modders may find innovative uses for the engine in changing a game’s genre, modders may also simply want to make an improved game within the same genre. Numerous commentators have argued that small changes to software may result in vastly different experiences by the user.<sup>117</sup> Accordingly, these commentators argue, the

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<sup>110</sup> See Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978–2005*, 156 U. PA. L. REV. 549, 561–64, 604–06 (2008). Professor Barton Beebe also notes that lower courts have routinely ignored “basic, albeit dictic, Supreme Court precedent.” *Id.* at 556.

<sup>111</sup> *Id.* at 607.

<sup>112</sup> Fisher, *supra* note 50, at 1693–94.

<sup>113</sup> Beebe, *supra* note 110, at 604.

<sup>114</sup> *Campbell*, 510 U.S. at 579.

<sup>115</sup> Beebe, *supra* note 110, at 604–05.

<sup>116</sup> It is, of course, less clear if other types of mods are similarly transformative.

<sup>117</sup> *Cf.*, e.g., John Baldrice, Note, *Mod as Heck: Frameworks for Examining Ownership Rights in User-Contributed Content to Videogames, and a More Principled Evaluation of Expressive Ap-*

focal point of software transformative analysis should be on the overall experience of the user, rather than on an analysis of changes (invisible to the user) to game code.<sup>118</sup> Courts would almost certainly find transformativeness if they adopted this approach. Courts may also look to whether the engine is being used for the same purpose in both the original and modified games. But this comparison raises another question concerning the appropriate focus of the analysis: should the focus be on the elements of the engine itself or on the deployment of the engine to furnish a new game?

The finding of transformativeness is all the more important because at least some courts have found that the transformative nature of a work will eclipse the commercial nature of the use and the harm to potential markets.<sup>119</sup> That is, a transformative work impacts a transformative market, not the traditional or anticipated markets contemplated in factor four. In the case of mods, courts could find that though a market for engine licenses does exist, the modders' entry into a transformative market obviates the need for a license.<sup>120</sup> However, this part of the doctrine is unstable, as are most developments in fair use doctrine.<sup>121</sup>

Courts will also examine the purpose of a derivative work's author. While the Supreme Court in *Sony Corp. of America v. Universal City Studios, Inc.*<sup>122</sup> stated that a commercial motive will create a presumption against a finding of fair use,<sup>123</sup> the Court backed away from

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*appropriation in User-Modified Videogame Projects*, 8 MINN. J.L. SCI. & TECH. 681, 685 (2007) (arguing that the transformativeness of modified games should be framed in terms of player experience).

<sup>118</sup> See, e.g., *id.*

<sup>119</sup> See, e.g., *Blanch v. Koons*, 467 F.3d 244, 254 (2d Cir. 2006); *Castle Rock Entm't, Inc. v. Carol Publ'g Grp.*, 150 F.3d 132, 145 n.11 (2d Cir. 1998) (noting that "copyright owners may not preempt exploitation of transformative markets").

<sup>120</sup> Cf. *Castle Rock*, 150 F.3d at 145 n.11 (noting that a copyright holder cannot prevent others from entering fair use markets merely "by developing or licensing a market for parody, news reporting, educational or other transformative uses of its own creative work"); *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 929 n.17 (2d Cir. 1994) ("[W]ere a court automatically to conclude in every case that potential licensing revenues were impermissibly impaired simply because the secondary user did not pay a fee for the right to engage in the use, the fourth fair use factor would *always* favor the copyright holder."); Lateef Mtima, *So Dark the Con(tu) of Man: The Quest for a Software Derivative Work Right in Section 117*, 69 U. PITT. L. REV. 23, 24 (2007) ("[T]he software copyright holder's exclusive dominion over derivative versions of her work should be limited to precluding unauthorized versions which unfairly compromise the commercial market for the original work.")

<sup>121</sup> See Fisher, *supra* note 50, at 1693–94.

<sup>122</sup> 464 U.S. 417 (1984).

<sup>123</sup> *Id.* at 451 ("[E]very commercial use of copyrighted material is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the copyright.")

that stance in *Campbell v. Acuff-Rose Music, Inc.*<sup>124</sup> Professor Barton Beebe's survey of fair use decisions found that lower courts continue to afford a noncommercial motive great weight in determining fair use, whereas a commercial purpose has no significant impact on courts' rulings.<sup>125</sup> This segment of factor one would militate against a finding of fair use for commercial total conversions.

*Factor Two.* — The second factor considers the nature of the copied work. Courts afford fictional works greater protection than purely factual works.<sup>126</sup> This inquiry seems to offer little help to either litigant in the mod context. While the content of games is typically fictional, and thus deserving of greater protection, total conversions do not rely on a game's story or art. Instead, the nature of the work is a functional game engine. While there is creativity in crafting software architecture, courts may struggle in analogizing an engine to either a fictional work or a factual work.

*Factor Three.* — The third factor examines the amount of the original work used. This factor is relatively unimportant.<sup>127</sup> If a court perceives total-conversion mods as implicating game engines and not game content, then that court may find that the entirety of the engine is used. However, it seems likely that if the court finds a total conversion derivative, the court would arrive at that conclusion by analyzing a game's assets in terms of both its engine and its content. In that case, this factor might actually lean toward fair use.

*Factor Four.* — The fourth factor in fair use analysis assesses the possible impact of the derivative work on the market for the copyrighted work. Courts have interpreted this factor to cover not only the market for the original work, but also potential markets growing out of the work. The market impact is considered a major factor;<sup>128</sup> in evaluating this factor, courts must weigh the derivative work's benefits to society against the work's harm to the copyright holder. The Supreme Court appeared to elevate this factor in *Harper & Row, Publishers, Inc. v. Nation Enterprises*,<sup>129</sup> but then in *Campbell* stressed the importance of all four factors.<sup>130</sup> The earlier ruling has led some lower

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<sup>124</sup> 510 U.S. 569 (1994); *see id.* at 584 (“[T]he mere fact that a use is educational and not for profit does not insulate it from a finding of infringement, any more than the commercial character of a use bars a finding of fairness.”).

<sup>125</sup> Beebe, *supra* note 110, at 556.

<sup>126</sup> *Id.* at 611.

<sup>127</sup> *See id.* at 556 (“[A] finding that the defendant used the entirety of the plaintiff's work was far from dispositive.”).

<sup>128</sup> *Id.* at 617.

<sup>129</sup> 471 U.S. 539, 566 (1985) (declaring this factor “undoubtedly the single most important element of fair use”).

<sup>130</sup> 510 U.S. 569 (1994); *see id.* at 578 (noting that all the factors are “to be explored, and the results weighed together, in light of the purposes of copyright”).

courts to grant this factor extra weight, disregarding the Court's attempt to diminish the use of factor four as a paramount factor.<sup>131</sup>

In determining whether a derivative work has an effect on the market for the original work, courts first look at whether the product is a direct market substitute for the target product. For example, the *Galoob* court distinguished *Midway* on the basis that, in *Midway*, the defendant's chips directly copied copyrighted work and could replace the plaintiff's chips.<sup>132</sup> In this case, a total conversion is clearly not a direct substitute. Firstly, a total conversion does not include the original game's content. Secondly, a total conversion cannot function without the purchase of the original game.

In addition to existing markets, courts will look to any potential markets as well.<sup>133</sup> Again, the lack of the original game content implies that courts will not find harm to potential markets in relation to the game's story, characters, or plot. However, total conversions may have a negative impact on a robust engine licensing market. The licensing of game engines to developers can be a large revenue stream for game developers.<sup>134</sup>

This Note's proposal may limit the market for licenses, but sales of games with useful or novel engines would likely increase in such a regime. Moreover, it is unclear how large a change engine developers would see in their licensing profits. It is important to recall that modders do not have the same access to game resources as licensees do. Due to these limitations, game developers may be willing to continue purchasing licenses, regardless of the availability of commercial mods. Proprietary libraries often house impressive time-saving and graphics-enhancing technologies that allow for more polished games.<sup>135</sup> Licensees may wish to utilize these resources in a competitive market.<sup>136</sup>

Courts might also apply the market effect analysis differently for video games. In *Sega Enterprises*, the court reasoned that because "video game users typically purchase more than one game," the analysis for a video game is not as strict as the analysis for a presidential memoir.<sup>137</sup> That is, even if a company suffered some minor economic

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<sup>131</sup> Beebe, *supra* note 110, at 617.

<sup>132</sup> *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965, 969 (9th Cir. 1992).

<sup>133</sup> *See, e.g., Rogers v. Koons*, 960 F.2d 301, 312 (2d Cir. 1992).

<sup>134</sup> RABOWSKY, *supra* note 11, at 83–84.

<sup>135</sup> *See generally* G. DE PRATO ET AL., JOINT RESEARCH CTR., EUROPEAN COMM'N, BORN DIGITAL/GROWN DIGITAL 78–84 (2010), available at <http://ftp.jrc.es/EURdoc/JRC60711.pdf> (discussing the importance of middleware, subsystems for specific functionalities such as physics or rendering).

<sup>136</sup> However, even if mods do harm the licensing market, courts may disregard the impact on an engine licensing market if the underlying use of the work is transformative. *See supra* p. 807.

<sup>137</sup> 977 F.2d 1510, 1523 (9th Cir. 1992) (referring to *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539 (1985)).

harm, copyright should not be invoked as a means to squash creative expression or competition. However, this case may be treated as an outlier due to its general pro-fair use interpretation of the factors.

Overall, the four factors support a finding of fair use for total-conversion mods. However, the outcome of the test is far from certain, as courts may examine the game either holistically or as comprising both game content and a game engine. If courts find transformative-ness, the modder will have a better chance of prevailing, especially in courts that hold that transformativeness essentially obviates issues of traditional potential market harm.

### CONCLUSION

The game industry currently places much of the burden of innovation on modders, who subsequently lose any intellectual property rights in their creations. While the industry benefits from modders' free content, feedback, and social networking, the industry is exceedingly parsimonious. Modders may enjoy community praise and the occasional monetary prize but are otherwise told that their labor is little more than directed play. If the law recognized the intellectual property rights of total-conversion modders, this asymmetrical relationship might change. Intellectual property theory urges a fairer and more socially advantageous treatment of modders. There are strong arguments that a game engine, as a functional element, does not fall under copyright protection. However, even if courts do find that the engine is so intertwined with expression that it warrants copyright protection, they may still recognize a total-conversion mod as fair use. Game manufacturers should not be able to restrict the use of their platforms, especially in light of the fact that these same manufacturers invite users to generate content. Granting property rights to modders for total conversions could shift the innovation paradigm of the enormous gaming industry, stimulating user creativity and broadening the digital canon.