
FOR THE LOVE OF THE GAME: EXAMINING THE LEGALITY OF UNOFFICIAL FAN VIDEO GAME REMAKES

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I. PRESS ANY KEY TO BEGIN: INTRODUCTION

The *Grand Theft Auto* series is one of the most successful franchises in gaming history, earning numerous critical accolades in addition to its record-breaking financial success.¹ However, the rapidly evolving nature

¹ Eddie Makuch, *GTA 5 Reaches 160 Million Copies Sold, as RDR 2 Climbs to 43 Million*, GAMESPOT (Feb. 8, 2022, 4:22 AM), <https://www.gamespot.com/articles/gta-5-reaches-160->

of video game trends and technology means that some of the series' earlier entries, the first of which celebrated its twenty-fifth anniversary in 2022, can feel "frustrating" to play by modern standards, both for people playing the games for the first time and for older fans of the series who wish to revisit the games they love.² So, while some of the entries into the series remain available on a variety of different gaming platforms,³ some fans hoping to wreak further havoc on the crime-ridden streets of Liberty City have decided to take matters into their own hands.⁴

The demand for updated versions of older games has given rise to numerous efforts from fans.⁵ Many of these efforts have taken the form of fan-created modifications (or "mods") for the earlier *Grand Theft Auto* (or "*GTA*") games.⁶ These mods ranged from replacing individual parts of the games' graphics with high resolution versions,⁷ to transposing the settings of earlier games onto the technology of the newer games.⁸ For a long time, these modification makers (or "modders") coexisted in relative harmony with games publisher Take-Two Interactive ("Take Two"), the copyright holder of the *GTA* franchise.⁹ But in 2021, this peace was

million-copies-sold-as-rdr-2-climbs-to-43-million/1100-6500413/ [https://perma.cc/SNV3-668E]; see *Best PC Video Games of All Time*, METACRITIC, <https://www.metacritic.com/browse/games/score/metascore/all/pc?sort=desc> [https://perma.cc/2XTF-JTTW] (last visited Dec. 26, 2022) (listing four *Grand Theft Auto* games among the top forty best-reviewed PC games of all time).

² Smangalis Simelane, *Grand Theft Auto 3 Could Use a Genuine Ground-Up Remake*, GAME RANT (Dec. 2, 2022), <https://gamerant.com/grand-theft-auto-3-ground-up-remake-legacy-forgotten-rockstar/> [https://perma.cc/Y238-BANC] ("*Grand Theft Auto 3* [is] a game that is slowly slipping away into the hands of time . . . [I]t can be frustrating for modern gamers who are used to contemporary titles . . . Many of the wonky aspects of the original game . . . could be mended with a ground-up remake.").

³ See Brianna Reeves, *GTA 3 & Vice City Source Code Reverse-Engineered by Fans*, SCREENRANT (Feb. 17, 2021), <https://screenrant.com/gta-3-source-code-vice-city-reverse-engineered/> [https://perma.cc/7PJU-TNM8] ("[*Grand Theft Auto III* and *Vice City*] are already playable across a wide variety of systems, such as PC, PlayStation 2, PS3, PS4, and mobile devices.").

⁴ See Phil Savage, *GTA 4's iCEnhancer Mod has Liberty City Looking Better than Ever*, PC GAMER (Feb. 16, 2015), <https://www.pcgamer.com/gta-4s-icenhancer-mod-has-liberty-city-looking-better-than-ever/> [https://perma.cc/V5BH-7LRC] (discussing work by a fan to update *Grand Theft Auto IV*).

⁵ See Shubhankar Parijat, *15 Most Impressive Fan-Made Video Game Recreations and Remakes*, GAMING BOLT (May 29, 2020), <https://gamingbolt.com/15-most-impressive-fan-made-video-game-recreations-and-remakes/8> [https://perma.cc/9EGA-VDY8] (discussing how some games are "horribly aged . . . and more often than not these are the ones that benefit from remakes the most. And when developers don't want to work on these remakes, fans often pick up the slack.").

⁶ Mark Hospodar, *Grand Theft Auto: Vice City - 12 Mods that Remaster the Game*, GAME RANT (Dec. 30, 2021), <https://gamerant.com/grand-theft-auto-vice-city-best-mods-remaster/> [https://perma.cc/62KR-ZCDX].

⁷ Jody Macgregor, *Take-Two has been Issuing Takedowns for GTA Mods*, PC GAMER (July 17, 2021), <https://www.pcgamer.com/take-two-has-been-issuing-takedowns-for-gta-mods/> [https://perma.cc/62KR-ZCDX].

⁸ *Id.*; Catherine Lewis, *This 'GTA: San Andreas' Unreal Engine 5 Remake Puts Rockstar to Shame*, GAMING BIBLE (May 20, 2022, 3:42 PM), <https://www.gamingbible.co.uk/news/gta-san-andreas-unreal-engine-5-fan-remake-20220520> [https://perma.cc/AFY6-SL9Z].

⁹ See Christopher Livingston, *Rockstar is Talking with OpenIV Developer, Issues New Statement on Mods*, PC GAMER (June 23, 2017), <https://www.pcgamer.com/rockstar-is-talking-with-openiv-developer-issues-new-statement-on-mods/> [https://perma.cc/7A3J-LL98] (discussing Rockstar and Take-Two's statement that it will "generally" refrain from taking legal action against single-player mods).

broken when Take-Two began issuing a flurry of takedowns against *GTA* mods under the Digital Millennium Copyright Act (“DMCA”).¹⁰ These targeted projects included *re3* and *reVC*—“reverse-engineered”¹¹ versions of 2001’s *Grand Theft Auto III* and 2002’s *Grand Theft Auto: Vice City*.¹² Having devoted years of their lives to these two projects, the developers of *re3* and *reVC* made a rare decision within the world of video game fan projects:¹³ they fought back.¹⁴

The ensuing lawsuit by Take-Two against the developers of *re3* and *reVC* had the potential to create one of the first new pieces of case law directly addressing video game modding in years and would represent one of the only cases to specifically address fan remakes of video games.¹⁵ Ultimately, both parties agreed to dismiss the lawsuit, leaving this area of the law just as opaque as before.¹⁶ Nevertheless, this development merits a legal analysis of this particular practice in the video game community. Part II of this Note will provide an overview of the history of fan remakes. Part III will analyze how fan remakes are made and the reasons behind their development. Part IV will delve into how fan remakes implicate both copyright and contract law. Part V will review several legal theories under which fan remakes could operate. Ultimately, this Note argues that the existence of these remakes is beneficial to fans, video game companies, and culture as a whole. For those reasons, there should be ways for them to exist legally.

II. LOADING GAME: HISTORY OF FAN REMAKES

In 1972, when home video game consoles had only recently been introduced,¹⁷ Warren Robinett created the highly influential *Adventure*

¹⁰ Zack Zwiezen, *Take-Two is Removing Old GTA Mods Using DMCA Notices*, KOTAKU (July 18, 2021), <https://kotaku.com/take-two-is-removing-old-gta-mods-using-dmca-notice-1847315391> [<https://perma.cc/HGQ9-HZDK>].

¹¹ See *infra* notes 40–42 and accompanying text for information about reverse-engineering.

¹² Rich Stanton, *Grand Theft Auto Modders that Tried to Get Around a DMCA Claim Get Walloped with Take-Two Lawsuit*, PC GAMER (Oct. 4, 2021), <https://www.pcgamer.com/grand-theft-auto-modders-that-tried-to-get-around-a-dmca-claim-get-walloped-with-take-two-lawsuit/> [<https://perma.cc/QM76-C7TM>].

¹³ See discussion *infra* Part III.C.1 (discussing some of reasons why fan creators rarely dispute takedown requests from copyright holders of this size).

¹⁴ Stanton, *supra* note 12; see also Alex Leturgez-Coianiz, *Thinking Before Modding: Players Don’t Own What They Make*, KBL ROCHE (Jan. 18, 2022), <https://kbroche.com/thinking-before-modding-players-dont-own-what-they-make-2656426399.html> [<https://perma.cc/77R2-JJ6B>] (“Often . . . the modder will default in appearing before a court, or settle litigation before it gets too far. Why is this? . . . [because] litigation is expensive . . .”).

¹⁵ Carl “Ott” Lindstrom, Note, *Mod Money, Mod Problems: A Critique of Copyright Restrictions on Video Game Modifications and an Evaluation of Associated Monetization Regimes*, 11 WM. & MARY BUS. L. REV. 811, 823 (2020).

¹⁶ Andy Maxwell, *Take-Two Dismisses Claims Against Lead Defendants in GTA Mods Lawsuit*, TORRENTFREAK (Apr. 5, 2023), <https://torrentfreak.com/take-two-dismisses-claims-against-lead-defendants-in-gta-mods-lawsuit-230405/> [<https://perma.cc/T8CM-3VTW>].

¹⁷ Ben Lewin, *The First Gaming Console*, COMPUT. MUSEUM AM. (June 22, 2020, 10:15 AM), <https://www.computermuseumofamerica.org/2020/06/22/the-first-gaming-console/>

game for the newly-released Atari 2600 gaming console.¹⁸ Robinett was enthralled with the text-based adventure game¹⁹ *Colossal Cave Adventure*, and he became inspired to adapt the game into a full, graphics-based video game, “using shapes to represent . . . things instead of words.”²⁰ Robinett’s efforts were not entirely unprecedented within the entertainment industry. After all, filmmakers frequently remade films, often with the goal of introducing new technological or audiovisual aspects to a previously existing concept or story.²¹ There were also some attempts to remake video games early in the industry’s history. Back when playing a game meant going to an arcade and paying for each attempt, some American companies would engage in the practice of reprogramming foreign games before releasing them in the United States.²² These reprogramming efforts included incorporating new technologies, the inclusion of which would allow fluid and more natural gameplay.²³ Ultimately, while Robinett’s *Adventure* may not have been the first attempt to remake a video game, it represents the first time such a remake was initiated and undertaken entirely by a fan of an original game, potentially making it the first fan remake.²⁴

Over the course of the next few decades, fan remakes became a significant part of the culture surrounding video games.²⁵ Now, fans have remade nearly every type of game imaginable, from older classics of the

[<https://perma.cc/9KK7-SFGM>].

¹⁸ Chris Baker, *How One Man Invented the Console Adventure Game*, WIRED (Mar. 13, 2015, 7:00 AM), <https://www.wired.com/2015/03/warren-robinett-adventure/> [<https://perma.cc/36ST-NYEN>].

¹⁹ See Dominik Landwehr, *Back to the Early Days of Computer Gaming with Text Adventures*, SWISS NAT’L MUSEUM BLOG (Jan. 31, 2020), <https://blog.nationalmuseum.ch/en/2020/01/back-to-the-early-days-of-computer-gaming-with-text-adventures/> [<https://perma.cc/FJ27-JZ7M>] (explaining that text-based games are credited with creating the medium of “interactive fiction” in the early 1970s and are characterized by having little to no graphics besides onscreen text, with which the player interacts by inputting commands in order to move the story forward).

²⁰ Jaz Rignall, “*Could They Fire Me? No!*” *The Warren Robinett Interview*, USGAMER (Dec. 22, 2015), <https://www.vg247.com/could-they-fire-me-no-the-warren-robinett-interview> [<https://perma.cc/8PJF-L67J>].

²¹ Emily Kubincanek, *Retracing Hollywood’s Fascination with the Remake*, FILM SCH. REJECTS (Mar. 20, 2020), <https://filmschoolrejects.com/hollywood-remake-history/> [<https://perma.cc/9K3N-GLM6>] (describing how technological advancements such as the ability to add sound to films were the inspirations for many remakes).

²² CHRIS KOHLER, *POWER UP: HOW JAPANESE VIDEO GAMES GAVE THE WORLD AN EXTRA LIFE* 66 (Dover Publ’ns 2016) (2004).

²³ *Id.* at 68.

²⁴ See Rignall, *supra* note 20.

²⁵ See Tom Bowen, *10 Of The Best Fan Remakes, Mods & Remasters Ever Made*, GAME RANT (Sept. 6, 2021), <https://gamerant.com/best-fan-remakes-mods-remasters/> [<https://perma.cc/8YMM-KD68>] (listing several prominent fan remakes).

medium²⁶ to newer multiplayer titles.²⁷ These remakes can garner massive fanbases, sometimes netting thousands or even millions of users.²⁸ They have been credited with helping to keep the memories of the games on which they are based alive and relevant to both old and new players,²⁹ thereby benefiting both players and video game publishers.

III. MAIN MENU: TYPES OF FAN REMAKES

A. *How Are Fan Remakes Made?*

Most fan remakes can be divided into two categories: remakes as recreations made without a game's source code and those made with a game's source code.³⁰ A video game's source code is a series of "[i]nstructions written in a programming language"—the "building blocks" of the engine on which the game runs.³¹ Remaking a game

²⁶ Maurice Tan, *Streets of Rage Fan Remake Released After 8 Years*, DESTRUCTOID (Apr. 4, 2011, 9:00 AM), <https://www.destructoid.com/streets-of-rage-fan-remake-released-after-8-years/> [https://perma.cc/4U9Y-MHWN]; John Walker, *You Could Be Playing Dungeon Master Right Now*, ROCK PAPER SHOTGUN (Mar. 29, 2012), <https://www.rockpapershotgun.com/you-could-be-playing-dungeon-master-right-now> [https://perma.cc/865U-FA6M]; Malindy Hetfeld, *Nicalis Hits Cave Story Fan Game with DMCA Takedown Notice*, PC GAMER (Nov. 26, 2020), <https://www.pcgamer.com/nicalis-hits-cave-story-fan-game-with-dmca-takedown-notice/> [https://perma.cc/56ZZ-DEK6]; Kris Holt, *A 'GoldenEye 007' Fan Remake is Dead After a Cease and Desist Demand*, ENGADGET (Aug. 11, 2020, 12:33 PM), <https://www.engadget.com/goldeneye-007-fan-remake-goldeneye-25-james-bond-163309378.html> [https://perma.cc/CN3E-MQW5].

²⁷ Jasmin Osman, *Super Smash Bros.: The History of Project M*, GAME RANT (Apr. 10, 2022), <https://gamerant.com/super-smash-bros-project-m/> [https://perma.cc/9UF3-E9LJ]; Jay Castello, *The Fandom Disney Can't Kill*, SLATE (May 5, 2022, 2:00 PM), <https://slate.com/culture/2022/05/club-penguin-new-disney-copyright-enforcement.html> [https://perma.cc/L4QP-YXVN].

²⁸ Castello, *supra* note 27 (reporting that a fan-made *Club Penguin* remake had approximately 30,000 regular users); Osman, *supra* note 27 (providing an overview of a fan remake of *Super Smash Bros.* that was downloaded over three million times).

²⁹ See Zack Zwiezen, *Classic Mods and Old GTA Games Didn't Need to Die for These Unfinished Remakes*, KOTAKU (Nov. 12, 2021), <https://kotaku.com/classic-mods-and-old-gta-games-didn-t-need-to-die-for-t-1848050135> [https://perma.cc/FW9Q-GPHH] (discussing the sentiment that those who worked on fan remakes for *Grand Theft Auto* had "help[ed] to keep games like *GTA III* playable and popular after 20 years."); see also Ewan Moore, *The Life, Death, and Resurrection of Fan-Made Video Games*, GAMING BIBLE (June 24, 2021, 3:33 PM), <https://www.gaming-bible.co.uk/features/games-the-life-death-and-resurrection-of-fan-made-video-games-20210624> [https://perma.cc/R4U4-P5PE] ("Fan games keep the franchises we love alive."); Tristan Jurkovich, *10 Fan Remakes of Nintendo Games You Have to See*, GAMER (Sept. 17, 2020), <https://www.thegamer.com/nintendo-games-fan-remakes-must-see/> [https://perma.cc/5LA3-VTXV] (discussing how some gaming companies are "guilty of leaving some franchises out to pasture," thus necessitating the creation of fan remakes in order to keep the neglected games active).

³⁰ See Alex Daud Briggs, *Video Game Remakes, Remasters, ReReleases: What's The Difference*, GAMER BRAVES (Oct. 2022), <https://www.gamerbraves.com/video-game-remakes-remasters-rereleases-whats-the-difference/> [https://perma.cc/FNS8-UTRP] (discussing the differences between "porting" a game using the game's source code and rebuilding a game from the ground up).

³¹ *Source Code*, PC MAG: ENCYC., <https://www.pcmag.com/encyclopedia/term/source-code> [https://perma.cc/CNU5-SSMH] (last visited Dec. 27, 2022); Phil James, *What Is a Video Game Source Code (Rockstar GTA 6 Leak)*, GAMER TWEAK (Aug. 14, 2023), <https://gamertweak.com/video-game-source-code/> [https://perma.cc/F4TW-BJBF] ("Source code in video games is the building block of the game engine . . . [T]he source code will be basic rules and regulations of the world written by programmers. They set rules for the computer, telling it how to execute the game instructions. They are usually lines of code in a text file format, easy to understand, and changed by a human.").

without access to the original source code requires observing elements of a game's visual design and gameplay as they exist in the game's original form and recreating those elements from scratch on a newer game engine.³² This process can create tension between the desire to be as accurate as possible compared to the original game and the need to implement the more modern features of the updated game engines.³³

Remaking a game with access to the original source code often involves adapting the original game's code to run on new platforms (a process known in the video game community as "porting").³⁴ Once an older game's code has been used to port the game to a new platform, modders are able to tweak the code in order to provide both major and minor graphical overhauls.³⁵

In some rare instances, a game's code is made available by the game's copyright holder.³⁶ id Software, the developer of the seminal monster shoot-em-up *Doom*, released the game's source code in 1997 for the express purpose of allowing players to create their own content.³⁷ However, most developers choose to keep a game's source code to themselves.³⁸ In these cases, there are two methods by which people have obtained the unreleased source code of games: the blatantly illegal method

³² Kyle Orland, *Beyond Emulation: The Massive Effort to Reverse-Engineer N64 Source Code*, ARS TECHNICA (May 6, 2020, 12:33 PM) [hereinafter *Beyond Emulation*], <https://arstechnica.com/gaming/2020/05/beyond-emulation-the-massive-effort-to-reverse-engineer-n64-source-code/> [https://perma.cc/6J5Y-8QWU]; *Frequently Asked Questions*, SKYWIND, <https://tesrskywind.com/faq/> [https://perma.cc/F2N2-3YZH] (last visited Nov. 11, 2022).

³³ *Frequently Asked Questions*, *supra* note 32; Don Everhart, *Respecting Retro Game Constraints in the Age of Remakes*, POLYGON (Aug. 30, 2021, 11:00 AM), <https://www.polygon.com/22640167/retro-games-remakes-constraints-essay-demons-souls-remake-dead-space> [https://perma.cc/8UC4-YHFD].

³⁴ Luke Plunkett, *Super Mario 64 Has Been "Ported" to the PC*, KOTAKU (May 4, 2020), <https://kotaku.com/super-mario-64-has-been-port-to-the-pc-1843249300> [https://perma.cc/9P76-K5FJ]; *Beyond Emulation*, *supra* note 32.

³⁵ Plunkett, *supra* note 34.

³⁶ See Sydney Johnson, *Threats to Copyrighted Code: Bots, Mods, and Reverse Engineering*, 3 BUS. ENTREPRENEURSHIP & TAX L. REV. 174, 179 (2019) ("Source code contains the specific coding information for how a program functions; therefore it is usually kept confidential by the programming company.").

³⁷ JUSSI HONKASALO, WHEN PLAYERS BECOME DEVELOPERS: A STUDY ON COPYRIGHT IN GAME MODIFICATIONS AND THE PRACTICE OF ACQUIRING SUCH RIGHTS THROUGH AN END USER LICENSE AGREEMENT 1–2 (2015); TANJA SIHVONEN, PLAYERS UNLEASHED! MODDING THE SIMS AND THE CULTURE OF GAMING 59 (2011).

³⁸ See HONKASALO, *supra* note 37, at 5 n.21 ("Even after [the release of *Doom*'s source code] some (albeit not very many) developers have chosen this route."); Kyle Orland, *Saving Video Gaming's Lost Source Code Treasures Before it's Too Late*, ARS TECHNICA (Jan. 5, 2021, 2:01 PM) [hereinafter *Lost Source Code*], <https://arstechnica.com/gaming/2021/01/saving-video-gamings-source-code-treasures-before-its-too-late/> [https://perma.cc/6EUH-QGUT] ("[Source code is] seen as a trade secret, and there is no statute of limitation on when people are comfortable with a trade secret.").

of hacking into company servers and stealing it,³⁹ or the much more legally ambiguous act of reverse-engineering a copy of the game.⁴⁰

Reverse-engineering, also referred to as “decompiling”, “is a method of dismantling something, piece by piece, to understand how it works”⁴¹ by “taking the engineering process in reverse from [the] finished product.”⁴² As a result of obtaining reverse-engineered source codes, games become “easier to modify because the coder has a greater understanding of the commands embedded in each line of code, making it easier to fix bugs and add updates.”⁴³

Reverse-engineering a game’s source code is a painstaking process that can take years.⁴⁴ One project dedicated to reverse-engineering the role-playing classic *Diablo* took a single coder an estimated 1,200 hours.⁴⁵ Reverse-engineering the original *Super Mario 64* took a team of people two years, during which they went through line after line of original code, converting it into something usable.⁴⁶ The controversial reverse-engineered *GTA* projects *re3* and *reVC*⁴⁷ came about after nearly half a decade of work from a small group of fans.⁴⁸ All of these projects were done purely out of the programmers’ love of the original games and

³⁹ See, e.g., Geoff Keighley, *The Final Hours of Half-Life 2*, GAMESPOT (Apr. 28, 2016, 9:43 AM), <https://www.gamespot.com/articles/the-final-hours-of-half-life-2/1100-6112889/> [<https://perma.cc/Z9JY-8FAR>] (describing the theft and subsequent leaking of *Half-Life 2*’s source code from the game’s developer); see also Emma Kent, *CD Projekt’s Stolen Source Code, Console SDKs and Internal Dev Videos Reportedly Being Shared Online*, EUROGAMER (June 4, 2021), <https://www.eurogamer.net/cd-projekt-stolen-data-leak> [<https://perma.cc/XGB7-P4C4>] (chronicling the theft and subsequent leakage of the source code for major games from developer and publisher CD Projekt Red, including that of *The Witcher 3* and *Cyberpunk 2077*).

⁴⁰ Johnson, *supra* note 36, at 179, 186 (describing the process of reverse-engineering and questions of its legality).

⁴¹ *Id.* at 179.

⁴² *Beginners Guide to Reverse Engineering (Retro Games)*, RETRO REVERSING (Mar. 29, 2020), <https://www.retroreversing.com/tutorials/introduction> [<https://perma.cc/PE4D-AJ4X>].

⁴³ Johnson, *supra* note 36, at 179.

⁴⁴ See Kyle Orland, *Ocarina of Time has Been Fully Decompiled into Human-Readable Code*, ARS TECHNICA (Nov. 29, 2021, 5:14 PM), <https://arstechnica.com/gaming/2021/11/reverse-engineering-team-completes-its-ocarina-of-time-decompilation/> [<https://perma.cc/J9H3-VMP5>] (chronicling a two-year-long effort from a group of fans to reverse-engineer the classic *The Legend of Zelda: The Ocarina of Time*).

⁴⁵ Nathan Grayson, *Coder Spends 1,200 Hours Piecing Together Diablo’s Source Code*, KOTAKU (June 20, 2018), <https://kotaku.com/coder-spends-1-200-hours-piecing-together-diablos-source-1827001247> [<https://perma.cc/5AXT-ADKT>] (discussing one coder’s project to reconstruct *Diablo*’s original source code over 1,200 hours and four months).

⁴⁶ *Beyond Emulation*, *supra* note 32 (“[C]onverting those instructions to C code that’s parsable and easily editable by humans is far from a simple process . . . [T]ruly reverse-engineering an N64 ROM means going through those assembly code files function by function, converting them by hand into useable C code.”).

⁴⁷ See *supra* Part 0.

⁴⁸ See Wesley Yin-Poole, *How a Small Group of GTA Fanatics Reverse-Engineered GTA 3 and Vice City Without (so far) Getting Shut Down*, EUROGAMER (Feb. 20, 2021), <https://www.eurogamer.net/how-a-small-group-of-gta-fanatics-reverse-engineered-gta-3-and-vice-city-without-so-far-getting-shut-down-by-take-two> [<https://perma.cc/658X-6L9M>].

curiosity as to how they function, as well as a desire to share their findings with other fans.⁴⁹

Another important function of reverse-engineering is its role in preserving video games long-term.⁵⁰ As the gaming industry has developed and grown, challenges to keeping older games preserved and accessible have emerged.⁵¹ Ensuring that the source code of a game remains preserved is the most effective way of saving games and preventing them from being lost to time.⁵² Unfortunately, many of the copyright holders of the games have shown that the security of source code is not a priority.⁵³ The lack of preservation efforts in the industry makes fan efforts to reverse-engineer games important beyond just their potential for fan remakes, as the availability of reverse-engineered source code is necessary to ensure a game's survival in any capacity, remade or not.⁵⁴

B. *Reasons for Making Fan Remakes*

Given the precarious legal position of fan remakes, one may be inclined to wonder why people invest so much time and effort into

⁴⁹ See Grayson, *supra* note 45 (“Galaxyhaxz [the reverse engineer behind the *Diablo* project] wants people to see how *Diablo* ended up the way it did.”); *Beyond Emulation*, *supra* note 31 (describing the goals of the *Super Mario 64* reverse engineers, which began with helping people understand the game and finding new ways to play it); Yin-Poole, *supra* note 48 (in which “aap,” the project leader of the *re3* and *reVC*, describes having access to reverse-engineered *GTA* games as “a dream for many of us *GTA* fanatics.”).

⁵⁰ See Timothy Geigner, *Good Idea: As Video Game Preservation Often Falls to Fan Groups, Release Every Game's Source Code*, TECHDIRT (Mar. 29, 2021, 7:39 PM), <https://www.techdirt.com/2021/03/29/good-idea-as-video-game-preservation-often-falls-to-fan-groups-release-every-games-source-code/> [<https://perma.cc/Q78A-93R9>] (discussing how the preservation of source code ensures the preservation of video games as a whole).

⁵¹ Will White, Note, *Would You Like to Save Your Game?: Establishing a Legal Framework for Long-Term Digital Game Preservation*, 81 OHIO ST. L.J. 567, 578–83 (2020).

⁵² *Id.* at 600.

⁵³ See *Lost Source Code*, *supra* note 38 (estimating that the source code for approximately 90 percent of games made before the year 2000 is already lost); Kimberley Wallace, *Square Enix Committed to Making its Complete Library Available Digitally*, GAME INFORMER (June 12, 2019, 8:55 PM), <https://www.gameinformer.com/e3-2019/2019/06/12/square-enix-committed-to-making-its-complete-library-available-digitally> [<https://perma.cc/HD7F-JWKL>] (statement from President of Square Enix Yosuke Matsuda) (“I’m embarrassed to admit it, but in some cases, we don’t know where the code is anymore. It’s very hard to find them sometimes, because back in the day you just made them and put them out there and you were done. . . . We don’t know where it has gone.”); Settlement Agreement at 3, *Bethesda Softworks, LLC v. Interplay Ent. Corp.*, No. 8:09-cv-02357-DKC (S. Div. Md. Jan. 9, 2012) (assertion by Interplay, the original publisher of the role-playing series *Fallout*) (revealing that it no longer had the source code of the original *Fallout* games); Kellen Beck, *Someone Found the Original ‘StarCraft’ Source Code so Blizzard Showered them in Gifts*, MASHABLE (May 4, 2017), <https://mashable.com/article/starcraft-source-disc> [<https://perma.cc/BJ2F-LPMY>] (discussing how the source code for the strategy game *StarCraft* was considered lost until a fan randomly rediscovered it years later).

⁵⁴ See Geigner, *supra* note 50.

continuing to make them.⁵⁵ There are several answers to the question of why fan remakes exist.⁵⁶

1. Fan Remakes as Recreational and Skill-Building Exercises

Some fans remake games purely as a recreational hobby or learning exercise.⁵⁷ This was the case for DoctorM64, a coder who made a popular fan remake of the classic Nintendo game *Metroid II: The Return of Samus*.⁵⁸ Following the eventual removal of his game at the request of Nintendo, DoctorM64 wrote that he was ultimately “satisfied” with the project, which he chose to undertake in order to improve his programming skills.⁵⁹ Eventually, DoctorM64 was able to make a living as a programmer thanks to the skills he gained remaking *Metroid II*, rendering his goals for the project a success despite its removal.⁶⁰

2. Fan Remakes to Preserve Functionality and Playability

Others, such as the many *GTA* modders whose work was taken down, remake games to maintain the functionality and ease of play in older games that are technically still available to purchase.⁶¹ Many older games still available for digital purchase lack features that have become standard in modern gaming, such as enhanced resolution and mouse functionality.⁶² When game companies fail to implement these changes, fans can step in to fill the void, thereby broadening an older game’s appeal to new players.⁶³ Sometimes, mods are required in order to render basic parts of a game playable.⁶⁴ This is the case for *FreeSpace 2*, a cult classic science fiction game originally released in 1999.⁶⁵ While the game is still

⁵⁵ Mark Brown, *Investigated: Are ‘fangames’ Legal?*, WIRED (May 5, 2011, 3:12 PM), <https://www.wired.co.uk/article/investigation-are-fan-games-legal> [https://perma.cc/VK45-XDLQ] (“Expressing your admiration for a game in interactive form just doesn’t seem to be worth the hassle—your labor of love can easily end in heartbreak if the publisher’s legal team gets involved.”).

⁵⁶ See *infra* Part III.B.1–3.

⁵⁷ See DoctorM64, *The Future of AM2R*, PROJECT AM2R (Aug. 9, 2016) <http://metroid2remake.blogspot.com/2016/08/the-future-of-am2r.html> [https://perma.cc/MJ2G-7CAJ] (discussing the motivations of a particular modder).

⁵⁸ *Id.*

⁵⁹ *Id.* (“This project began a long time ago, while I was actually trying to learn the programming side of Game Maker. Instead of moving on with something else, when I learned a better way of doing something, I reiterated and improved the old code. Eventually, I learned to program in C#.”).

⁶⁰ *Id.*

⁶¹ See *supra* text accompanying notes 2–5.

⁶² Igor Bonifacic, *A Fan Reverse-Engineered 1995’s ‘Star Wars: Dark Forces’ to Make it Easier to Play on Modern Systems*, YAHOO! NEWS (Dec. 19, 2022), <https://news.yahoo.com/star-wars-dark-forces-the-force-engine-202808132.html> [https://perma.cc/FH43-6UWZ].

⁶³ See *id.*

⁶⁴ See *Vampire: The Masquerade – Bloodlines*, PC GAMING WIKI (Jan. 31, 2023), https://www.pcgamingwiki.com/wiki/Vampire:_The_Masquerade_-_Bloodlines#Unofficial_Patch [https://perma.cc/Z5X8-DVCB] (describing how the 2004 role-playing game *Vampire: The Masquerade – Bloodlines* was originally released in an “unfinished and buggy state” and recommending the installation of a set of fan-created mods in order to render the game playable).

⁶⁵ Matthew Rorie, *The Greatest Games of All Time: Freespace 2*, GAMESPOT (Jan. 18, 2006), <https://www.gamespot.com/articles/the-greatest-games-of-all-time-freespace-2/1100-6139782/>

available for purchase online,⁶⁶ a quick glance at its reviews on the popular online gaming marketplace Steam reveals that sold as-is, the game is unplayable for many.⁶⁷ However, through the use of the “super mod” *FS2_Open*, which acts as a “replacement” for the original game’s engine, the game becomes playable, with updated graphics to boot.⁶⁸

3. Fan Remakes for Unavailable Games

Still others remake games because, without a fan remake, there would be no way to play the game at all due to the inability to legally access the game.⁶⁹ When a company makes a game unavailable to buy or download online, the game is said to be “delisted.”⁷⁰ Delisted games, also known as “abandonware,”⁷¹ can only be legally accessed by obtaining a physical copy of the game in question.⁷² Depending on the age of a video game, its physical copies may be at higher risk of degradation as more and more time passes since the game’s original release.⁷³ As the market for physical copies of vintage games grows, getting one’s hands on a copy of a delisted game can be a difficult and expensive task.⁷⁴ Further complicating matters is the fact that digital game distribution has greatly overtaken physical distribution throughout the past decade.⁷⁵ As of 2021,

[<https://perma.cc/4Q6M-5H43>].

⁶⁶ *Freespace 2*, STEAM (June 6, 2014), https://store.steampowered.com/app/273620/Freespace_2/ [<https://perma.cc/Q7X3-9Q3M>]; *Freespace 2*, GOOD OLD GAMES, https://www.gog.com/en/game/freespace_2 [<https://perma.cc/K3FY-93G8>] (last visited Nov. 18, 2022).

⁶⁷ See Steam User “Funky,” *Reviews: Freespace 2*, STEAM (Feb. 2, 2023, 4:58 PM), <https://steamcommunity.com/profiles/76561198084677373/recommended/273620/> [<https://perma.cc/8P22-FB4S>] (“This is a game from 1999. If you are expecting it to work straight out of the box on a modern computer you will be disappointed. . . . It’s just not compatible with modern hardware.”).

⁶⁸ *General FreeSpace Questions*, FREESPACE ORACLE, <http://fs2downloads.com/general.html#WhatIsSCP> [<https://perma.cc/5RLC-ZVC9>] (last visited Nov. 18, 2022); see also Steam User “Funky,” *supra* note 67 (“[*FS2_Open*’s] latest builds of the game engine support 1440p monitors and current graphics cards.”).

⁶⁹ Alex Donaldson, *If Publishers Want to Delist Old Games, That’s Fine—So Long as they Accept Abandonware Status*, VG247 (July 12, 2022), <https://www.vg247.com/abandonware-sonic-assasins-creed-delisting-old-games> [<https://perma.cc/UKV7-GS8M>] (discussing how video game publisher’s make it impossible to legally obtain games while disallowing fan efforts to preserve them).

⁷⁰ Lacey Womack, *10 Delisted Games You’ll Never Get to Play*, GAMER (Jan. 26, 2020), <https://www.thegamer.com/delisted-games-no-longer-playable/> [<https://perma.cc/5EL8-MLNV>].

⁷¹ Richard Cobbet, *PC Gaming Terms and their True Meanings*, PC GAMER (Dec. 14, 2020), <https://www.pcgamer.com/pc-gaming-terms-and-their-true-meanings/> (“Abandonware: [a] nice sounding but legally meaningless term for games no long sold and thus [incorrectly] deemed fair to download for free.”).

⁷² See Womack, *supra* note 70.

⁷³ See White, *supra* note 51, at 578–80 (explaining the various ways in which physical copies of video games can degrade).

⁷⁴ Megan C. Hills, *Why Your Old Games May be Worth Millions*, CNN (Aug. 15, 2021, 11:44 PM), <https://www.cnn.com/style/article/most-expensive-video-games/index.html> [<https://perma.cc/T5BL-JQQB>] (“The market for vintage games is rapidly evolving . . . [a]n expert nod of approval can turn a yard sale copy of ‘Pokémon’ into an investment worth hundreds of thousands of dollars.”).

⁷⁵ J. Clement, *Distribution of Computer and Video Game Sales in the United States from 2009 to 2018, by Delivery Format*, STATISTA (May 17, 2019), <https://www.statista.com/statistics/190225/digital-and-physical-game-sales-in-the-us-since-2009/> [<https://perma.cc/9L8K-HQTJ>].

fewer than ten percent of games are physically released.⁷⁶ This means that when a digital-only game is delisted, it effectively becomes impossible to access for those who have not already downloaded it.⁷⁷

Games are delisted for a variety of reasons.⁷⁸ Sometimes there is a particular factor about a game, such as unclear rights and licensing, that causes its publisher to halt sales.⁷⁹ More often than not, delisted games are casualties of basic economics and the industry's rapid technological developments. As a result, many publishers struggle to justify the cost of certain games' continued maintenance.⁸⁰ As the number of delisted games continues to grow,⁸¹ fan remakes have emerged as a popular way to preserve public access to them.⁸²

One of the most high-profile examples of delisting concerns the game *P.T.*, which was published by the game company Konami and made as a collaboration between legendary game designer Hideo Kojima and Oscar-winning filmmaker Guillermo Del Toro.⁸³ Originally released on the digital PlayStation store in 2014 as a playable teaser for Kojima and Del Toro's then-upcoming installment in the horror franchise *Silent Hill*, *P.T.* was rapturously received by both fans and critics.⁸⁴ But, after the shocking news broke that the full video game was cancelled, Konami delisted the teaser, making it inaccessible to anyone who had not already downloaded it from the PlayStation store.⁸⁵ In the intervening years, fans

⁷⁶ Eddie Makuch, *Here's How Many Video Games Released in 2021—And How Few Had Physical Editions*, GAMESPOT (Jan. 4, 2022, 12:21 PM), <https://www.gamespot.com/articles/heres-how-many-video-games-released-in-2021-and-how-few-had-physical-editions/1100-6499333/> [https://perma.cc/R4BN-RF2E].

⁷⁷ See Womack, *supra* note 70.

⁷⁸ K.G. Orphanides, *Copyright, Cost, and Ageing Code: Why Some Games Disappear from Steam*, ROCK PAPER SHOTGUN (Nov. 29, 2022), <https://www.rockpapershotgun.com/copyright-cost-and-ageing-code-why-some-games-disappear-from-steam> [https://perma.cc/C3DP-E4H9].

⁷⁹ Kirk Hamilton, *The Sad Story Behind a Dead PC Game that Can't Come Back*, KOTAKU (Feb. 27, 2015), <https://kotaku.com/the-sad-story-behind-a-dead-pc-game-that-cant-come-back-1688358811> [https://perma.cc/EUG3-HQSD] (chronicling the tangled copyright history of *No One Lives Forever*, a beloved spy shooter from the early 2000s that has been delisted for nearly a decade); see also Mark A. Lemley, *Disappearing Content*, 101 BOS. U. L. REV. 1255, 1263–64 (2021).

⁸⁰ See generally Lemley, *supra* note 79.

⁸¹ See Shawn Sackenheim, *About Delisted Games*, DELISTED GAMES, <https://delistedgames.com/about/> [https://perma.cc/84J2-ZAUE] (last visited Dec. 14, 2022).

⁸² See discussion *infra* Part III.B.3 regarding *P.T.*.

⁸³ DeAngelo Epps, *7 Years After it was Delisted, P.T. Fans Struggle to Save it*, DIGIT. TRENDS (Apr. 29, 2022), <https://www.digitaltrends.com/gaming/konami-versus-silent-hills-pt/> [https://perma.cc/ED2M-RNAU].

⁸⁴ Erik Kain, *Hideo Kojima's 'P.T. Demo' for the New 'Silent Hills' is Terrific and Terrifying*, FORBES (Aug. 15, 2014, 6:09 PM), <https://www.forbes.com/sites/erikkain/2014/08/15/hideo-kojima-s-p-t-demo-for-the-new-silent-hills-is-terrific-and-terrifying/?sh=69824b58511d> [https://perma.cc/4JCB-PW8Z]; Lucy O'Brien, *My Game of the Year Wasn't a Game At All*, IGN (Jan. 4, 2019, 6:19 PM), <https://www.ign.com/articles/2014/12/17/my-game-of-the-year-wasnt-a-game-at-all> [https://perma.cc/C9VF-JQ5T]; Colin Moriarty, *PlayStation 4's PT Silent Hills Demo Downloaded 1+ Million Times*, IGN (Sept. 1, 2014, 3:09 AM), <https://www.ign.com/articles/2014/09/01/playstation-4s-pt-silent-hills-demo-downloaded-1-million-times> [https://perma.cc/4739-CG87].

⁸⁵ Michael McWhertor & Samit Sarkar, *Konami Pulls P.T. from PlayStation Store, No Longer Available for Re-download (Update)*, POLYGON (May 5, 2015, 10:40 PM), <https://www.polygon.com/2015/5/5/8557807/pt-silent-hills-demo-pulled> [https://perma.cc/4GQ8-9T4A].

kept the memory of the game alive by remaking *P.T.* through a variety of different methods, from ground-up recreations using the Unreal engine,⁸⁶ to total conversion mods⁸⁷ for other video games.⁸⁸ Though most of these fan remakes have been met with swift action from Konami demanding their removal from the internet,⁸⁹ the continued efforts of fans to recreate *P.T.* have been instrumental in allowing fans to continue to experience this piece of video game history.⁹⁰

A less acrimonious example of a fan remake that made accessible an otherwise unavailable game is that of *The Sims Online*. After the game struggled to match the success of its blockbuster parent game, *The Sims*, publisher Electronic Arts (“EA”) eventually decided to stop supporting it in 2008.⁹¹ Almost a decade later, in 2017, a fan remake launched and was met with instant enthusiasm from fellow fans.⁹² The remake is able to operate because while *The Sims Online* is technically no longer available for purchase, its game files can still be downloaded from EA’s official website.⁹³ These files are then read by the *FreeSO* client,⁹⁴ allowing the

⁸⁶ The Unreal Engine is a game engine popular among small video game developers. See Andrew R. Chow, *Inside Epic’s Unreal Engine 5—and What it Means for the Future of Gaming, Movies, and the Metaverse*, TIME (Apr. 5, 2022, 11:07 AM), <https://time.com/6164332/epic-unreal-engine-5-launch/> [perma.cc/3MSC-JKAF]; see also Heather Alexandra, *Fan-Made P.T. Remake Captures the Original’s Terrifying Scares*, KOTAKU (Nov. 5, 2018), <https://kotaku.com/fan-made-pt-remake-captures-the-originals-terrifying-sc-1830225944> [https://perma.cc/GES4-356L]; Allegra Frank, *P.T. PC Remake is Playable, Perfectly Scary*, POLYGON (July 2, 2018, 2:04 PM), <https://www.polygon.com/2018/7/2/17519118/pt-remake-windows-pc-free-download> [https://perma.cc/9M65-NF8Z].

⁸⁷ “Total conversion mods” are mods that alter an existing game’s “rule set, appearance, and game mechanics” to a point where the original game is unrecognizable. See *Spare the Mod: In Support of Total-Conversion Modified Video Games*, 125 HARV. L. REV. 789, 791, 805 (2012).

⁸⁸ Christopher Livingston, *PT Recreated in Half-Life: Alyx is Gonna be a Big Nope from Me*, PC GAMER (June 4, 2020), <https://www.pcgamer.com/pt-recreated-in-half-life-alyx-is-gonna-be-a-big-nope-from-me/> [perma.cc/3LAB-SR4B].

⁸⁹ See Owen S. Good, *Fan Remake of P.T. on PC Gets Shut Down by Konami*, POLYGON (July 13, 2018, 6:48 PM), <https://www.polygon.com/2018/7/13/17570252/pt-on-pc-fan-remake-cease-desist-pulled> [perma.cc/UD9X-HCDU].

⁹⁰ See Jeffrey Matulef, *P.T. Gets a Fan Remake in Unity*, EUROGAMER (July 31, 2015), <https://www.eurogamer.net/fan-remakes-p-t-in-unity> [perma.cc/83LF-PNWR] (“[I]t’s no longer available to download, but I can make it live on in some fashion by doing this”); see also Epps, *supra* note 83; Mary Beth McAndrews, *‘P.T.’ is the Scariest Video Game that Never Was*, DREAD CENT. (Aug. 12, 2022), <https://www.dreadcentral.com/editorials/435309/p-t-is-the-scariest-video-game-that-never-was/> [perma.cc/9XZ3-3787].

⁹¹ Daniel Terdiman, *‘EA Land’ Closing Just Weeks After Debut*, CNET NEWS (Apr. 29, 2008, 3:35 PM), <https://www.cnet.com/culture/ea-land-closing-just-weeks-after-debut/> [https://perma.cc/DX75-84YD].

⁹² Graham Smith, *The Sims Online Revival FreeSO Launched, Closed Again, Will Return*, ROCK PAPER SHOTGUN (Jan. 10, 2017), <https://www.rockpapershotgun.com/the-sims-online-revival-freeso-launched-closed-again-will-return> [https://perma.cc/3GRS-5N4L] (recounting how the first launch of the remake game crashed due to high traffic).

⁹³ *About, FREESO*, <http://freeso.org/about/> [https://perma.cc/8QHZ-SC9Q] (last visited Dec. 23, 2022) (“Note that our installer downloads the original [*The Sims Online*] files from EA’s official servers. These files are required to make FreeSO behave like [*The Sims Online*], and are not unofficially distributed.”).

⁹⁴ A game “client” refers to several types of programs that allow players to connect and play with each other within the same game—a necessity for games based around their multiplayer capabilities, such as *The Sims Online*. *Clients*, UNITY, <https://docs.unity.com/relay/clients.html> [https://

game to be played once more with the addition of upgrades provided by *FreeSO*.⁹⁵ While other remakes of online games have been met with severe responses from copyright owners,⁹⁶ *FreeSO* has persevered without any reported interference from EA—an especially impressive feat considering EA had previously forced the takedown of an earlier attempt to remake *The Sims Online*.⁹⁷

The Sims Online demonstrates the benefits of allowing fans to outsource video game preservation efforts to themselves.⁹⁸ Unlike critically lauded games such as *P.T.* and *No One Lives Forever*, *The Sims Online* received mixed-to-negative reviews⁹⁹ and was widely regarded as a commercial failure.¹⁰⁰ Those factors would likely make it a low priority for a remake in the eyes of video game companies, which tend to prioritize remaking well-reviewed games with large fanbases.¹⁰¹ While *The Sims Online* may not have the same commercial potential as a remake of a *Resident Evil* or *Final Fantasy* game,¹⁰² the success of *FreeSO* demonstrates that smaller games can still have dedicated fanbases who will eagerly play updated versions of the game.¹⁰³

perma.cc/8BCP-3DQ7] (last visited Dec. 23, 2022).

⁹⁵ See *FreeSO*, *supra* note 93 (“While *FreeSO* aims to be faithful to the original game, it includes many quality of life changes such as hardware rendering, custom dynamic lighting, high-res output and >2 floors.”).

⁹⁶ Sisi Jiang, *Club Penguin Remake Pulled by Disney, Three Arrested*, KOTAKU (Apr. 14, 2022), <https://kotaku.com/club-penguin-rewritten-disney-arrests-shutdown-london-p-184879460> [https://perma.cc/8GMX-LECW].

⁹⁷ *The Sims Online*, THE SIMS WIKI, https://sims.fandom.com/wiki/The_Sims_Online?so=search [https://perma.cc/RQ7M-T6ED] (last visited Dec. 23, 2022) (“In October 2010, a small team of programming professionals revealed the *TSO Restoration Project*. . . . However the project was officially cancelled on September 21, 2011 due to a cease and desist letter from EA.”).

⁹⁸ See Joe Donnelly, *Sims Online Fan-Made Remake Crashes at Launch Due to Huge Flood of Players, Plans Closed Beta*, PC GAMER (Jan. 9, 2017), <https://www.pcgamer.com/sims-online-fan-made-remake-crashes-at-launch-due-to-huge-flood-of-players-plans-closed-beta/> [perma.cc/9XZ3-3787] (describing how *FreeSO* crashed upon its release due to having too many players, demonstrating the continued enthusiasm for *The Sims Online*).

⁹⁹ Andrew Park, *The Sims Online Review*, GAMESPOT (Jan. 6, 2003, 6:18 PM), <https://www.gamespot.com/reviews/the-sims-online-review/1900-2908060/> [https://perma.cc/4739-CG87].

¹⁰⁰ Terdiman, *supra* note 91.

¹⁰¹ See Patrick Shanley, *Remake Fatigue? Not for Video Games*, HOLLYWOOD REP. (Feb. 28, 2020, 6:00 AM), <https://www.hollywoodreporter.com/news/general-news/how-video-games-have-escaped-remake-fatigue-1280998/> [https://perma.cc/8B4S-7JBL] (discussing how a desire to capitalize on nostalgia for classic games drives the production of many studios to remake games); see also Matt Anderson, *Sony is Looking for Remakes in All the Wrong Places*, TWINFINITE (Oct. 5, 2022), <https://twinfinite.net/2022/10/sony-remaking-wrong-games/> [https://perma.cc/R69K-A7HU] (discussing how the focus on remaking popular games has led to some companies remaking newer and newer titles, calling into question the necessity of such remakes).

¹⁰² Both the *Resident Evil* and *Final Fantasy* franchises have released official remakes of older games in the last few years. These remakes regularly sell millions of copies, a far cry from the roughly 1,000 players who crashed the *FreeSO* server. See Alex Hopley, *Capcom Confirms New Sales Numbers for Resident Evil, Monster Hunter*, GAME RANT (Oct. 26, 2022), <https://gamerant.com/capcom-sales-milestones-resident-evil-monster-hunter/> [https://perma.cc/FL29-5F36]; Scott Baird, *Final Fantasy 7 Remake is the Fastest-Selling PS4 Exclusive*, SCREEN RANT (Apr. 21, 2020), <https://screenrant.com/final-fantasy-7-remake-sales-ps4-exclusive-playstation/> [https://perma.cc/9N4J-KPU9].

¹⁰³ See Donnelly, *supra* note 98.

IV. LEVEL UP: THE LEGALITY OF FAN REMAKES

A. *The Legal History of Mods*

1. What Is a Mod?

In order to understand the legal conversation surrounding fan remakes, it is necessary to review the legal history of video game fan modifications. These modifications, or “mods,” as they are more commonly known, involve adding or changing various elements of a game,¹⁰⁴ either through tools provided by the game developers themselves¹⁰⁵ or by personally delving into the game code and altering it from scratch.¹⁰⁶ Despite the fact that mods have existed for as long as the gaming industry itself,¹⁰⁷ their legal status remains largely unsettled, especially with regard to how the modern mod marketplace operates.¹⁰⁸ Mods frequently involve the

¹⁰⁴ Christopher Livingston, *A Beginner's Guide to Mods*, PC GAMER (Nov. 9, 2022), <https://www.pcgamer.com/a-beginners-guide-to-mods/> [https://perma.cc/SY9F-ZKQY] (“Mods can do something small: fix a bug, correct a typo in on-screen text, add a new item of clothing for your character, adjust how a weapon works, and a million other little tweaks and changes. Mods can also be massive projects, completely transforming how a game looks or functions.”).

¹⁰⁵ Reina Y. Arakji & Karl R. Lang, *Digital Consumer Networks and Producer-Consumer Collaboration: Innovation and Product Development in the Video Game Industry*, 24(2) J. MGMT. INFO. SYS. 195, 199 (2007) (“Game [modding] toolkits are industry-specific applications that were originally developed for use by professional developers. By releasing toolkits to the public, some video game firms enable their customers to create and test customized product designs. . . . The development toolkits are bundled with the original game and can be accessed by all consumers in the network.”); DAN PINCHBECK, DOOM: SCARYDARKFAST 121 (Digital Culture Books, 2013) (“[M]odding was going to happen anyway, so at issue was how best to harness it. . . . [T]here was no harm in letting a community of fans become raging advocates by enabling them to create and share their own content around the networks.”); Mona Ibrahim, *Why Blizzard Welcomes Some Mods and Sues Others*, Polygon (Mar. 23, 2017, 11:00 AM), <https://www.polygon.com/2017/3/23/15034994/blizzard-mods-bnetd-org-lawsuit-world-of-warcraft> [https://perma.cc/GA6S-68UM] (“It’s common for developers and publishers to provide modding tools with their products, to the point where middleware developers like Havok, Unity and Unreal now frequently include provisions for modding in their engine licenses to publishers and developers.”); *see also Games with Official Modding Tools*, MOBY GAMES, <https://www.mobygames.com/game-group/games-with-official-modding-tools> [https://perma.cc/S5C4-TB6U] (last visited Dec. 20, 2022) (providing a list of games that have official modding tools provided by the developer). *But see* Renyi Hong & Vivian Hsueh-Hua Chen, *Becoming an Ideal Co-Creator: Web Materiality and Intensive Laboring Practices in Video Game Modding*, 16(2) NEW MEDIA & SOC’Y 290, 293 (2014) (discussing the decision by publisher Electronic Arts to not include modding support in *Battlefield 3*, and the subsequent backlash from fans.).

¹⁰⁶ *See* Christian Wait, *Video Game Mods: Essential or Illegal?*, OVERLODE (Apr. 15, 2021), <https://overlope.co.uk/video-game-mods-essential-or-illegal/> (“[M]odders of the demo scene used their own code and assets to manipulate hardware and software.”).

¹⁰⁷ *See* BONNIE A. NARDI, MY LIFE AS A NIGHT ELF PRIEST: AN ANTHROPOLOGICAL ACCOUNT OF WORLD OF WARCRAFT 143 (2010) (tracing video game modding at least as far back as 1961); Wilson Sonsini Goodrich & Rosati, *Are Gaming Companies Maddened by Mods or Embracing Them?*, JD SUPRA (July 20, 2020), <https://www.jdsupra.com/legalnews/are-gaming-companies-maddened-by-mods-51053/> [https://perma.cc/HQ6A-N5BU] (providing a brief overview of the history of modding, including the production of video game creation systems in the 1980s).

¹⁰⁸ *See Gaming Mods and Copyright*, MICH. TECH. L. REV. BLOG, <https://mttlr.org/2012/11/gaming-mods-and-copyright/> [https://perma.cc/7V4J-QLKE] (last visited Nov. 15, 2022) (“While there are arguments to be made for fair use defenses or definitions of mods as derivative works, mods exist in a constantly shifting grey area, subject to the vagaries of developer whimsy.”); *see also* Megan Carriker, *Who Owns My Game Mod?*, ODIN L. & MEDIA BLOG (Feb. 7, 2018), <https://odin-law.com/who-owns-my-game-mod/> [https://perma.cc/VY9F-PBBL] (“At their core, game mods

use of copyrighted graphics and story materials,¹⁰⁹ as well as the alteration and storage of game code.¹¹⁰ This means that virtually all mods implicate a host of copyright concerns.¹¹¹ Additionally, game companies frequently draft provisions of their Terms of Service (“TOS”) and/or End User License Agreements (“EULA”) that either prohibit or severely restrict the creation of mods.¹¹² This means that even if some mods are deemed acceptable under copyright law, they could still face legal challenges on the basis of the rules the modders agreed to when they were granted access to a particular game.¹¹³

2. Mods in the Courtroom

While there is no case law specifically concerning mods as fan remakes, some types of mods have been addressed by the courts.¹¹⁴ These cases are usually analyzed under the doctrine of “fair use.”¹¹⁵ The Copyright Act provides four main factors for determining fair use:

1) The purpose and character of the use, including whether such use is of a commercial nature . . . ; 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.¹¹⁶

In addition to these four statutory factors, the Supreme Court has introduced the concept of “transformative use,” which requires an examination of “whether the new work merely supersedes the objects of the original creation, or whether and to what extent it is ‘transformative,’ altering the original with new expression, meaning, or message.”¹¹⁷ While

are derivative works. A modification needs to run on the original work in order for the mod itself to work. As a game modder, you own some limited copyrights in what you created but what you created is likely copyright infringement.”).

¹⁰⁹ See *MDY Industries, LLC v. Blizzard Entertainment, Inc.*, 616 F. Supp. 2d 958, 966–67 (D. Ariz. 2009) (“Audio-visual displays of computer games are subject to copyright protection, and a player’s interaction with the software of those games does not defeat this protection even though the player’s actions in part determine what is displayed on the computer screen.”).

¹¹⁰ See *Gaming Mods and Copyright*, *supra* note 108.

¹¹¹ *Id.*

¹¹² See Mark Kretschmar & Mel Stanfill, *Mods as Lightning Rods: A Typology of Video Game Mods, Intellectual Property, and Social Benefit/Harm*, 28 SOC. & LEGAL STUD. 517, 519 (2018) (“[M]ods are interpreted as presumptively illegal when they violate terms of service (TOS) or EULA”); see also Kyle Orland, *Blizzard Now Claims Full Copyright for Player-Made “Custom Game” Mods*, ARS TECHNICA (Jan. 29, 2020, 3:39 PM), <https://arstechnica.com/gaming/2020/01/blizzard-now-claims-full-copyright-for-player-made-custom-game-mods/> [https://perma.cc/7XSC-V3B6] (explaining how Blizzard’s Acceptable Use Policy allows the company to claim ownership over certain types of mods).

¹¹³ Kretschmar & Stanfill, *supra* note 112, at 518 (“[H]ow modding happens technologically [by violating EULAs] is often illegal regardless of whether *what* modders do textually would otherwise be legal – regardless of whether, for example, the content may be commentary or criticism protected under the U.S. fair use doctrine.”).

¹¹⁴ See discussion *infra* Part IV.A.2 regarding court cases.

¹¹⁵ See discussion *infra* Part IV.A.2 regarding court cases.

¹¹⁶ 17 U.S.C. § 107.

¹¹⁷ *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 569 (1994).

a finding of transformative use is not required for a successful fair use defense,¹¹⁸ the doctrine has come to dominate fair use analysis over the course of the last few decades, rendering transformative use a significant question in any case involving fair use.¹¹⁹

Mods earned some early legal victories in cases like *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, in which the Ninth Circuit held that a third-party device used to temporarily mod Nintendo games (a) did not create derivative works of Nintendo games when it created temporary audiovisual displays;¹²⁰ and (b) would be considered fair use had any derivative works been created.¹²¹ However, as the technology and practices surrounding mods changed, the holding of *Galoob* became less and less applicable to today's creations, which rarely incorporate transient audiovisual works and instead opt for more permanent displays.¹²²

Six years after *Galoob*, the Ninth Circuit decided the case of *Micro Star v. Formgen Inc.*, which demonstrated how changes in the creation and distribution of mods resulted in changes in the Court's analysis.¹²³ This time, the modifications took the form of permanent alterations to the original video game's files, whereas *Galoob*'s modifications ceased to exist once the console was turned off.¹²⁴ This difference between the two cases was critical, as the "concrete or permanent" nature of the *Micro Star* mods meant that the audiovisual displays described by the modified game files could be classified as derivative works of the original video games.¹²⁵

The court further diverged from *Galoob* in its fair use analysis.¹²⁶ Whereas the modders in *Galoob* made temporary mods for their own use and enjoyment,¹²⁷ the *Micro Star* modders sold their creations to others, making their actions "commercial" under the first prong of the fair use analysis and creating a heavy presumption against fairness.¹²⁸ Though the plaintiff included the program used to modify the game files in the sale of the game for the express purpose of allowing players to create new game levels by modifying the files,¹²⁹ the inclusion of this program did

¹¹⁸ *Id.* at 579.

¹¹⁹ See Jiarui Lui, *An Empirical Study of Transformative Use in Copyright Law*, 22 STAN. TECH. L. REV. 163, 166 (2019) (reporting that approximately 90 percent of recent fair use decisions have involved transformative use).

¹²⁰ *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, 964 F.2d 965, 969 (9th Cir. 1992).

¹²¹ *Id.* at 969–72.

¹²² See Lindstrom, *supra* note 15, at 820–21.

¹²³ *Id.*

¹²⁴ *Micro Star v. Formgen Inc.*, 154 F.3d 1107, 1111 (9th Cir. 1998).

¹²⁵ *Id.*

¹²⁶ *Id.* at 1112–13.

¹²⁷ *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, 964 F.2d 965, 970 (9th Cir. 1992).

¹²⁸ *Micro Star*, 154 F.3d at 1113.

¹²⁹ *Id.* at 1109.

not amount to a license to create unrestricted derivative works,¹³⁰ nor did it qualify as abandonment of the copyrighted work.¹³¹ The fact that the modded files at issue were downloaded onto a CD-ROM and sold by the defendant was a significant factor in the discussion of whether the mods were protected under fair use.¹³² However, other factors, such as the fictional and fantastical nature of the work and the quantity of the copyrighted elements used by the defendant, were also given substantial weight in the fair use analysis.¹³³ The court did not indicate whether any particular one of the factors was instrumental to its finding, noting only that the combination of factors clearly put the work outside the bounds of fair use.¹³⁴

In the almost twenty-five years following *Micro Star*, there have been hardly any further court cases directly addressing mods.¹³⁵ The lack of case law tackling modern modding practices has led to a general assumption that mods will be treated as derivative works.¹³⁶ However, arguments have been made that the *Micro Star* decision renders certain types of mods classifiable as nonderivative works and protectable under the fair use doctrine, such as “total conversion” mods that use a game’s engine to create entirely original visuals and stories.¹³⁷

When it comes to remakes as recreations, though, this argument is unlikely to carry water under traditional understandings of *Micro Star*. In ruling that mods were derivative works, the Ninth Circuit placed great emphasis on the fact that the modded game files were capable of displaying copyrighted audiovisual elements, albeit elements arranged in ways that differed from their presentation in the actual game.¹³⁸ It follows that remakes as recreations will receive even less favorable treatment under this line of thinking.¹³⁹ Remakes, by nature, require incorporating enough of the original work’s attributes for the remake to be recognizable as such.¹⁴⁰ This is especially true with video game remakes, where the

¹³⁰ *Id.* at 1113.

¹³¹ *Id.* at 1114.

¹³² *Id.* at 1113.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ Lindstrom, *supra* note 15, at 823.

¹³⁶ Ryan Wallace, *Modding: Amateur Authorship and How the Video Game Industry Is Actually Getting It Right*, 2014 BYU L. REV. 219, 224 (2014); Sydney Johnson, *Threats to Copyrighted Code: Bots, Mods, and Reverse Engineering*, 3 BUS. ENTREPRENEURSHIP & TAX L. REV. 174, 186 (2019); Andrew F. Thomas, *Modding the Implied License Doctrine: An Estoppel License Framework for Video Game Mods*, 47 AM. INTELL. PROP. L. ASS’N 545, 547 (2019); Jason Zenor, *If It’s In the Game: Is There Liability For User-Generated Characters That Appropriately A Player’s Likeness?*, 16 J. MARSHALL REV. INTELL. PROP. L. 291, 295 (2017).

¹³⁷ *Spare The Mod: In Support of Total-Conversion Modified Games*, 125 HARVARD L. REV. 789, 789 (2012).

¹³⁸ *Micro Star*, 154 F.3d at 1107, 1110.

¹³⁹ See discussion *supra* Part III.A, B for an explanation of how fan remakes endeavor to recreate the work on which they are based.

¹⁴⁰ Genevieve Koski, *Reboots, Remakes, and Reimaginings: A Guide to Confusing Hollywood*

common expectation among fans is for the remake to “feel” like how the original game(s) felt, with any small change having the potential to disrupt that “feel.”¹⁴¹ As a result, by recreating an old game’s settings, characters, and storylines, fan remakes will invariably contain nearly all of the protected elements of the original copyrighted work.¹⁴² These are all factors that led to the designation of mods as derivative works in *Micro Star*.¹⁴³

Further fair use analysis of fan recreations under *Micro Star* yields murkier, albeit ultimately discouraging, results. The court noted that when a work is a derivative of a “fiction or fantasy” creation, as virtually all video game remakes are, the second fair use factor will usually weigh against a finding of fair use for the derivative work.¹⁴⁴ The third factor provides even less wiggle room due to the fact that most remakes will take a substantial amount of protected elements from the original work.¹⁴⁵

It is within the first and fourth fair use factors that fan remakes significantly diverge from the facts of *Micro Star*, particularly with regards to commerciality. The mods at issue in *Micro Star* were being sold by the infringing parties, a fact that made the use “presumptively unfair” under the first fair use factor.¹⁴⁶ This differs markedly from how many fan creators operate, as a great deal of fan remakes are distributed free of charge.¹⁴⁷ In fact, many mods are only able to be accessed once the player

Terminology, VOX (Sept. 16, 2015, 12:10 PM), <https://www.vox.com/2015/9/16/9337121/reboots-remakes-reimaginings> [https://perma.cc/KG4V-Z72Y].

¹⁴¹ Kirk McKeand, *Interview: How Rockband and Grove Street Remastered All Three ‘GTA’ Games*, USA TODAY SPORTS (Nov. 11, 2021, 9:00 AM), <https://ftw.usatoday.com/2021/11/gta-trilogy-remaster-interview-rockstar-games> [https://perma.cc/695E-D7CQ] (“[When remaking games,] don’t change the feel . . . When you’re playing with somebody’s childhood, you’ve got to be very, very careful.”); see also Chris Carter, *Final Fantasy VII Remake Team Muses On Some Changes From The Original*, DESTRUCTOID (June 24, 2022, 3:00 PM), <https://www.destructoid.com/final-fantasy-vii-remake-team-muses-on-some-changes-from-the-original/> [https://perma.cc/WJ7F-Q2NQ] (discussing the Final Fantasy VII remake and its “controversial” changes); Robert Webb, *The Worst Video Game Remakes of All Time*, BOSS LEVEL GAMER (Mar. 31, 2022, 1:23 PM), <https://bosslevelgamer.com/worst-video-game-remakes-9869> [https://perma.cc/MK26-BW7Y] (discussing how some fans felt that seemingly small changes to the amount of fog in the *Silent Hill 2* remake altered the atmosphere of the game).

¹⁴² See discussion *supra* Part III.A.

¹⁴³ *Micro Star*, 154 F.3d at 1112 (“Similarity of ideas [necessary to designate something as a derivative work] may be shown by comparing the objective details of the works: plot, theme, dialogue, mood, setting, characters, etc.”).

¹⁴⁴ *Id.* at 1113.

¹⁴⁵ See *supra* notes 39–41 and accompanying text.

¹⁴⁶ *Micro Star*, 154 F.3d at 1113.

¹⁴⁷ *Free Remakes*, FREE GAMES UTOPIA, <https://www.freegamesutopia.com/free-games/?id=1&kw=259> [https://perma.cc/RDS2-448X] (last visited Dec. 15, 2022).

has purchased the original game.¹⁴⁸ These factors may render fan remakes noncommercial under the first fair use factor.¹⁴⁹

However, even if a fan remake is distributed free of charge and requires possession of the game it is remaking to operate, it may still fail to satisfy the fourth fair use factor.¹⁵⁰ The fourth factor accounts for whether an infringing work “usurps” the market for not only the original work but also for derivative works based on of the original work.¹⁵¹ If the infringing work usurps the market for derivative works that the “creators of the original works would in general develop or license others to develop,” then it is unacceptable under the fourth factor.¹⁵² This is bad news for fan remakes, since there is a robust market for official remakes of video games, meaning that most fan remakes will be usurping a derivative market that the copyright holder of the original game would logically pursue themselves.¹⁵³

The clash between fan remakes and official remakes is illustrated by the situation involving *re3* and *reVC*.¹⁵⁴ Not long after *re3* and *reVC* were released to the public, the *GTA* series’ official publisher, Take-Two, released *Grand Theft Auto: The Trilogy – The Definitive Edition*, a remastered collection of *GTA* games, including the two remade in *re3* and *reVC*.¹⁵⁵ While the collection sold well,¹⁵⁶ the quality of the remakes was met with heavy criticism.¹⁵⁷ Some of these complaints included

¹⁴⁸ John Baldrica, *Mod as Heck: Frameworks for Examining Ownership Rights in User-Contributed Content to Videogames, and a More Principled Evaluation of Expressive Appropriation in User-Modified Projects*, 8 MINN. J.L. SCI. & TECH. 681, 708 (2007); see also Yin-Poole, *supra* note 48 (describing how players of *re3* and *reVC* must own a copy of the original games in order for the remake to work).

¹⁴⁹ *But see* Paramount Pictures Corp. v. Axanar Productions, Inc., No. 2:15-CV-09938-RGK-E, 2017 WL 83506, at *8 (C.D. Cal. Jan. 3, 2017) (finding that something can be commercial even if it is being given away for free, as the project may still afford its creators indirect benefits such as new job opportunities).

¹⁵⁰ See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 592 (1994) (discussing the market usurpation theory of fair use).

¹⁵¹ *Cariou v. Prince*, 714 F.3d 694, 708 (2d Cir. 2013).

¹⁵² *Campbell*, 510 U.S. at 592.

¹⁵³ See Imad Khan, *Like Old Hollywood Movies, Video Games Get a Polish for New Audiences*, N.Y. TIMES (Aug. 1, 2020), <https://www.nytimes.com/2020/08/01/business/video-game-remake-remaster-nostalgia.html> [<https://perma.cc/5B35-3CKM>].

¹⁵⁴ See Zwiezen, *supra* note 10.

¹⁵⁵ See Tristan Ogilvie, *Grand Theft Auto: The Trilogy – The Definitive Edition Review*, IGN (Nov. 17, 2021, 3:40 AM), <https://www.ign.com/articles/grand-theft-auto-the-trilogy-the-definitive-edition-review> [<https://perma.cc/K7QX-N7AT>].

¹⁵⁶ See Tom Ivan, *GTA’s Remaster Trilogy Has ‘Significantly Exceeded Expectations’ With Up To 10M Sales*, VIDEO GAMES CHRON. (Feb. 7, 2022, 10:19 PM), <https://www.videogameschronicle.com/news/gtas-remaster-trilogy-has-significantly-exceeded-expectations-with-up-to-10m-sales/> [<https://perma.cc/SU43-G4CC>].

¹⁵⁷ See Ogilvie, *supra* note 155; Simon Hill, *Grand Theft Auto: The Trilogy Is a Wasted Opportunity*, WIRED (Nov. 23, 2021, 8:00 AM), <https://www.wired.com/review/grand-theft-auto-the-trilogy-the-definitive-edition/> [<https://perma.cc/YA9G-XRUI>]; Cameron Kunzelman, *Grand Theft Auto Trilogy’s Definitive Edition Misses The Point Of A Remaster*, POLYGON (Nov. 22, 2021, 11:00 AM), <https://www.polygon.com/reviews/22792109/grand-theft-auto-the-trilogy-review-definitive-edition-ps4-xbox-one-series-x> [<https://perma.cc/6YLY-LSUW>].

recommendations for other, unofficial fan remakes.¹⁵⁸ Others called for the restoration of the mods and fan remakes that were taken down prior to the collection's release,¹⁵⁹ including mentions of *re3* and *reVC* specifically.¹⁶⁰

It is likely that situations such as the one between the *Grand Theft Auto: The Trilogy – The Definitive Edition* and *re3* and *reVC* would be taken by courts as evidence that fan remakes usurp the derivative markets of the official games on which they are based.¹⁶¹ Even if a fan remakes a game for which there are no plans for any official re-release, as long as it is something that the copyright owner would “in general develop,” the fan remake could still be deemed to usurp the derivative market.¹⁶²

When faced with the question of whether fan remakes of video games are fair use, modern courts will likely rule in the negative, especially if they adhere closely to the reasoning of *Micro Star*.¹⁶³ The recent Supreme Court holding in *Warhol Foundation v. Goldsmith*, which many have taken as imposing further limitations on fair use, is unlikely to help the case of fan remakes.¹⁶⁴ It is possible that a court could adopt a new line of reasoning to address the problem, mainly due to how long it has been since any court has focused on the matter.¹⁶⁵ In particular, the growing concern for video game preservation could be used to make a favorable fair use argument regarding fan remakes, especially those connected to reverse-engineered projects.¹⁶⁶ However, the nature of fan remakes as

¹⁵⁸ Richard Breslin, *This Grand Theft Auto 3 Remake Is What We Should Have Had All Along*, GAME BYTE (June 27, 2022), <https://www.gamebyte.com/grand-theft-auto-3-remake/> [<https://perma.cc/7QR6-V4QY>].

¹⁵⁹ See discussion *supra* Part 0.

¹⁶⁰ See Zack Zwiezen, *Classic Mods and Old GTA Games Didn't Need to Die For These Unfinished Remakes*, KOTAKU (Nov. 12, 2021), <https://kotaku.com/classic-mods-and-old-gta-games-didn-t-need-to-die-for-t-1848050135> [<https://perma.cc/JRT5-W5YS>].

¹⁶¹ See also Mark Brown, *Sega Shuts Down Monster Streets of Rage Remake Project*, WIRED (Apr. 13, 2011, 12:20 PM), <https://www.wired.co.uk/article/sega-shuts-down-streets-of-rage-remake> [<https://perma.cc/TXN5-FZP9>] (discussing a similar situation in which a much-anticipated remake of the classic arcade brawler *Streets of Rage* was shut down by copyright owner Sega, shortly before Sega released its own remaster of one of the games in the series).

¹⁶² *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 592 (1994).

¹⁶³ See *supra* notes 123–153 and accompanying text regarding why a strict reading of *Micro Star* would likely end unfavorably for most fan remakes.

¹⁶⁴ See Benjamin Hodges, *Navigating Copyright Boundaries: Insights From the Supreme Court Decision In Warhol v. Goldsmith*, FOSTER GARVEY PC (May 29, 2023), <https://www.foster.com/newsroom-alerts-navigating-copyright-boundaries-insights-from-supreme-court-decision-warhol-v-goldsmith> [<https://perma.cc/WE9F-4FBV>]. See generally Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith, 143 S. Ct. 1258 (2023) (issuing a 7-2 opinion against fair use and in favor of Goldsmith).

¹⁶⁵ See Baldrice, *supra* note 148, at 708 (“*Micro Star* effectively stands as the most current example of courts’ analysis of Mods as a fair-use derivative work.”); Zvi S. Rosen, *Man, Mod, and Law: Revisiting the Law of Computer Game Modifications*, 59 IDEA: IP L. REV. 269, 281–86 (2018) (reflecting on the changes in video game modding practices that took place in the time since *Micro Star*).

¹⁶⁶ See Geigner, *supra* note 50 (discussing the role of fan efforts in preserving video game source code); see also discussion *infra* Part V.A for arguments concerning taking preservation efforts into account when analyzing fair use.

recreations of existing artistic works will automatically set a high bar for any findings of fair use.¹⁶⁷

B. *The Legal History of Reverse Engineering*

Many remakes are the results of fan-driven, reverse-engineered projects, a process that requires its own fair use evaluation.¹⁶⁸ For a long time, courts have viewed reverse-engineering as a valid fair use in several cases connected to the video game industry.¹⁶⁹ Two Ninth Circuit cases, *Sega Enterprises Ltd. v. Accolade, Inc.* and *Sony Computer Entertainment Inc. v. Connectix Corp.*, concerned the reverse-engineering of games and game consoles.¹⁷⁰ The defendant in *Accolade* did this in order to discover how to make games compatible with Sega's Genesis console; while in *Connectix*, the goal was to create software capable of running games built for Sony's PlayStation.¹⁷¹ In both cases, the Ninth Circuit found that the use of reverse-engineering constituted fair use since it was done to access the functional, unprotected elements of the code with the ultimate "legitimate" purpose of producing products compatible with the disassembled goods.¹⁷²

The Federal Circuit Court of Appeals addressed a comparable situation in *Atari Games Corp. v. Nintendo of America Inc.*¹⁷³ The Court came to a similar conclusion as the Ninth Circuit regarding the availability of the fair use defense in cases where reverse-engineering was done to access unprotected elements of a product's code.¹⁷⁴ But ultimately, the defendant, Atari, lost the case due to the fact that the final product of its reverse-engineering efforts was "substantially similar" to that of the plaintiff's gaming console.¹⁷⁵ This differs from *Connectix*, where the defendant created largely original software that only copied code obtained through reverse-engineering insofar as was needed to ensure

¹⁶⁷ See *supra* notes 123–162 and accompanying text.

¹⁶⁸ See discussion *supra* Part III.A for an overview of the use of reverse-engineering in fan remakes.

¹⁶⁹ See *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832 (Fed. Cir. 1992); *Sony Comput. Ent. Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000).

¹⁷⁰ See Craig Zieminski, *Game Over for Reverse Engineering? How the DMCA and Contracts Have Affected Innovation*, 13 J. TECH. L. & POL'Y 289, 294, 299–300 (2008).

¹⁷¹ *Id.*

¹⁷² *Id.* at 295, 299–300; *Accolade*, 977 F.2d at 1520 ("[B]ecause *Accolade* has a legitimate interest in gaining such access [via reverse-engineering] (in order to determine how to make its cartridges compatible with the Genesis console), we agree with *Accolade*."); *Connectix*, 203 F.3d at 607 ("Connectix reverse-engineered the Sony BIOS to produce a product that would be compatible with games designed for the Sony PlayStation. We have recognized this purpose as a legitimate one . . .").

¹⁷³ *Atari*, 975 F.2d at 835–37.

¹⁷⁴ *Id.* at 842 ("[S]ociety is free to exploit facts, ideas, processes, or methods of operation in a copyrighted work The Copyright Act permits an individual in rightful possession of a copy of a work to undertake necessary efforts [in this case, reverse-engineering] to understand the work's ideas, processes, and methods of operation.").

¹⁷⁵ *Id.* at 845.

compatibility with the reverse-engineered products.¹⁷⁶ As noted by the Ninth Circuit in *Accolade*, “our conclusion [that reverse-engineering can be fair use] does not, of course, insulate *Accolade* from a claim of copyright infringement with respect to its finished products.”¹⁷⁷ This series of case law suggests that just because copying code in the process of reverse-engineering can be fair use, the ultimate product of the reverse-engineering cannot be a mere copy of the original.¹⁷⁸

These holdings are problematic for reverse-engineered video game remakes, as the end product is, by definition, a modified version of the original product.¹⁷⁹ The *Sega-Atari-Connectix* line of cases has been understood as applying to “the wholesale copying of copyrighted code as an intermediate step to reverse-engineer unprotected functional elements and achieve interoperability for a new, competing product.”¹⁸⁰ Unlike the new gaming software in *Connectix*, it is unlikely that an almost exact copy of a game’s source code made for the purpose of remaking a game will qualify as a “new, competing product.”¹⁸¹ Though many reverse-engineering projects are done with interoperability in mind,¹⁸² the interoperability is that of the source code for the game and existing gaming platforms. This again runs up against the “new, competing product” requirement, as video game reverse-engineers are not trying to make their games work on brand-new consoles that they have developed but are instead simply providing for the games to run on platforms that already exist.¹⁸³ Finally, it should be noted that this line of cases occurred before the practice of including anti-reverse-engineering provisions in EULAs became commonplace.¹⁸⁴

Ultimately, these prior cases were largely predicated on using reverse-engineering to access the software’s unprotected aspects—functional elements classifiable as facts or processes that fall outside the scope of what can be copyrighted.¹⁸⁵ Since reverse-engineered fan remakes usually copy the entirety of a game’s source code in order to recreate

¹⁷⁶ See *Connectix*, 203 F.3d at 600.

¹⁷⁷ *Accolade*, 977 F.2d at 1528. Sega and *Accolade* ultimately settled before the court had an opportunity to hear Sega’s case for *Accolade*’s copyright infringement on remand. See William S. Coats & Heather D. Rafter, *The Games People Play: Sega v. Accolade and the Right to Reverse Engineer Software*, 15 HASTINGS COMM. & ENT. L.J. 557, 557 (1993).

¹⁷⁸ See *Accolade*, 977 F.2d at 1527–28.

¹⁷⁹ See Yin-Poole, *supra* note 48 (discussing the process of reverse-engineering two games, with the end product of these endeavors being a modified version of the games’ source code).

¹⁸⁰ Justin Hughes, *The Sub Rosa Rules of Copyright Fair Use*, 64 ARIZ. L. REV. 1, 28 (2022).

¹⁸¹ See *Connectix*, 203 F.3d at 600.

¹⁸² See Yin-Poole, *supra* note 48 (noting that one of developer aap’s motivations is to give games “proper PC port[s].”).

¹⁸³ See *id.*

¹⁸⁴ *Coders’ Rights Project Reverse Engineering FAQ*, ELEC. FRONTIER FOUND., <https://www.eff.org/issues/coders/reverse-engineering-faq> [<https://perma.cc/Z6BW-DSPK>] (last visited Dec. 25, 2022).

¹⁸⁵ See Zieminski, *supra* note 170, at 294–300.

copyrighted visuals and stories, as opposed to copying small portions of the code in order create functionality with new software or hardware, it is likely that the previous holdings are not applicable.¹⁸⁶

C. Challenges Posed by the Digital Millennium Copyright Act (“DMCA”)

1. DMCA Takedown Notices and Counter Notices

The Digital Millennium Copyright Act (“DMCA”) was enacted in 1998 for the purpose of giving “creators of copyrighted material global protection from piracy in the digital age.”¹⁸⁷ The Act created a system of notification by which one can inform online service providers¹⁸⁸ of the presence of infringing material on their websites and request the material’s removal.¹⁸⁹ Since the DMCA’s enactment, the “fast, cheap, and efficient” nature of its takedown system has made it the go-to method for removing copyrighted material from the internet.¹⁹⁰ Nowhere is this more apparent than in its use on fan remakes, where projects sometimes only survive for a matter of days before a takedown request is issued.¹⁹¹

The widespread use of DMCA takedowns has given rise to concerns about how the Act is affecting internet users’ rights. Despite the Act’s broad implications for internet users, the voices and concerns of copyright holders and internet service providers dominated the discussions preceding the bill’s passage.¹⁹² This led to the Act containing relatively sparse protections for internet users.¹⁹³ Previously, online materials were only removable in cases where copyright holders met the burden of proof necessary to convince a court to grant an injunction.¹⁹⁴ Under the DMCA,

¹⁸⁶ See discussion *supra* Part III.A (providing an overview of reverse-engineering practices in fan remakes of video games).

¹⁸⁷ Presidential Statement on Signing the Digital Millennium Copyright Act, 2 PUB. PAPERS 1902 (Oct. 28, 1998).

¹⁸⁸ Digital Millennium Copyright Act (DMCA), 17 U.S.C. § 512(k) (stating that “service provider” under this section of the DMCA refers to any “provider of online services or network access.”).

¹⁸⁹ 17 U.S.C. § 512(c)(3)(A).

¹⁹⁰ Daniel Seng, *The State of the Discordant Union: An Empirical Analysis of DMCA Takedown Notices*, 18 VA. J.L. & TECH. 369, 376–77 (2014) (“Since [2006], there has been an explosion in the use of takedown notices. It is no longer uncommon for Google and the so-called cyberlocker sites to receive and process thousands of takedown notices each month.”).

¹⁹¹ See Allegra Frank, *Metroid 2 Fan Remake Finally Released, Quickly Hit With Copyright Claims*, POLYGON (Aug. 8, 2016, 4:00 PM), <https://www.polygon.com/2016/8/8/12404100/metroid-2-fan-remake-am2r-copyright-claim> [<https://perma.cc/86Y5-H539>].

¹⁹² See Matthew Schonauer, *Let the Babies Dance: Strengthening Fair Use and Stifling Abuse in DMCA Notice and Takedown Procedures*, 7 J. L. & POL’Y FOR INFO. SOC’Y 135, 157–58 (2011) (discussing how the reports and negotiations surrounding the passage of the DMCA failed to “quantify or contemplate the potential harm to end users that could result from overreaching on the part of rights holders. . . . [T]here does not appear to be much concern for the effect the law would have on end users.”).

¹⁹³ See *id.* at 159.

¹⁹⁴ Malla Pollack, *Rebalancing Section 512 to Protect Fair Users from Herds of Mice - Trampling Elephants, or a Little Due Process Is Not Such a Dangerous Thing*, 22 SANTA CLARA COMPUT. & HIGH TECH. L.J. 547, 561 (2006).

however, content must be removed upon receipt of a DMCA takedown request, the issuing of which are subject to no limitations besides a requirement that the copyright holder does not “knowingly materially misrepresent” the infringement of the materials requested for takedown.¹⁹⁵ This presents copyright holders with a significantly lower threshold for getting allegedly infringing content removed.¹⁹⁶

Further complicating matters is the lack of room for a fair use analysis in the notice and takedown process.¹⁹⁷ Online service providers report receiving many takedown notices that ignore the possibility of fair use, even in cases where the defense would “obviously” apply to the material at issue.¹⁹⁸ Some jurisdictions have attempted to strengthen fair use considerations in DMCA takedown requests.¹⁹⁹ In *Lenz v. Universal Music Corp.*, the Ninth Circuit held that before issuing a DMCA takedown notice, a copyright holder must form a “good faith belief . . . the [target of the takedown] did not constitute fair use.”²⁰⁰ Notwithstanding this holding, the overall DMCA takedown process largely favors those who file the takedown notices.²⁰¹

After receiving a DMCA takedown notice, users are left with only the DMCA counter notice as recourse for restoring their work to the internet—a risky and thus seldom-used option, as the filing of a counter notice entails consenting to being sued in federal court by the copyright holder.²⁰² This reluctance to make use of counter notices is buoyed by the target’s lack of information about the filing process and general lack of knowledge regarding the nuances of copyright law and potential defenses

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ See JENNIFER M. URBAN ET AL., NOTICE AND TAKEDOWN IN EVERYDAY PRACTICE 40 (2017).

¹⁹⁸ See *id.* (“[E]very [online service provider] told stories of takedowns that ignored fair use defenses Several echoed one respondent’s view that ‘many copyright complaints . . . would obviously qualify as fair use’”); see also Sharon Bar-Ziv & Niva Elkin-Koren, *Behind the Scenes of Online Copyright Enforcement: Empirical Evidence on Notice & Takedown*, 50 CONN. L. REV. 339, 380 (2018); URBAN ET AL., *supra* note 197, at 42 (explaining while not every jurisdiction requires copyright holders to conduct fair use analyses prior to sending takedown notices, many prominent online service providers do request such analysis).

¹⁹⁹ See Kathleen O’Donnell, *Lenz v. Universal Music Corp. and the Potential Effect of Fair Use Analysis Under the Takedown Procedures of § 512 of the DMCA*, 8 DUKE L. & TECH. REV. ¶ 28 (2009).

²⁰⁰ *Lenz v. Universal Music Corp.*, 815 F.3d 1145, 1154 (9th Cir. 2016).

²⁰¹ See Marc J. Randazza, *Lenz v. Universal: A Call to Reform Section 512(f) of the DMCA and to Strengthen Fair Use*, 18 VAND. J. ENT. & TECH. L. 743, 771 (2016) (“[In the Ninth Circuit,] the user’s fair use right is only subject to the review process at the copyright owner’s end, and that review process need not be correct—or even adequate.”).

²⁰² Andre Menko Bleech, *What’s The Use? Good Faith Evaluations of ‘Fair Use’ and Digital Millennium Copyright Act ‘Takedown’ Notices*, 18 COMMLAW CONSPECTUS 241, 257 (2009) (“Under the DMCA, a user must first agree to be sued by the copyright holder if it desires to challenge the removal of his posting. . . . Given the costs of litigation, only a small number of users actually challenge a takedown notice”).

for infringement, especially in the face of seemingly threatening notices from large corporations.²⁰³

All of this is not to say that creators of fan remakes would have an easy time pursuing formal legal action in response to DMCA takedowns. Analysis of fan remakes under existing applicable case law regarding fair use yields inauspicious results for fan remake creators.²⁰⁴ However, the difficulties posed by the DMCA go a long way in explaining why there is such a paucity of case law addressing both fan remakes and mods as a whole and why the law surrounding these types of creations has been so slow to develop despite the frequency of clashes between copyright holders and creators.

2. The DMCA and Reverse-Engineering

Further complicating matters is the DMCA itself, which contains a provision that “[n]o person shall circumvent a technological measure that effectively controls access to a work protected under this title.”²⁰⁵ The phrase “circumvent[ing] a technological measure” can include “descramble[ing] a scrambled work, to decrypt an encrypted work, or . . . avoid[ing], bypass[ing], remov[ing], deactivat[ing], or impair[ing] a technological measure, without the authority of the copyright owner.”²⁰⁶ Some speculate that the Act’s enactment was a contributing factor in the video game industry’s move to primarily digital operations, a move which puts games within the purview of this specific DMCA provision.²⁰⁷ While the DMCA does contain an exception explicitly addressing reverse-engineering, this exception is even more unfavorable toward reverse-engineered fan remakes than the prior case law, allowing reverse-engineering “for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs . . . to the extent any such acts of identification and analysis do not constitute infringement under this title.”²⁰⁸ In other words, reverse-engineering can only be used to research how to make a new piece of software compatible

²⁰³ See URBAN ET AL., *supra* note 197, at 44–45 (“[T]he typical target of a DMCA complaint has ‘little or no knowledge of copyright law,’ and little capacity to make informed estimates of the risks attendant on filing a counter notice [T]he language in a typical notice is ‘really threatening . . . [Users] are too afraid.’”).

²⁰⁴ See discussion *supra* Part IV.A.2.

²⁰⁵ 17 U.S.C. § 1201(a)(1)(A).

²⁰⁶ 17 U.S.C. § 1201(a)(3)(A).

²⁰⁷ See Derek Khanna, *Guarding Against Abuse: The Costs of Excessively Long Copyright Terms*, 23 COMMLAW CONSPPECTUS 52, 91 n.255 (2014); see also discussion *supra* Part III.B.3 (discussing the shift to digital distribution in the video game industry); see also Derek J. Schaffner, *The Digital Millennium Copyright Act: Overextension of Copyright Protection and the Unintended Chilling Effects on Fair Use, Free Speech, and Innovation*, 14 CORNELL J.L. & PUB. POL’Y 145, 146 (2004) (explaining how the DMCA encourages the adoption of digital rights management systems).

²⁰⁸ 17 U.S.C. § 1201(f)(1).

with another type of software, as opposed to being used to aid in creating fan remakes.²⁰⁹

Congress did not intend the DMCA provision regarding reverse-engineering to render the holdings of *Sega*, *Atari*, and *Connectix* void.²¹⁰ In spite of the wishes of Congress, the DMCA has come to dominate subsequent reverse-engineering cases, rendering it a common obstacle for the creators of fan remakes.²¹¹ There have been some attempts to make the DMCA less of a hindrance for institutions working in the field of video game preservation.²¹² As discussed later in this Note, expanding DMCA exceptions further could potentially allow the creators of fan remakes to take on reverse-engineering projects without fear of violating the Act, even if they lack affiliation to a museum, archive, or library.²¹³

D. *The Licensing Problem*

In addition to threats from the Copyright Act and the DMCA, fan-made remakes also face obstacles from contractual licensing practices in the video game industry.²¹⁴ Over the last few decades, courts have largely held that those who purchase software, including video games, only purchase a license to use the software, not the software itself.²¹⁵ These licenses are governed by End User License Agreements (“EULAs”) that players must agree to before being able to play the game.²¹⁶ These EULAs frequently contain provisions specifying that anything players create in a game, including mods, either belongs to the game publisher outright or can be used by the publisher with few restrictions.²¹⁷ In some cases,

²⁰⁹ See Tonya M. Evans, *Reverse Engineering IP*, 17 MARQ. INTELL. PROP. L. REV. 61, 95 (2013) (“The legislative history makes clear that this exception is for the purpose of creating something new and not simply to decrypt, access, and copy the existing software, which presumably would lead to unfair practices and potential market harm.”); see also Zieminski, *supra* note 170, at 307.

²¹⁰ S. REP. NO. 105-190, at 13 (1998) (“The objective is to ensure that the effect of current case law interpreting the Copyright Act is not changed by enactment of this legislation for certain acts of identification and analysis done in respect to computer programs. The purpose of this section is to foster competition and innovation in the computer and software industry.”).

²¹¹ See Zieminski, *supra* note 170, at 307.

²¹² See discussion *infra* Part V.B.

²¹³ See discussion *infra* Part V.B.

²¹⁴ See Alasdair Taylor, *Everything You Need to Know About Video Game EULAs*, SEQ LEGAL (June 19, 2019), <https://seqlegal.com/blog/everything-you-need-to-know-about-video-game-eulas> [<https://perma.cc/4JPM-UJF7>] (describing common practices in drafting End User License Agreements for video games).

²¹⁵ Joshua A.T. Fairfield, *Nexus Crystals: Crystallizing Limits on Contractual Control of Virtual Worlds*, 38 WM. MITCHELL L. REV. 43, 54 (2011).

²¹⁶ Lindstrom, *supra* note 15, at 822; see also Wallace, *supra* note 136, at 229.

²¹⁷ Wallace, *supra* note 136, at 229; see also Lindstrom, *supra* note 15, at 822–23; *Crusader Kings II EULA*, STEAM (Mar. 1, 2023), <https://legal.paradoxplaza.com/eula?locale=en> [<https://perma.cc/PFV4-2AKD>] (“[You grant Paradox] and our affiliates a nonexclusive, royalty-free, sublicensable, irrevocable, and perpetual right to use, develop, reproduce, modify, create derivative works from, distribute, transmit, broadcast, and otherwise communicate, publicly display, publicly perform, and otherwise commercialise or exploit your [user generated content] in any medium or forum, whether now known or later devised without attribution or compensation to your or any third party.”).

modding is banned entirely.²¹⁸ Many EULAs also state that reverse-engineering²¹⁹ is forbidden, effectively cutting off access to the game's code.²²⁰

While some courts have held that certain types of EULAs are not enforceable, clear language assigning copyright ownership of mods to game publishers has become standard in the video game industry.²²¹ The widespread use of EULA's dictating the terms of modmaking and reverse-engineering means that even if the developers of fan remakes were to successfully argue fair use, their cases would still be destined to fail on the grounds of contract violations of the agreements they made when they were originally granted access to the games.²²²

V. PRESS X TO RETRY: LEGAL THEORIES UNDER WHICH FAN REMAKES COULD OPERATE

The legal doctrines surrounding fan remakes are numerous and far-reaching.²²³ Under these existing doctrines and practices, it will be very difficult for fan remakes to stand up against legal scrutiny. However, there are several ways in which these doctrines can be adapted to make room for fan remakes.

²¹⁸ See Wallace, *supra* note 136, at 230; see also *Blizzard End User License Agreement*, BLIZZARD (May 31, 2023), <https://www.blizzard.com/en-us/legal/fba4d00f-c7e4-4883-b8b9-1b4500a402ea/blizzard-end-user-license-agreement> [<https://perma.cc/7AEF-XRAY>] ("You agree that you will not, in whole or in part or under any circumstances . . . modify . . . or create derivative works . . .").

²¹⁹ See generally discussion *supra* Part III.A (describing the role of reverse-engineering in remaking games).

²²⁰ See *Blizzard End User License Agreement*, *supra* note 218; *Fallout 4 EULA*, STEAM, https://store.steampowered.com/eula/377160_eula_0 [<https://perma.cc/CDH5-FU7F>] (last visited Dec. 21, 2022) ("YOU ARE NOT PERMITTED TO REVERSE ENGINEER, DECOMPILE OR DISASSEMBLE THE SOFTWARE IN ANY WAY.");

²²¹ Lindstrom, *supra* note 15, at 823 ("A cursory examination of equivalent EULAs from other publishers shows that this is more-or-less standard language across the industry. While the enforceability of EULAs might be debatable and typically considered on a case-by-case basis, the language here is clear: even when they are allowed to create them and commercially exploit them, modders do not own their own creations."); see also Stephen Hodzic, *Decoding the Video Game End User License Agreement*, JURIS MAG. (May 5, 2019), <https://sites.law.duq.edu/juris/2019/05/05/decoding-the-video-game-end-license-user-agreement/> [<https://perma.cc/UGT4-N2MX>] ("Some argue that having users agree to terms in such a way should not be binding . . . [U]sers do not have power to negotiate with the software company because the software is usually already purchased They also argue that the terms are excessively broad and incredibly restrictive; thus, the contract should be considered unconscionable and therefore not binding. Despite these concerns, courts usually find clickwrap agreements to be binding."); Annalee Newitz, *Dangerous Terms: A User's Guide to EULAs*, ELEC. FRONTIER FOUND. (Feb. 17, 2005), <https://www.eff.org/wp/dangerous-terms-users-guide-eulas> [<https://perma.cc/YK7T-XJSS>].

²²² See Nicholas Camillo, *Bowers v. Baystate Technologies: The Unfair Use Doctrine of Reverse Engineering*, 20 J. TECH. L. & POL'Y 155, 172 (2015) (recounting the details of a case in which defendants lost due to the anti-reverse-engineering provision of the original software's license agreement) ("Both [the majority and the dissenting opinions] agreed that Baystate's reverse-engineering of Bowers' program was fair use. The only element that pushed Bowers to ultimately win the case was Bowers' contract. If Bowers had never contracted with Baystate to prohibit Baystate from reverse-engineering Bowers' program, Bowers would have likely had a different outcome.");

²²³ See discussion *supra* Part 0.

A. *Expand Fair Use*

Several avenues are available for expanding fair use to include fan remakes. Congress views the availability of a work as a relevant factor in fair use analysis, writing in a 1975 report that “[i]f the work is ‘out of print’ and unavailable for purchase through normal channels, the user may have more justification for reproducing it than in the ordinary case.”²²⁴

The preservation aspect of fan remakes can be applied to fair use in ways that are more favorable to their legal existence. In an era where media is disappearing at an accelerated rate, there is an argument that ensuring continued access to published works should be recognized as a valid fair use in and of itself.²²⁵ This could be accomplished through placing preservation among scholarship, research, and the other enumerated factors denoting fair use.²²⁶

Alternatively, preservation could be viewed as a transformative purpose under the fair use analysis. Some courts have indicated a willingness to view copying done in the name of preservation as transformative.²²⁷ The argument for considering fan remakes transformative on the basis of preservation is particularly strong with regard to fan remakes of delisted games. Once a company has ceased making a work available to the public, the resulting fair use analysis of infringing works should change to reflect this unavailability. Leading copyright scholar Mark Lemley has noted that “by abandoning any effort to sell or license the work, the copyright owner should be understood to have relinquished any claim to market harm or effect under the fourth [fair use] factor.”²²⁸ In the case of video games, this argument could even be extended to include games that require mods remaking the game in order to operate.²²⁹ As awareness of the impermanence of digital products and information increases, courts can and should be willing to weigh factors like these in determining whether a work qualifies for fair use.²³⁰

²²⁴ S. REP. NO. 94-473, at 64 (1975).

²²⁵ See Lemley, *supra* note 79, at 1272.

²²⁶ See 17 U.S.C. § 107 (“[T]he fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching . . . , scholarship, or research, is not an infringement of copyright.”).

²²⁷ See *Brammer v. Violent Hues Prods., LLC*, 922 F.3d 255, 264 (4th Cir. 2019) (“[C]opyrighted works serve documentary purposes . . . [including] data organization or historical preservation.”); *Sundeman v. Seajay Soc’y, Inc.*, 142 F.3d 194, 203 (4th Cir. 1998) (permitting the copying of a “fragile” original work in order to facilitate scholarly research); *Authors Guild, Inc. v. HathiTrust*, 755 F.3d 87, 103–04 (2nd Cir. 2014) (contemplating whether preservation is a viable fair use regarding the digitization of books).

²²⁸ Lemley, *supra* note 79, at 1273.

²²⁹ See discussion *supra* Part III.B.2.

²³⁰ See Krista L. Cox, *Research Libraries and New Technologies, Promoting Access to Information, Learning, and Innovation for Today and the Future*, 13 J.L. & POL’Y FOR INFO. SOC’Y 261, 291 (2016) (quoting *Preservation and Reuse of Copyrighted Works: Hearing Before the Subcomm. on Cts., Intell. Prop., and Internet of the Comm. on Judiciary*, 113th Cong. 3 (2014) (Statement of

B. *Expand the DMCA*

Congress's favorable attitude toward the reproduction of unavailable works is further reflected by a 2018 amendment to a regulation affecting the DMCA, which allows libraries, archives, and museums that have legally acquired delisted games to circumvent the copyright protections of the Act.²³¹ Expanding this exemption to include hobbyists could help to insulate the creators of fan remakes of legally acquired delisted games—particularly those who engage in reverse-engineering—from the legal uncertainties posed by the DMCA.²³²

It would also be beneficial for more courts to adopt the Ninth Circuit's holding in *Lenz v. Universal Music Corp.*, in which the court found that copyright holders had an obligation to consider fair use before issuing DMCA takedown notices.²³³ Imposing this obligation on those looking to issue a DMCA takedown notice would incentivize a more careful consideration of the various fair use factors, potentially leading to fewer notices against fan remakes with stronger fair use arguments.²³⁴

C. *Compulsory Licensing*

Another legal option for enabling the creation of fan remakes is to enact a statutory licensing regime for the world of video games. One of the most well-known examples of such a regime is that of the mechanical license used in the music industry, which allows anyone to make and distribute phonorecords of certain types of copyrighted musical works, provided they pay royalties to the original copyright holder.²³⁵ This mechanical licensing scheme is what makes it possible for a musician to record,

James G. Neal, Vice President for Information Services and University Librarian, Columbia University) ("In short, digital resources are not immortal. In fact, they are in formats that are more likely to cease to exist and must be transferred to new digital formats repeatedly as technology evolves. They require extensive, highly specialized preservation and curation using constantly evolving methods and technologies. This means that libraries charged with this work require robust applications of flexible exceptions such as fair use so that copyright technicalities do not interfere with their preservation mission."); see also Jennifer M. Urban, *How Fair Use Can Help Solve the Orphan Works Problem*, 27 BERKELEY TECH. L.J. 1379, 1387–88 (2012) ("If these works cannot be digitized for preservation and for access by the public, then their 'orphaning' creates a large social cost and a significant drag on the copyright system's purpose to encourage the spread of knowledge. Many could disappear before they can enter the public domain and freely be repurposed.").

²³¹ 37 C.F.R. § 201.40(b)(17)(ii) (2018); see also White, *supra* note 51, at 584–85 (describing the administrative history of the regulation).

²³² See discussion *supra* Parts III(B)(1), (2) (giving an overview of the status of fan remakes in the DMCA.).

²³³ See discussion *supra* Part IV.C.1.

²³⁴ See Jamie O'Neill, *Lowering Barriers to Entry: Youtube, Fair Use, and the Copyright Claims Board*, 33 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 176, 218 (2022) (explaining how the existence of "fear factors"—such as the good-faith belief required by *Lenz*—is useful for "showing [companies] that individuals have recourse against copyright abuse and corporate ignorance of fair use in extremely blatant examples.").

²³⁵ 17 U.S.C. § 115.

distribute, and even sell their own rendition of another's copyrighted musical composition.²³⁶

Fan remakes are, in many ways, the video game equivalent of musical covers in that they seek to interpret a game's code in a way that breathes new life into it, just as one who covers a song seeks to reinterpret its sheet music.²³⁷ Enacting a mechanical license for the video game industry could provide a legitimate, regulated way for fan remakes of video games to operate.

One of the major benefits of applying compulsory licensing to fan remakes is that it would prevent game companies from using expansive EULA provisions to prevent any and all alterations to their games.²³⁸ The use of EULAs to restrict fan creations can curtail otherwise successful fair uses defenses,²³⁹ so devising a new approach to video game licensing would be one way to prevent fan remakes from being automatically doomed on the basis of contract.

There are several factors that would likely make the establishment of a compulsory license of this type an uphill battle. Unlike the music industry, which was largely supportive of the mechanical license at the time of its adoption, the video game industry is unlikely to support such a measure.²⁴⁰ This is due to the size of the industry's key players,²⁴¹ the industry's general practices,²⁴² and the level of control that the industry prefers to retain over its products.²⁴³ The industry's resistance to such a licensing scheme could potentially be tempered by a provision that limits which games can be licensed based on the game's age and whether the

²³⁶ John Baldrica, *Cover Songs and Donkey Kong: The Rationale Behind Compulsory Licensing of Musical Compositions Can Inform a Fairer Treatment of User-Modified Videogames*, 11 N.C. J.L. & TECH. 103, 104–05 (2009).

²³⁷ See *id.* at 118–19 (providing a thorough analogy of the similarities between interpreting code and interpreting written music).

²³⁸ See discussion *supra* Part IV.D.

²³⁹ See Camillo, note 222, at 172.

²⁴⁰ See Baldrica, *supra* note 236, at 125 (“In addition to the benefits to individual musicians and many composers in the form of reduced negotiation transaction costs, music publishers have traditionally welcomed the compulsory licensing scheme because it increases profits and convenience.”); *Section 115 of the Copyright Act: In Need of An Update?: Hearing Before the Subcomm. on Cts., the Internet and Intell. Prop. of the H. Comm. on the Judiciary*, 108th Cong. 6 (2004) (Statement of Marybeth Peters, the Register of Copyrights) (“The music industry adapted to the new license and, by and large, sought its retention. . .”).

²⁴¹ Baldrica, *supra* note 236, at 126 (“[U]nlike the early music recording industry, which was still nascent when mechanical licensing was enacted, the game development industry is well established and often comprised of large corporations.”).

²⁴² *Id.* (“While the commercial licensing of videogame software and engines is frequent, such licensing has generally been relegated to arrangements between large-scale game developers because the costs associated are in the hundreds of thousands of dollars.”).

²⁴³ See *id.* at 127–28 (“[M]odders have effectively become locked out of any legal access to modern game engine technology, except when they are allowed to create mods ‘by the grace’ of an individual developer turning a blind eye to the modder’s work. . . . [T]he developers can simply pull the plug and demand the modder *cease and desist*.”); Reina Shinohara, *Avatars and Derivative Works: Harmonizing the Interests of Creators and Consumers*, 73 HASTINGS L.J. 919, 941 (2022).

game has been delisted.²⁴⁴ Compulsory licensing schemes are also being discussed in relation to the issue of streaming in the video game industry, the enactment of which could potentially benefit fan remakes as well.²⁴⁵

VI. SAVE AND QUIT GAME: CONCLUSION

An examination of the relevant legal issues surrounding the creation of fan remakes reveals that there are numerous hurdles that these projects must clear in order to stand on solid legal footing.²⁴⁶ Navigating the complicated DMCA notice and counter notice process is just the beginning, as any subsequent lawsuit could potentially implicate the Copyright Act, the DMCA, and contract law. Any one of the three major challenges to fan remakes—the Copyright Act and its ensuing fair use analysis, the DMCA and its numerous prohibitory provisions, and the practice of restrictive licensing—has the potential to shut down a fan remake for good.

The creators of fan remakes know of the existence of these threats to their work, and they choose to do it anyway, rarely for money, sometimes for acclaim, but mostly just for pure love of the game.²⁴⁷ For this reason, it is in the best interest of both fans and video game companies that there be a long-term solution allowing fan remakes to continue. So long as companies continue to create games that people love and about which they are passionate, fans will continue to remake them. They are an inevitable byproduct of the industry. Rather than try to prevent the inevitable, this passion should be allowed to exist in peace. At the very least, those who endeavor to remake unavailable delisted games should be permitted to continue their efforts.

*Madeleine Higgs**

²⁴⁴ See, e.g., Jethro Dean Lord IV, *Would You Like to Play Again? Saving Classic Video Games from Virtual Extinction Through Statutory Licensing*, SW. U. L. REV. 405, 428–29 (2006) (suggesting statutory language for a video game licensing regime that includes limitations based on the age and release history of the game).

²⁴⁵ See Abby L. Timmons, *Protecting the Players: An Argument for Copyright Rights in a N00b Esports Industry*, 27 SPORTS LAW. J. 1, 36–37 (2020) (proposing compulsory licensing specifically for the audio-visual elements of video games); Dakota Foster, *Protecting Video Game Gameplay Creators: A Two-Pronged Copyright Approach*, 9 TEX. A&M L. REV. 711, 732 (2022) (discussing the benefits and drawbacks of instituting a compulsory licensing scheme for video game gameplay and streaming videos).

²⁴⁶ See discussion *supra* Part 0.

²⁴⁷ See discussion *supra* Part III.B.

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