

END USER LICENSE AGREEMENT TAILORING FOR VIRTUAL ITEMS

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ABSTRACT

End user license agreements (EULAs) allow developers to specify contractual limitations on aspects of software usage such as scope, license transferability, and user conduct. Doing so enables developers to offer tailored rights that diverge from those guaranteed by common law, allowing for more granular price discrimination that can yield more efficient outcomes.

In virtual worlds such as online games, EULAs override property law defaults by categorizing items as license rights rather than property. Instead of acquiring ownership in the items they purchase, players receive revocable, non-transferable license grants to access the items as features within the game. These heavily developer-favorable terms, which place significant restrictions on the alienation of virtual items and grant developers plenary discretion to modify or terminate such items, provide developers with much-needed flexibility to curate the virtual world experience. Developers can update game graphics, maintain competitive balance, and preserve player community without incurring the significant costs associated with repeatedly securing individual user approval.

Scholars have criticized the existing EULA regime for benefiting developers at users' expense. Much of the existing commentary focuses on normative concerns, such as labor theory and personhood or the desirable balance between common law default and contract, and typically argues for a systemic overhaul that introduces real-world property law defaults into virtual worlds. Many arguments also frame EULAs as unilaterally siphoning value from players to developers.

This Note takes a more incremental approach and assumes that, given scant government scrutiny and developer disincentives to disrupt a favorable equilibrium, EULAs are unlikely to be replaced in the near term. It suggests that, rather than solely distributing value, EULA rights can create allocable joint value between players and developers. This Note argues that even developers, who are most advantaged by the existing regime, would benefit from relinquishing power and granting players certain rights in virtual items. It demonstrates that while developers cannot operate without certain flexibility, the plenary discretion they currently grant themselves across all games and items grossly outstrips such needs. Drawing from economic theory on secondary markets and recent developments in the blockchain space, this Note highlights how the marginal benefit of this excess flexibility can be outweighed by reduced consumer willingness to pay for such heavily encumbered items. Selectively relinquishing discretion for certain types of worlds or items could allow developers to create and capture player value in a cost-efficient manner. While ultimately an incremental change within an

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existing system, a more tailored approach would depart from decades of EULA uniformity, with significant ramifications for a licensing regime that has underpinned the rapid ascent of a hundred-billion-dollar industry.¹

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1. Gaming has changed significantly since this piece was written in early 2021. Accordingly, some of the examples mentioned here may appear less relevant than when this piece was originally written. In particular, as the blockchain space continues to rapidly evolve, developers may find new technical solutions to some of the challenges highlighted in this piece. However, the notion that legal terms can address these same challenges or enable their solutions is as relevant as ever—traditional game EULAs remain exceedingly one-sided, and even emergent games touting blockchain as an avenue to player ownership often feature discordant legal terms that undermine such aspirations. As player awareness of and demand for in-game item ownership continue to grow, legal terms that enable such ownership without hamstringing developers will only become more valuable.

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I. INTRODUCTION

Monetizing in-game items has transformed the video game business model, supercharging the industry's growth into a hundred-billion-dollar business.²

Under the traditional model, game developers would release a game, often on a CD, for players to purchase upfront for a one-time fee.³ To generate additional revenue, developers would have to either develop a new game or create expansion modules for an existing one, either of which would entail significant development costs.⁴ In recent years, however, developers have increasingly introduced additional in-game features that players can separately purchase to enhance their experience in a game they already own.⁵ For

2. In-game item revenues for free-to-play games alone reached approximately \$98 billion worldwide in 2020. Rebekah Valentine, *Digital Games Spending Reached \$127 Billion in 2020*, GAMESINDUSTRY.BIZ (Jan. 6, 2021), <https://www.gamesindustry.biz/articles/2021-01-06-digital-games-spending-reached-USD127-billion-in-2020>.

3. Nenad Tomić, *Economic Model of Microtransactions in Video Games*, 1 J. ECON. SCI. RSCH. 17, 17 (2018).

4. *Id.*

5. *Id.* at 18-19.

example, some players buy cosmetic “skins” that alter their characters’ appearances to distinguish themselves from players using the free default appearance, while other players purchase in-game currency to spend on attribute upgrades that make their characters stronger, faster, or smarter.⁶ A number of notable secondary market transactions reflect the tremendous value that players assign to certain in-game items: \$14,000 paid for a mace in *Diablo III*, \$38,000 for a pink dog in *Dota 2*, and \$635,000 for a virtual nightclub in *Entropia*, to name just a few examples.⁷

By selling additional items within an existing game, developers now generate additional “microtransactions” beyond the upfront purchase, allowing them to monetize existing games for longer windows at nearly nonexistent marginal costs. In *Grand Theft Auto V*, for example, players spent an average of \$79 on in-game items in 2019—more than the \$60 price charged upfront for the entire game in 2013.⁸ In 2020, the game generated \$710 million in revenue, almost all of which was driven by in-game item sales.⁹

Even more drastically, in-game items have given rise to a new lucrative business model. Free-to-play games, which do not charge an upfront purchase price and rely exclusively on optional in-game purchases, now dominate the industry, generating about \$98 billion in annual revenue and accounting for seventy eight percent of the worldwide market.¹⁰ In 2020, the top three performers among these free-to-play games generated \$2.45 billion (*Honor of Kings*), \$2.32 billion (*Peacekeeper Elite*), and \$2.29 billion (*Roblox*) in revenue, respectively.¹¹ Roblox Corporation, which generates nearly all of its revenue from sales of its optional Robux in-game currency, achieved a valuation of

6. See, e.g., *League of Legends Champion Skins*, MOBAFIRE, <https://www.mobafire.com/league-of-legends/skins> (last visited Mar. 28, 2021) (listing character skins for *League of Legends*); see also Adam, *NBA 2K20 - What is VC and How Does It Work?*, 2K (Aug. 19, 2020), <https://support.2k.com/hc/en-us/articles/360026840333-NBA-2K20-What-is-VC-and-how-does-it-work> (explaining how *NBA 2K20*'s purchasable in-game currency can be used to upgrade player attributes).

7. Julius Jamarque, *10 Most Expensive Virtual Goods Ever Sold*, FRAG HERO (Nov. 23, 2016), <https://www.fraghero.com/10-most-expensive-virtual-goods-ever-sold/>.

8. J. Clement, *Average Annual Spend on Downloadable Content (DLC) in Selected Video Games in the United States in 2019*, STATISTA (Mar. 3, 2021), <https://www.statista.com/statistics/1104745/video-gaming-dlc-spend-game/>.

9. See TAKE-TWO INTERACTIVE SOFTWARE, INC., 2020 ANNUAL REPORT 27, 29 (2020).

10. Valentine, *supra* note 2.

11. *Id.*

more than \$45 billion after going public through a direct listing in March 2021.¹²

However, the entire system currently rests on a shaky foundation of developer-dominated end user license agreements (EULAs) and weak in-game item license rights. Many in-game items look and act like virtual versions of real-world property, but are merely held pursuant to licenses that can be terminated at a developer's absolute discretion.¹³ Unlike physical analogues, such as trading cards or TV and movie collectibles, in-game items cannot be freely sold or otherwise transferred.¹⁴ While secondary market transactions between players do occur in third-party gray markets, most of these transactions violate EULA terms, and in some cases developers have terminated the licenses involved, instantly rendering worthless goods previously valued at thousands of dollars.¹⁵ The shadow cast by these one-sided license terms creates a discrepancy between the sizable sums that players spend and the limited rights they receive, undermining players' expectations in their purchases.

While there are many possible criticisms of the developer-favorable status quo, most of the existing commentary centers around normative concerns and addresses why and how the existing contract-dominant regime should be abandoned in favor of property rights and common law defaults.¹⁶ This Note assumes instead that EULAs are unlikely to be replaced in the near to medium term but nonetheless argues that even developers—those most advantaged by the existing regime—would benefit from a more balanced approach. This Note argues that developers forfeit significant value when they grant themselves plenary power because the flexibility they receive over players' in-game items is regularly outweighed by players' reduced willingness to pay, and that selectively relinquishing discretion could allow developers to create and capture player value in a cost-efficient manner. Drawing lessons from economic theory on secondary markets and the meteoric ascent of non-fungible tokens (NFTs) and code-enforced promises, this Note highlights certain rights and assesses their feasibility across certain game and item types, providing developers with tools to better tailor EULAs to the needs of both developers and players.

12. Paul R. La Monica, *Roblox Goes Public and is Instantly Worth More Than \$45 Billion*, CNN (Mar. 10, 2021), <https://www.cnn.com/2021/03/10/investing/roblox-stock-direct-listing/index.html>.

13. *See infra* Section II.A.

14. *See infra* Section II.A.

15. *See infra* Section II.A.

16. *See infra* Section II.B.

Part II describes the existing developer-dominated EULA regime and highlights some of its criticisms and justifications. Part III points out the inefficiency of uniformly applying an umbrella EULA to a wide variety of games and explains how tailoring EULAs to offer specific guarantees for individual games can create joint value for players and developers. Part IV provides a toggle menu of contractual rights that developers can consider when tailoring EULAs. Part V lists factors that could influence developer drafting decisions and examines how they may have contributed to the developer-dominant status quo. While this Note primarily provides U.S.-based developers and games as examples, the existing EULA regime does not differ significantly across geographies, and the arguments set forth in this Note present implications for the global game industry.¹⁷

II. THE CURRENT STATE OF IN-GAME ITEMS

A. LICENSES, NOT PROPERTY

Despite the staggering amounts of money they spend, players do not receive strong legal rights in the in-game items they purchase. Instead of acquiring ownership, players receive license grants to access the items as features within the game.¹⁸

Such licenses are typically non-exclusive, non-transferable, and revocable, allowing use of the items exclusively in connection with the developer's game and related services, and are often subject to significant developer discretion.¹⁹ For example, the *Fortnite* EULA grants developer Epic Games "sole discretion" and "the absolute right" to "manage, modify, substitute, replace, suspend, cancel or eliminate" a player's ability to access or use the in-game items she purchases "without notice or liability . . ."²⁰ A player's continued access to the game and her purchased items is further contingent upon her

17. See, e.g., *Cyberpunk 2077 – End User Licence Agreement*, CYBERPUNK.NET (Dec. 10, 2020) (finding that Polish developer provided near-identical EULAs for residents of the European Union, the United States, and the rest of the world, with differences only in certain choice of law and dispute resolution terms).

18. See *Blizzard End User License Agreement*, BLIZZARD, <https://www.blizzard.com/en-us/legal/fba4d00f-c7e4-4883-b8b9-1b4500a402ea/blizzard-end-user-license-agreement> (June 1, 2021); *Riot Games Terms of Service*, RIOT GAMES, <https://www.riotgames.com/en/terms-of-service> (Apr. 30, 2021); *Take-Two Interactive Software, Inc. Terms of Service*, T2, <https://www.take2games.com/legal/> (Mar. 2, 2020).

19. Additional menu options include "limited," "personal," and "subject to and specifically conditioned upon your acceptance of, and compliance with, the EULA." RIOT GAMES, *supra* note 18.

20. *Fortnite End User License Agreement*, EPIC GAMES, <https://www.epicgames.com/fortnite/en-US/eula> (last visited Apr. 16, 2022).

acceptance of new terms each time the EULA is updated.²¹ This occurs often, as developers typically reserve the right to alter EULA terms.²²

Consequently, players buying in-game items under this framework face significant uncertainty. In addition to having no guarantees for the items they purchase, they also receive no assurances about the terms governing their continued access to the game itself.²³ If a player finds a change in terms unacceptable, she is effectively forced to choose between acquiescing to the undesirable terms and forfeiting her right to play the game and access to items she has already paid for.²⁴

One *World of Warcraft* player who purchased an account from another player for €7,000 later found that account, which included a character equipped with highly valuable items, terminated for being sold in violation of developer Blizzard's terms.²⁵ While terminations tend to occur in response to prohibited conduct, enforcement is often uneven and unpredictable.²⁶ Furthermore, since developers retain plenary discretion regardless, even EULA-abiding players are forced to rely on developers' implicit promises to not abuse their rights.²⁷ Hundreds of billions of dollars have been spent in reliance upon this shaky foundation.

B. CRITICISMS OF THE STA-TOS²⁸ QUO

Perhaps unsurprisingly, the existing EULA structure has drawn criticism for using contract law to exclude property law from virtual worlds. Joshua A.T. Fairfield has analogized the existing developer-dominated regime to "Microsoft claiming an ownership interest in every document created using" Microsoft Word.²⁹

21. *See id.*

22. *See id.*

23. *See id.*

24. *See id.*

25. Cristina Jimenez, *The High Cost of Playing Warcraft*, BBC (Sept. 24, 2007, 7:58 GMT), <http://news.bbc.co.uk/2/hi/technology/7007026.stm>.

26. *See id.* (describing the substantial costs and technological challenges associated with enforcing against prohibited conduct).

27. *See infra* Section II.C.3.

28. "Terms of Service," a term commonly used instead of EULA.

29. Joshua A.T. Fairfield, *Anti-Social Contracts: The Contractual Governance of Virtual Worlds*, 53 MCGILL L.J. 427, 437 (2008). Although this comparison is generally a reasonable one, a key difference exists for certain games. Whereas developers like Blizzard contemplate and design every possible item in a game like *World of Warcraft*, Microsoft does not contemplate every possible memo or paper that users will create using Word. It is ultimately the user's creative efforts that generate the document. The distinction becomes less clear for games such as *Minecraft*, where user creativity features far more heavily, *see also infra* Section II.B.2 (discussing Lockean labor theory and its applicability to in-game items).

1. *Replacing Property Rights with Contract Restrictions*

Some fault EULAs for “supplant[ing] much of the default law that real-world communities rely on,” creating “pseudoproperty systems . . . out of a patchwork quilt of contracts” that give rise to confusion and inefficiency.³⁰ They argue that developers, who “design virtual property to have the attributes of real-world property” and make games “look and feel like a space in which human beings can interact,” subvert player expectations by excluding real-world property rights in favor of nontransferable licenses subject to plenary developer discretion.³¹ Developers give players good reason to expect property law defaults to apply and, in denying said application, produce confusion³² and undermine property law’s goal of enabling resources to flow to higher-value users in a cost-effective manner, thus reducing overall societal welfare.³³

Using contract to override property law defaults has also been criticized in certain real-world contexts. In real estate, for example, developers often draft covenants, conditions, and restrictions (CC&Rs) to impose on a new development.³⁴ In theory, these terms induce homebuyers to collectively agree to “reciprocal control of land use,” beyond what nuisance and zoning law defaults offer, in ways that improve their collective enjoyment of the property.³⁵ However, CC&Rs do not always achieve their goals. They can be excessively blunt, forcing prospective buyers to either accept or reject an entire bundle of CC&Rs instead of considering its individual components.³⁶ Furthermore, “[t]he choice a homebuyer makes about the . . . servitude regime is necessarily bundled with a much larger and more salient choice about a particular house,” and homebuyers may purchase a house in spite of, rather

30. *Id.* at 429.

31. *Id.* at 458.

32. *Id.* at 474.

33. Fairfield, *supra* note 29, at 474.

34. See Lee Anne Fennell, *Contracting Communities*, 2004 U. ILL. L. REV. 829, 838 (2004).

35. For example, a prospective homebuyer who hates garden gnomes with a passion may find a house with a no-garden-gnomes covenant highly valuable, since she loses nothing to the limitation and benefits greatly from knowing that none of her neighbors will have garden gnomes. Even somebody who does not particularly hate garden gnomes may be willing to pay slightly more for such a house, since she knows she can likely sell it for an even higher price to somebody who does. *Id.* at 842-43.

36. See Armand Arabian, *Condos, Cats, and CC&Rs: Invasion of the Castle Common*, 23 PEPP. L. REV. 1 (1996) (arguing that purchasers of homes “are extremely limited in their capacity to negotiate changes or alter burdensome restrictions”). The gnome-hating prospective homebuyer might tolerate another restriction forbidding pets, even if she likes pets, as long as she hates garden gnomes more. This is a suboptimal outcome, but often an unavoidable one because CC&Rs only come in bundles.

than because of, its CC&Rs.³⁷ Determining what CC&Rs homeowners might desire is also costly and difficult to begin with.³⁸ As a result, overriding property law defaults by introducing CC&Rs often reduces rather than enhances overall welfare.³⁹

A similar phenomenon may exist within games. While a player might value a developer's ability to ban cheaters in a vacuum, she can only grant such authority if she also assents to undesirable rights such as the developer's ability to modify player items at will. Some players will find the tradeoff less desirable, but still worthwhile, and accept. But even players who find it flatly undesirable are unlikely to completely forgo playing a game or purchasing an item simply because of the EULA. Like prospective buyers in the real estate market who are forced to either accept or reject entire bundles of CC&Rs, players may be unable to effectively signal their preferences for individual terms. While some terms may simply allocate value from the player to the developer, others could reduce joint value in the process.⁴⁰ An arrangement in which the developer allows the player to retain such value and finds another way to capture a portion of it would benefit both parties, but arriving at such an arrangement is difficult when players cannot efficiently express their preferences in the first place.

2. *Locke, Radin, and Bentham: Normative Arguments in Favor of Property Rights*

Other scholars offer more normative accounts of property theory. F. Gregory Lastowka and Dan Hunter propose that labor-desert theory, personality theory, and utilitarian theory all support “a qualified conclusion” that in-game items should be considered real-world property with certain attached default rights.⁴¹

Lockean labor-desert theory asserts that one who “hath mixed his Labour with” something “that Nature hath provided” “thereby makes it his property.”⁴² Under this theory, a player who spends time and effort mining in-game, for instance, has mixed her labor into the virtual gold ore she extracts

37. Fennell, *supra* note 34, at 871.

38. *See id.* at 895-96.

39. *Id.* at 890.

40. For example, if players and developers value item ownership equally, exclusive developer ownership would merely allocate value from the player to the developer. But if players valued ownership more, exclusive developer ownership would decrease total joint value, since the players would lose more than the developer gains.

41. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1, 43 (2004).

42. JOHN LOCKE, SECOND TREATISE OF GOVERNMENT §§ 27, 17 (Thomas P. Peardon ed., 1952) (1690).

from “Nature” and should therefore have a corresponding interest in the ore.⁴³ Similar logic would apply where a player receives valuable items after spending hours on planning and in-game play to defeat a difficult in-game boss. While there are certain nuances, including the convincing observation that any portion of “Nature” with which a player might mix her labor is initially created by the developer’s labor,⁴⁴ Lockean theory lends some support to the idea that players should have at least a partial property interest in items they expend significant effort to acquire.⁴⁵

Developed by Margaret Jane Radin and others in extension of G.W.F. Hegel’s philosophical work on personhood, the personality theory of property proposes that individuals may develop a personal, moral claim to certain objects that can supersede competing property rights in those objects.⁴⁶ Such claims may attach when the object impacts and becomes inextricable from basic human needs like identity, and where, “without the claimed personhood interest, the claimants’ opportunities to become fully developed persons . . . would be destroyed or significantly lessened.”⁴⁷ Under this theory, the personal value that a player imbues in her in-game character, which she painstakingly customizes with skins and uses to express herself throughout hundreds or thousands of hours of gameplay, might be a strong enough justification to bar a developer from deleting her character and items on a whim, even if the developer might have a contractual right to do so.⁴⁸

Finally, Lastowka and Hunter highlight the potential applicability of utilitarian theories of property to in-game items. They suggest that granting property rights to players, who pour in tremendous amounts of time and money to acquire in-game items, would maximize overall societal utility.⁴⁹ This could be accomplished by assigning rights to those players who would derive the most enjoyment from such rights.⁵⁰

While such theories are hardly black letter law, they do inform the rationale underlying the United States’ real-world property regime and its evolution over

43. Lastowka & Hunter, *supra* note 41, at 46-48.

44. John William Nelson, *The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They Are a Bad Idea*, 41 MCGEORGE L. REV. 281, 290-91 (2009).

45. *See generally* Lastowka & Hunter, *supra* note 41 (noting that in-game items should be considered real-world property with certain attached default rights).

46. Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 978 (1982).

47. *See id.* at 1015.

48. *See* Lastowka & Hunter, *supra* note 41, at 48-49 (noting that “personality theory would seem to be strongly in favor of granting property rights” since “[i]t is well documented that people feel connected to their avatar, not as a thing but as a projection of their self”).

49. *See id.* at 46-48.

50. *See id.*

time. If, as Lastowka and Hunter suggest, these theories provide “strong normative grounds for recognizing that property rights should inhere in virtual assets,” it would raise questions as to whether the EULA status quo’s treatment of items exclusively as license rights is tenable or desirable in the long run.⁵¹

C. WHY DEVELOPER EULA DOMINANCE MAKES SOME SENSE

Much of the criticism of how developers treat in-game items is fair and calls for a broader reckoning on contract law’s interaction with property law in developer-created virtual worlds. However, assuming EULAs remain the primary legal mechanism governing developer-player and player-player interactions going forward, game-specific requirements can provide some justification for developer discretion. While such characteristics do not justify uniform assumption of plenary power, they do support significant developer flexibility in certain cases, demonstrating that the status quo does not stem entirely from developers abusing their bargaining power for one-sided benefit.

1. *Discretion to Update and Balance*

Unlike in the traditional model, where consumers simply bought games “as-is,” developers for both paid and free-to-play games now constantly provide updates to promote player engagement that could translate into in-game purchases.⁵² Updates might include new character releases, graphics improvements, or new levels. In online multiplayer games, they might modify game mechanics to maintain competitive balance.⁵³ Developers value the ability to upgrade game graphics even if the new graphics cast certain “skins” in slightly different lighting or to weaken certain items even if doing so decreases such items’ respective values. Existing EULA terms give developers the ability to execute such changes without having to repeatedly secure player approval.

Developers also value the flexibility to enforce community guidelines and address player misconduct. To promote fair play, a developer might force players to disgorge in-game benefits they receive from exploiting software bugs, or to ban players who violate community guidelines.⁵⁴ By securing these rights in a EULA, developers can resolve issues within a contractual framework, reducing the likelihood of real-world disputes.

51. *See id.* at 49.

52. *See* Tomić, *supra* note 3, at 17-19.

53. *See infra* Section III.B.

54. *See supra* note 18.

However, it is unlikely that such flexibility requires the plenary power that developers currently grant to themselves. Many actions, such as banning abusive players or updating item aesthetics, are easily specified and could be just as effectively guaranteed through more limited developer rights containing express carveouts.⁵⁵

2. *Player Habituation*

Many players simply may not care enough about their rights to in-game items to affect their engagement, as they may view their purchases as a non-recoupable price to enhance their enjoyment of the game. On the low end, individual items tend to be relatively cheap. For example, in *League of Legends*, the cheapest “skins” cost approximately \$1.70; in *Candy Crush Saga*, five additional lives cost \$0.99.⁵⁶ In the context of each individual low-value purchase, any uncertainty stemming from the developer’s plenary power might simply be inconsequential to most players.⁵⁷

Players also may not sufficiently understand the rights that accompany their in-game items to alter their purchasing decisions based on EULA terms, as findings for similarly licensed digital goods suggest. For example, 86% of consumers believe that clicking “Buy Now” grants them ownership of their eBook, as opposed to the limited access license they actually receive, while 83% and 78% of consumers express similarly mistaken beliefs about MP3 files and digital movies, respectively.⁵⁸ Like consumers of other digital goods, players who buy in-game items might simply analogize their purchases to those involving physical goods such as real books or game CDs, creating misimpressions about the rights attached to their in-game items.

However, taking advantage of player ignorance is hardly a valid justification for EULA dominance, and players have pushed back in certain cases. One such case occurred when the EULA for the custom content creator

55. See *infra* Section V.A.

56. Carrie Talbot, *Cheap League of Legends Skins and Champions – Here are This Week’s Deals*, PCGAMESN (Mar. 16, 2021), <https://www.pcgamesn.com/league-of-legends/lol-skins-sale-champions>. This is not to say that these low prices necessarily stop players from spending a large aggregate amount across many purchases, which is part of the entire point of the microtransactions model. See Ashley Feinberg, *Holy Shit I Just Spent \$236 on Candy Crush, Help*, GIZMODO (Aug. 7, 2013), <https://gizmodo.com/holy-shit-i-just-spent-236-on-candy-crush-help-1032185653>.

57. Such reasons would not apply to more expensive in-game items, such as premium skins or a \$14,000 mace in *Diablo III*. See Jamarque, *supra* note 7.

58. Aaron Perzanowski & Chris Jay Hoofnagle, *What We Buy When We Buy Now*, 165 U. PA. L. REV. 315, 337 (2017).

program in *Warcraft 3: Reforged* assigned ownership of player-created mods⁵⁹ to its developer Blizzard.⁶⁰ Unlike other EULAs, which often grant the developer a license to such mods, the *Warcraft 3: Reforged* EULA assigned complete ownership of the mods to the developer, a decision that players and enthusiasts criticized as “convoluted legalese . . . that puts profits before players.”⁶¹ Then again, this harsh reaction belied the fact that “the EULA doesn’t affect how the vast majority of people play custom games”⁶²

3. *Reputation and Relation as Extralegal Gap-fillers*

In communities where actors are closely knit, parties often do not formally enforce contracts through litigation and instead rely on “mutual dependency” as “the ‘real deterrent’” against undesirable behavior.⁶³ In such situations, extralegal sanctions associated with potential breach can be highly effective in reining in developers while having the added benefit of avoiding costs associated with contract formation and enforcement.⁶⁴ The game industry can be one such community.

Most mainstream games, which generate the majority of industry revenues and attract the largest player communities, are published by the same core group of large developers.⁶⁵ Players follow game news, interact with content on social media, and attend enthusiast conventions.⁶⁶ Information travels quickly and can significantly impact player behavior. As repeat parties, developers stand to benefit from community goodwill—for example, positive

59. Mods, which allow players to add custom content modifications to games, have become a mainstay of gaming culture. See Edwin Evans-Thirlwell, *Why are People Modding Thomas the Tank Engine into Video Games?*, THE FACE (May 9, 2019), <https://theface.com/culture/why-are-people-modding-thomas-the-tank-engine-into-video-games> (describing how players are using mods to replace dragons, zombies, and ninjas with Thomas the Tank Engine).

60. Wes Fenlon, *The Outrage Over Warcraft 3: Reforged, Explained*, PC GAMER (Feb. 4, 2020), <https://www.pcgamer.com/warcraft-3-reforged-controversy/>.

61. *Id.*

62. Given that the game was also lampooned for lacking key features and performing significantly worse than early demos had suggested, it is possible this was just an ancillary gripe to add to a laundry list of gameplay-focused criticisms. *Id.*

63. Gillian K. Hadfield & Iva Bozovic, *Scaffolding: Using Formal Contracts to Support Information Relations in Support of Innovation*, 2016 WIS. L. REV. 981, 1000 (2016).

64. *Id.*

65. Nine of the top ten best-selling games the 2010s were published by two companies, Rockstar Games and Activision. Jeff Grubb, *NPD: The Top 20 Best-Selling Games of the Decade in the U.S.*, VENTUREBEAT (Jan. 16, 2020), <https://venturebeat.com/2020/01/16/the-top-20-best-selling-games-of-the-decade-in-the-u-s/>.

66. See, e.g., Wes Fenlon, *E3 2021 Schedule: How and When to Watch Every Gaming Conference*, PC GAMER (June 13, 2021), <https://www.pcgamer.com/e3-2021-schedule-dates-lineup/> (enthusiast website providing instructions on how to use social media to stream a game convention).

reception to a game can increase sales for future releases.⁶⁷ On the flip side, when missteps arise, community punishment can be harsh, swift, and extend beyond the offending game to impact a developer's entire portfolio.⁶⁸ This threat of reputational enforcement helps to police developer behavior and deter severe abuses.

Relational constraints can provide an additional layer of assurance for players' interests. For many games, profitability is driven by "whales," a small minority of players who generate an outsized proportion of in-game purchase revenues.⁶⁹ While a game's overall success is often judged by the size of the player base it attracts, its profitability depends on how well it monetizes the small fraction of "whales," high-spending individuals whose purchases subsidize the game for the vast majority of players who spend little to no money.⁷⁰ In dealing with these "whales," who are also the players with the most value tied up in in-game items, developers may be less likely to abuse their plenary power given the costs associated with alienating a VIP customer.⁷¹

D. NBA 2K AS A STATUS QUO POSTER CHILD

NBA 2K, Take-Two Interactive's popular basketball video game series in which players control NBA teams or custom-created avatars in simulated basketball games against an AI or other players, represents perhaps the optimal use case for today's developer-favorable EULA regime.

67. *Cyberpunk 2077*, the latest release by CD Projekt RED, developer of universally acclaimed role-playing game *The Witcher 3*, enjoyed record-breaking pre-order sales buoyed by player confidence in the company. Allegra Frank, *How One of the Biggest Games of 2020 Became One of the Most Controversial*, VOX (Dec. 18, 2020), <https://www.vox.com/culture/22187377/cyberpunk-2077-criticism-ps4-xbox-one-bugs-glitches-refunds>.

68. CD Projekt RED saw that tremendous amount of player goodwill and corresponding company value dissipate nearly overnight after revelations that the company had concealed severe technical issues with *Cyberpunk 2077*. *Id.* At the time of writing, its parent company's stock price is approximately half of what it was the weekend before *Cyberpunk 2077*'s release. *CD Projekt 4 ADR Representing Ord Sbs*, OTC MARKETS (Mar. 25, 2021), <https://www.google.com/finance/quote/OTGLY:OTCMKTS>.

69. A 2014 report found that approximately half of in-app purchases in free-to-play mobile games came from 0.15% of players, with only 1.5% of players spending any money at all. Eric Johnson, *A Long Tail of Whales*, VOX (Feb. 26, 2014), <https://www.vox.com/2014/2/26/11623998/a-long-tail-of-whales-half-of-mobile-games-money-comes-from-0-15>.

70. In one free-to-play *Transformers* mobile game, for example, a single player spent over \$150,000 on microtransactions. Alex Walker, *Someone Spent Over \$220,000 in Microtransactions on a Transformers Game*, KOTAKU AU (Oct. 11, 2019), <https://www.kotaku.com.au/2019/10/someone-spent-over-220000-in-microtransactions-on-a-transformers-game/>.

71. Developers may also be incentivized to provide "whales" with preferential treatment over average users. However, this is less of an issue in the player-developer relationship, where most property-related concerns lie.

One of *NBA 2K*'s most distinguishing features, aside from its increasingly realistic simulation of real-world basketball, is its annual release cycle. Each NBA season, Take-Two subsidiary 2K Sports releases a new game named after the year in which the season will end—for example, *NBA 2K19* covered the 2018–19 NBA season.⁷² Like many games, *NBA 2K* has introduced a growing in-game microtransaction system revolving around “VC,” a virtual currency players can use to purchase cosmetic items and attribute upgrades for their custom avatars.⁷³ Players acquire VC by either earning it through playing the game or purchasing it with real money.⁷⁴

Notably, neither VC nor the items or attributes VC is used to purchase are retained across successive annual releases of *NBA 2K*.⁷⁵ As a result, each year players who migrate to the newest version effectively abandon the money they collectively sunk into the previous game. Within three years after a *2K* game's initial release, *2K Sports* discontinues server support, shutting down “any mode that earns or uses VC” for the minority of holdouts remaining.⁷⁶

And yet, despite the transience of their rights to in-game items, players willingly purchase VC across game versions. *NBA 2K20* was the most successful game in the series yet, generating more than \$1 billion within a year of initial launch, in part boosted by a 126% year-on-year increase in microtransactions revenue as players spent more than ever before on virtual shoes, tattoos, and ability boosts.⁷⁷

NBA 2K's success suggests that, in certain cases, the EULA status quo could very well be joint value-maximizing. By continually improving its simulation engine and introducing new multiplayer social game modes,⁷⁸ each

72. 2K, <https://www.2k.com/en-US/games/> (last visited Jan. 19, 2022).

73. 2K Mike, *NBA 2K18: What is VC and How Does It Work?*, 2K SUPPORT (Jan. 19, 2021), <https://support.2k.com/hc/en-us/articles/360004407013>.

74. *Id.*

75. Adam, *Can I Transfer VC From NBA 2K19 to NBA 2K20?*, 2K SUPPORT (Jan. 16, 2021), <https://support.2k.com/hc/en-us/articles/360026677054>.

76. 2K Liana, *NBA 2K19 Server Shutdown*, 2K SUPPORT, <https://support.2k.com/hc/en-us/articles/360059689094> (Sept. 17, 2021).

77. The upfront price of 14 million units sold likely accounts for the majority of this \$1 billion figure, but even highly conservative assumptions would yield more than \$100 million in microtransactions revenue. The COVID-19 pandemic also likely boosted sales beyond what was ordinarily expected. See Rebekah Valentine, *Take-Two CEO: “It’s a Matter of Time Before the Business is Entirely Digital”*, GAMESINDUSTRY.BIZ (Aug. 3, 2020), <https://www.gamesindustry.biz/articles/2020-08-03-take-two-ceo-its-a-matter-of-time-before-the-business-is-entirely-digital>.

78. For example, the Neighborhood mode introduced in recent years allows players to play in the park, ink sponsorship deals, and get tattoos. Eli McLean, *NBA 2K20 Neighborhood Guide – Everything to Know*, HTR (Nov. 29, 2019), <https://holdtoreset.com/nba-2k20-neighborhood-guide-everything-to-know/>.

new *NBA 2K* promises a “latest and greatest” experience that entices players to abandon the prior year’s release—including the in-game content accumulated within. The transparent release cycle leads players to view in-game items, such as custom animations and player attributes, as content associated solely with each year’s release, not across the entire series, and therefore calibrate their willingness to pay accordingly. For this set of expectations, *NBA 2K*’s EULA provides close to the optimal level of assurances to players. Given how willing players are to shell out money for each new release, granting ownership of in-game content and rolling it across editions might decrease the game’s profitability without producing a commensurate increase in player enjoyment.⁷⁹

III. A THEORY-AGNOSTIC CASE FOR EULA DISAGGREGATION

Regardless of how one feels about the current balance between contract law and property law in games, developers do not appear likely to stop employing EULAs as the primary formal legal mechanism governing in-game items for at least the near to medium term. Assuming such a backdrop, one fact is apparent: not every game is *NBA 2K*, and, for the reasons discussed below, not every EULA should be like *NBA 2K*’s either.

A. PITFALLS OF PLENARY POWER

Rights to in-game items look more or less identical across developers and games.⁸⁰ Developers grant players a very weak license, and then subject that license to revocation for a wide range of reasons—including no reason at all—all of which are within the developer’s complete judgment and discretion.⁸¹ As with most blunt tools, such plenary power can give rise to inefficiencies when developers seize more power than is optimal.

Perhaps the bluntest feature of EULAs under the status quo is their broad application to a developer’s entire game portfolio. Take, for example, Activision Blizzard, one of the world’s largest video game companies.⁸² The developer uses a single blanket EULA across a wide range of game-types, from *Heroes of the Storm* (a multiplayer online battle arena game) to *Diablo III* (an

79. See *infra* Section V.C.2 (explaining that this is ultimately an empirical question that developers must address on a case-by-case basis).

80. See *supra* note 18.

81. *Id.*

82. J. Clement, *Market Capitalization of the Largest Gaming Companies Worldwide as of June 2021*, STATISTA (June 16, 2021), <https://www.statista.com/statistics/1197213/market-value-of-the-largest-gaming-companies-worldwide/>.

action role-playing game), *World of Warcraft* (a massively multiplayer online role-playing game), *Overwatch* (a team first-person shooter game), *Starcraft II* (a real-time strategy game), and *Hearthstone* (a digital collectible card game).⁸³ The situation is similar for Take-Two (which treats *NBA 2K* the same as it does *Grand Theft Auto V* and *Red Dead Redemption*) and *League of Legends* developer Riot Games (which lumps its multiplayer online battle arena, collectible card, and team first-person shooter games under one EULA).⁸⁴

Such uniformity, especially when so favorable to developers, can provide them convenience and peace of mind. But it also fails to recognize that in-game features vary significantly across games and genres, as does the corresponding need for developer discretion.

Figure 1: Selection of Blizzard Games and Items Governed by the Same EULA⁸⁵

	<i>Hearthstone</i>	<i>Heroes of the Storm</i>	<i>Overwatch</i>	<i>World of Warcraft</i>
<i>Game genre</i>	Digital card game	Multiplayer online battle arena	First-person shooter	Massively multiplayer online role-playing
<i>Primary purchasable in-game item</i>	Cards	Characters/Skins	Skins	In-game currency (through tokens)
<i>Items' Impact on competitive gameplay</i>	High	Moderate/Low	Low	Moderate
<i>Importance of item aesthetics</i>	Low	Moderate/High	High	Low

For example, Blizzard might rightfully desire significant leeway to alter the attributes of certain potions in *World of Warcraft* to preserve competitive

83. See *supra* note 18.

84. *Id.*

85. *Hearthstone Shop*, BLIZZARD, <https://us.battle.net/support/en/article/32545> (Oct. 2021); Dan O'Halloran, *Heroes of the Storm Microtransactions Guide*, BLIZZARD WATCH (May 19, 2015), <https://blizzardwatch.com/2015/05/19/heroes-of-the-storm-microtransactions-guide/>; *Skins*, OVERWATCH WIKI, <https://overwatch.gamepedia.com/Skins>; *Using a WoW Token*, BLIZZARD, <https://us.battle.net/support/en/article/31218> (Mar. 15, 2021).

balance and foster diversity of strategies. However, the same logic would not apply for skins in *Overwatch*, which are purely cosmetic and do not impact competitive play.⁸⁶ Similarly, while *NBA 2K* players who expect yearly turnover may not care as much about assurances of ownership,⁸⁷ *Grand Theft Auto V* players who have purchased in-game content across nearly a decade might appreciate the contractual assurance that Take-Two will not terminate access to their items on a whim—especially if players are worried about discontinuation of support once *Grand Theft Auto VI* is released.⁸⁸ Under the right conditions, selectively relinquishing plenary power in certain areas can more than pay for itself by increasing players' willingness to pay for content.

Given the significant opportunity involved, developers who treat widely varying in-game content across genres as identical might be either complacent or conservative.⁸⁹ Disaggregating the umbrella EULA into a set of EULAs more narrowly tailored to each game and its unique content can create joint value for developers and players.⁹⁰

B. *MAGIC ONLINE AND MAGIC: THE GATHERING ARENA*: HOW CONTRACTUAL RIGHTS IMPACT ITEM VALUE

Since most EULAs under the status quo look nearly identical, there are few counterfactuals that demonstrate the extent to which EULAs produce inefficiencies and, if they do, whether modifications to the licenses would help reduce them. The simultaneous existence of *Magic Online (Online)* and *Magic: The Gathering Arena (Arena)*, however, provides a useful opportunity for comparison.

Both *Online* and *Arena* are free-to-play digital collectible card games that allow players to compete online with others across the world.⁹¹ With some caveats, both feature the same cards and rules as the traditional physical version (“Analog”) does.⁹² Digitally enabled features in both digital games

86. *Cosmetics*, OVERWATCH WIKI, <https://overwatch.fandom.com/wiki/Cosmetics> (last visited Oct. 20, 2021).

87. *See supra* Section II.D.

88. *See* Alden Etra, *GTA 5's 8 Year Anniversary is Making Gamers Feel Old*, SCREENRANT (Sept. 17, 2021), <https://screenrant.com/gta-5-8-year-anniversary-gamers-feel-old/> (describing how players have graduated college, gotten married, had kids, and bought a house in the time since the game's 2013 release).

89. *See infra* Section V.C.

90. *See infra* Part IV.

91. *See* MAGIC THE GATHERING ONLINE, <https://magic.wizards.com/en/mtgo> (last visited Mar. 4, 2021); *MTG Arena FAQ*, MAGIC THE GATHERING, <https://magic.wizards.com/en/mtgarena/faq> (last visited Mar. 4, 2021).

92. Some competition formats (think blitz or rapid in chess) and limited editions of cards can be game specific. *Id.*

include automatic rule enforcement, visual effects, skill-based matchmaking, and removal of a colocation requirement. *Arena*, the newer of the two games, offers better graphics and effects, fewer system glitches, and a more intuitive user interface.⁹³ In both *Online* and *Arena*, players can acquire cards by purchasing booster packs using in-game currency.⁹⁴ Much like with physical cards, a player seeking a specific digital card cannot be sure how many packs she will need to buy to actually acquire it. For the purposes of this Note—and, indeed, for many players—there is one key difference between the two games: when a player acquires a card, *Online* provides a degree of ownership that *Arena* does not.⁹⁵

Like its competitors *Hearthstone* and *Legends of Runeterra*,⁹⁶ *Arena* treats cards as licenses to access and use a certain feature in *Arena* gameplay, but *Arena* does not allow players to trade, sell, or otherwise dispose of their cards.⁹⁷ Meanwhile, though *Online* still treats cards as “licensed digital objects that depict physical *Magic: The Gathering* trading cards,” it allows players to dispose of their cards by trading or selling them to other players, or even redeeming them for corresponding physical versions.⁹⁸ *Online* facilitates these transactions by offering its own marketplace.⁹⁹ *Arena* shares a blunt EULA with all of Wizards of the Coast’s other digital games, whereas *Online* has its own more narrowly tailored EULA, suggesting that the situation may be somewhat awkward or unintentional.¹⁰⁰

The incongruence between the rights provided is reflected in card price disparities across *Online* and *Arena*. An enthusiast site recently estimated that a specific *Online* competitive deck for the Standard format would cost nearly 500 dollars in targeted secondary market purchases to assemble.¹⁰¹ The probability-

93. Christine Petit, *MTG Arena vs. MTGO: The Pros & Cons of Each* (2021), NERDMUCH? (Feb. 20, 2021), <https://www.nerdmuch.com/mtg-arena-vs-mtgo/>.

94. *See supra* note 91.

95. *See Magic Online End User License Agreement and Software License*, MAGIC THE GATHERING, <https://magic.wizards.com/en/mtgo/eula> (Dec. 5, 2020); *General Terms*, WIZARDS OF THE COAST (Oct. 22, 2020), <https://company.wizards.com/en/legal/terms>.

96. Developed by Blizzard and Riot Games, respectively.

97. *See supra* note 95.

98. Players can terminate their license to use certain cards deemed redeemable by Wizards for a corresponding set of physical *Magic: The Gathering Cards*, subject to certain conditions and a handling fee. *See supra* note 91.

99. *Magic Online: Payments*, MAGIC THE GATHERING (last visited Oct. 20, 2021), <https://magic.wizards.com/en/mtgo/payments>.

100. *See* MAGIC THE GATHERING, *supra* note 91.

101. Dan Troha, *Magic Online vs. MTG Arena – Which is Right for You?*, DRAFTSIM (Nov. 20, 2020), <https://draftsim.com/mtg-online-vs-arena/>.

weighted expected cost of acquiring that same deck through booster packs in *Arena* would be around 150 dollars.¹⁰²

Despite the price difference, many players prefer the *Online* ecosystem because *Online*'s system helps invested and dedicated players save in the long run. No competitive deck in *Magic: The Gathering* stays competitive for long because Wizards of the Coasts periodically releases new cards and bans existing ones to maintain competitive balance and foster new strategies.¹⁰³ Unlike in *Arena*, *Online* players who continually buy new cards to optimize for the latest set of available cards can sell unneeded cards to fund purchases of new ones.¹⁰⁴ Players can also purchase specific cards, a valuable alternative when the card's asking price is lower than the expected cost of finding it in booster packs. As a result, *Online* tends to attract more high-spending "whales"¹⁰⁵ and features a more skilled player pool overall, thus making it more attractive for online competitive play.¹⁰⁶

Online also allows players to create joint value by trading with each other. A card that has been banned from tournament play may lose all value for a competitive player, but may nonetheless retain some value in the broader market due to its viability in casual play.¹⁰⁷ The competitive player's ability to recoup a portion of her cost may increase her initial willingness to pay, while the casual player benefits from acquiring a card she may not have been willing to buy at its higher pre-ban price.¹⁰⁸ Enabling these transactions allows *Online* to create and capture a portion of this additional value through fees or higher booster pack sales.

Online's more narrowly tailored developer rights make sense. Wizards of the Coast does not need the discretion to modify card attributes to balance game dynamics, a common rationale for developer EULA dominance.

102. *Id.*

103. *See Banned and Restricted Lists*, MAGIC THE GATHERING, <https://magic.wizards.com/en/game-info/gameplay/rules-and-formats/banned-restricted> (Sept. 24, 2021).

104. Entire enthusiast sites are dedicated to these optimization efforts. *See, e.g.*, MTG BUDGET, <http://mtgbudget.com/standard.html> (last visited Mar. 4, 2021).

105. *See supra* notes 69-71 and accompanying text (discussing the desirability of "whales" within a game's player base).

106. Troha, *supra* note 101.

107. In this instance, a competitive player refers to one who enters tournaments or events with money-induced prizes. A casual player refers to one who plays the game primarily for the experience. *See* Mark Rosewater, *Casual Play*, MAGIC THE GATHERING (Nov. 16, 2020), <https://magic.wizards.com/en/articles/archive/making-magic/casual-play-2020-11-16>.

108. *See infra* Section IV.A; *see also* Valerie Thomas, *Demand and Dematerialization Impacts of Second-Hand Markets: Reuse or More Use?*, 7 J. IND. ECOLOGY 65, 75 (2003) (pointing out that in "second-hand markets with nonzero second-hand price," buyers of new goods "may buy more readily and at higher prices because they can resell the goods later").

Through its historical experiences with Analog, where players trading in physical cards for new physical ones with updated attributes would have been too costly, Wizards of the Coast developed an alternate system of banning and restricting cards that effectively preserves competitive balance while also pushing players to buy new cards.¹⁰⁹ Under this system, the right to dispose is attractive because it reduces the ongoing costs of competitive play. *Online* players willingly pay more upfront to play with the same cards under the same rules on “an old, bloated app built on an outdated platform” with an “Excel Simulator’ style user interface,”¹¹⁰ while the developer retains the discretion it needs to shape core gameplay. For a digital collectible card game with a constantly evolving competitive scene and new card sets, contractual rights that may fall short of the absolute bundle of property rights nonetheless appear to provide significant value.¹¹¹

Perhaps Wizards of the Coast is using *Arena* to attract casual players and eventually push them toward becoming high-spending *Online* or Analog players. Perhaps they are trying to use addictive “gacha” mechanics to influence players into spending more than they rationally would in a traditional marketplace.¹¹² But, regardless of the developer’s strategy, the differences between *Online* and *Arena* demonstrate that contractual rights substantially impact game value and that developers would be best served making more thoughtful choices about what rights to offer through EULAs.

109. See MAGIC THE GATHERING, *supra* note 103.

110. Troha, *supra* note 101.

111. Some competitors have based their entire differentiation strategy on ownership. Despite starting from scratch with no valuable IP, upstart competitor *Gods Unchained* raised \$15 million in a Series A funding round for its digital collectible card game, in which card ownership and scarcity are guaranteed using the Ethereum blockchain. See Brady Dale, ‘*Gods Unchained*’ Crypto Game Raises \$15 Million from Naspers, *Galaxy*, COINDESK (Sept. 23, 2019, 7:59 PM), <https://www.coindesk.com/gods-unchained-crypto-game-raises-15-million-from-naspers-galaxy-digital>. However, the company has not seen much success since then, suggesting that ownership rights alone are not sufficiently valuable. See Alex Lielacher & Andy Pickering, *Gods Unchained Updates Aim to Win Back Blockchain Gamers*, BRAVE NEW COIN (Sept. 9, 2020, 18:05 UTC), <https://bravenewcoin.com/insights/the-rise-of-gods-unchained-the-hottest-blockchain-game-since-cryptokitties>.

112. In “gacha” games, players cannot designate an item to purchase, but instead must purchase a random pack that may contain the desired item. Collectible card games and Kinder Surprise Eggs employ similar mechanics. See Gene Park, *I Spent \$130 in ‘Genshin Impact.’ If You Might Do This, Maybe Don’t Play It*, WASH. POST (Oct. 6, 2020), <https://www.washingtonpost.com/video-games/2020/10/06/genshin-impact-gambling/> (detailing the addictive nature of loot boxes and “gacha” mechanic-induced spending).

IV. RECOMMENDATIONS

One benefit of using EULAS to silo virtual worlds from the real world is that developers can also silo virtual worlds from each other using the same method. Since most games are discrete platforms that do not interoperate with each other, they can serve as “laboratories for experimentation with different levels of interaction between the inside and the outside world.”¹¹³ Developers stand to take advantage of this opportunity for experimentation by adopting different EULAs for different games, allowing them to specify different packages of contractual rights within each game without impacting their discretion in others. Doing so may provide incremental benefits in ways that accommodate some of the criticisms of the existing EULA regime without having to upend the entire system.

A. VIRTUAL PARALLELS TO REAL-WORLD RIGHTS: OWNERSHIP AND DISPOSITION

Like Wizards of the Coast does for *Online* players, developers should first consider providing players ownership rather than a license.¹¹⁴ A revocable license right, however constrained by extralegal enforcement,¹¹⁵ will be less valuable than an ownership right given the inherent risk that license revocation presents to a prospective buyer.¹¹⁶ Mitigating that risk through a contractual guarantee should increase a player’s willingness to pay for essentially any item, although the magnitude of that increase could vary significantly by game and item.

Alternatively, rather than offer a full “bundle” of property rights, developers could consider granting players a right of disposition alone. By fostering the creation of what would essentially be a secondhand market, allowing disposition could yield even greater economic benefits.¹¹⁷ Here, the right of disposition refers to a player’s right to transfer authority over her item, permanently or temporarily, to another player.¹¹⁸ Doing so could “partly [solve] the problem of divisibility and flexibility of holdings,” by allowing different

113. Mark A. Lemley, *The Dubious Autonomy of Virtual Worlds*, 2 U.C. IRVINE L. REV. 575, 579 (2012).

114. See *supra* Section III.B.

115. See *supra* Section II.C.3 (discussing extralegal deterrents to developer abuse).

116. In this sense, ownership rights refer to the archetypal “bundle” of property rights. The allocation of such rights for virtual items may present unique complications, full consideration of which is beyond the scope of this Note. Instead, this Note proposes the possibility and invites further discussion on the matter.

117. See, e.g., *supra* Section III.B (discussing *Online*’s secondary market).

118. See *Freedom of Disposition*, LEGAL INFO. INST., CORNELL L. SCH., https://www.law.cornell.edu/wex/freedom_of_disposition (last visited Nov. 1, 2021).

owners to hold the same asset at different times when each respectively values it most, thereby maximizing the total value derived from an old item and increasing demand for new ones.¹¹⁹ While depreciation, which plagues physical items and makes second-hand markets even more useful, does not have nearly the same impact in virtual worlds,¹²⁰ individual preferences can shift even for items whose conditions do not deteriorate.

Cosmetic skins, for example, might be analogized to real-life fashion, where a second-hand market for expensive clothing benefits both fashion labels and individual consumers.¹²¹ In a stylized illustration, Player A, who highly values wearing the latest skin, will pay a high upfront price for the skin, wear it for a week, and leave it to gather dust in a virtual closet once it is older and commonplace. Player B, who is more cost-conscious, currently makes do with looking like a default character but would be willing to buy a skin at a price lower than what the developer is offering.¹²² With the right of disposition, Player A could sell that skin to Player B at a discount, and both would benefit. In permitting the transaction between the two players, the developer allows the skin to go to its highest value owner at each given point in time.¹²³ Furthermore, Player A's knowledge that she can recoup part of her cost by selling to Player B can further increase her willingness to pay for new skins, which benefits the developer in future releases.¹²⁴

The rights to own and dispose need not go hand in hand. Developers who are uncomfortable with granting ownership rights to assets they view as simply being in-game features can nonetheless consider strengthening the existing licenses they provide. For example, by making licenses transferable, a developer could enable player-to-player trades while retaining the discretion to unilaterally suspend a player for poor behavior and revoke her access to her

119. Arthur H. Fox, *A Theory of Second-Hand Markets*, 24 *ECONOMICA* 99, 114-15 (1957).

120. *See infra* Section IV.B.1.

121. *See* Fox, *supra* note 119, at 115.

122. In certain games, there can also be social stigma attached to being a “default” who does not pay for custom skins. *See* Patricia Hernandez, *Fortnite is Free, but Kids are Getting Bullied into Spending Money*, POLYGON (May 7, 2019, 12:21 PM) <https://www.polygon.com/2019/5/7/18534431/fortnite-rare-default-skins-bullying-harassment> (describing how *Fortnite* skins “became a status symbol” and how some children were bullied because they played *Fortnite* as a “default”).

123. *See supra* note 119 and accompanying text.

124. *Cf. supra* Section III.B (highlighting a similar phenomenon with digital trading cards in *Magic Online*).

items. Doing so would likely yield benefits similar to granting ownership rights while avoiding a portion of the associated costs.¹²⁵

B. UNIQUELY VALUABLE OR COST-EFFECTIVE FEATURES OF VIRTUAL WORLDS

1. *Unleashing Virtual-Native Benefits*

Developers can take advantage of the virtual nature of in-game goods to create surplus value and reduce transaction costs beyond what might be possible in the real world.

First, virtual items allow owners to avoid many costs and inconveniences associated with physical goods. For example, in the absence of built-in virtual deterioration, items will not degrade over time, and any decrease in their value will not be tied to their condition. This helps preserve tremendous amounts of value for many collectors' items, especially in cases where items gathering dust in an attic—real or virtual—return to unexpected relevance.¹²⁶ A seller seeking to convey a virtual item to a distant buyer can also do so safely and instantly, avoiding transportation costs and risks.

Furthermore, virtual goods do not suffer from information asymmetry and associated costs. In the real world, informational challenges can distort buyer and seller incentives, leading to adverse selection that either leaves one side unhappy or prevents any exchange from the outset.¹²⁷ Such challenges are even greater with online used goods sales, where distance and relative anonymity reduce accountability and further contribute to information challenges.¹²⁸ However, in virtual goods sales, where an authoritative source—the game code

125. A similar measure has worked in the Chinese real estate market, where land ownership is technically just possession of a 70-year government lease that is subject to certain involuntary repossession rights. See Frank Chen, *China Poised for Major Property Rights Overhaul*, ASIA TIMES (May 27, 2020), <https://asiatimes.com/2020/05/china-poised-for-major-property-rights-overhaul/>.

126. A “Near Mint” 1999 edition holographic Charizard Pokémon card has a market value of approximately \$13,000, while a “Gem Mint” copy commands above \$200,000. *1999 Pokémon Game – 1st Edition*, PSA AUTHENTICATION & GRADING SERVS., <https://www.psacard.com/smrpriceguide/non-sports-tcg-card-values/1999-poke-mon-game-1st-edition/2432> (last visited Mar. 3, 2021). However, if all cards going forward are guaranteed to stay in mint condition, each of them will likely be less valuable individually than the “Gem Mint” copies are today.

127. See, e.g., George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 489-90 (1970) (examining how information asymmetry between buyers and sellers can leave only low-quality “lemons” in the market).

128. See, e.g., Gregory Lewis, *Asymmetric Information, Adverse Selection and Online Disclosure: The Case of eBay Motors*, 101 AM. ECON. REV. 1535, 1540-44 (2011) (discussing the types of credible disclosures required to resolve information asymmetry in online used goods).

itself—clearly calculates and displays item attributes, such concerns are almost nonexistent. Whereas real-world sellers must rely on a costly combination of certificates, inspections, and warranties to assure a buyer of an item’s quality, sellers in virtual worlds can convey more information more reliably by simply displaying the item’s attributes in the trade screen.

Many of these superior, virtual-native characteristics inherently exist, but their benefits are hampered by developer restrictions and can only be fully realized if developers provide players with the right of disposition and allow them to buy and sell their items.

2. *Formalizing Wizardly Benevolence*

Developers can use their near-absolute, wizardly control over both game code and EULA terms to introduce virtual perks that further enhance in-game item value. Developers already provide for many of these perks within their games, in non-EULA policies, and in informal procedures. To formalize them, developers should consider either incorporating such perks into their (newly disaggregated) EULAs or adding them as addendums, where applicable.

For example, Blizzard offers *World of Warcraft* players an “Item Restoration” service that allows players to restore items they sell or destroy, whether purposefully or accidentally.¹²⁹ While restoration is conditioned upon certain requirements, such as having an active subscription and not being a banned account, it essentially functions as free “accident or dumb mistake” insurance for players’ most prized possessions.¹³⁰ Since it is nearly costless for Blizzard to use its virtual omnipotence to restore an item and highly valuable for the poor individual who fat-fingered a rare item into the void, this technology-enabled feature likely increases joint value.¹³¹

However, this *World of Warcraft* policy is relegated to one of at least 16,572 support pages, and the EULA clearly states that Blizzard has no obligation to comply with it.¹³² Since players should presumably value this insurance more than Blizzard values the flexibility avoid compliance with this nearly costless policy, Blizzard should consider formalizing policies like this in its EULA or in individual item purchase agreements. Other services that might similarly

129. *World of Warcraft Item Restoration*, BLIZZARD, <https://us.battle.net/support/en/article/16572> (Oct. 2021).

130. *See id.*

131. This is the virtual equivalent of your jeweler promising to give you a new ring if you accidentally drop the old one down the toilet or give it to your neighborhood orc blacksmith. If you were a clumsy individual, you might be willing to pay for such a promise.

132. *See* BLIZZARD, *supra* note 129. Continuing the analogy above, a verbal “we’ll probably give you a new one, but no guarantees” statement would presumably be less valuable to you than a signed promise.

provide value outweighing costs might include reversing the effects of player-on-player fraud or providing escrow services for high-value transactions.

C. NON-FUNGIBLE TOKENS AND THE POWER OF FIRM COMMITMENTS

The recent hype surrounding NFTs demonstrates how firm commitments can provide significantly more value than vague statements.¹³³

NFTs, which are unique and non-interchangeable digital assets recorded on a blockchain, allow creators to “codify” assets onto a digital ledger, “establishing a verifiable record of price, ownership, and transference” that will exist permanently on the blockchain.¹³⁴ Since blockchains are maintained and verified by a decentralized network of nodes, no individual can alter the properties of an entry once it has been created and recorded on the blockchain.¹³⁵ This allows individuals to enshrine promises in unalterable code, an action that in certain circumstances can be more forceful than contract.¹³⁶

For example, in *Top Shot*, a partnership between the NBA and blockchain company Dapper Labs,¹³⁷ users can buy collectible “Moments” that contain player photos, highlights, and stats.¹³⁸ Users can freely trade these “Moments,” which are essentially digitally enhanced trading cards recorded as tokens on an Ethereum-based blockchain, freely with each other on the *Top Shot* marketplace, including for real money.¹³⁹ Each card is given a scarcity tier, ranging from “Common,” denoting at least 1,000 copies in existence, to

133. Admittedly, much of the fervor can be attributed to some combination of U.S. Federal Reserve monetary policy, post-GameStop brave-new-world momentum investing, and resurgent interest in blockchain amidst rising Bitcoin prices. *See, e.g.*, Cooper Turley, *If You Haven't Followed NFTs, Here's Why You Should Start*, TECHCRUNCH (Feb. 27, 2021), <https://techcrunch.com/2021/02/27/if-you-havent-followed-nfts-heres-why-you-should-start/> (suggesting that the NFT craze is likely to be a bubble in the short-term).

134. Terry Nguyen, *NFTs, The Digital Bits of Anything That Sell for Millions of Dollars, Explained*, VOX (Mar. 11, 2021), <https://www.vox.com/the-goods/22313936/non-fungible-tokens-crypto-explained>.

135. *See, e.g.*, Kaushiki Srivastav, *A Guide to Blockchain Immutability and Challenges*, DZONE (Mar. 29, 2021), <https://dzone.com/articles/a-guide-to-blockchain-immutability-and-chief-chall> (explaining the mechanics behind blockchain immutability and highlighting certain challenges).

136. *See, e.g.*, Stuart D. Levi & Alex B. Lipton, *An Introduction to Smart Contracts and Their Potential and Inherent Limitations*, HARV. L. SCH. F. ON CORP. GOVERNANCE (May 26, 2018), <https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations/> (describing “smart contracts,” computer code that “automatically executes” contract terms and is stored on a blockchain).

137. Dapper Labs also created *CryptoKitties*, another famous blockchain collectibles platform. DAPPER, <https://www.dapperlabs.com/#products> (last visited Mar. 2, 2021).

138. *See* NBA TOP SHOT, <https://www.nbatopshot.com/about> (last visited Mar. 2021).

139. *See id.*

“Genesis,” which denotes a single copy.¹⁴⁰ When it first launched in October 2020, *Top Shot* performed extraordinarily well, generating more than \$230 million in sales in its first six months, including a whopping ninety-five percent generated by secondary user-to-user activity on the *Top Shot* marketplace.¹⁴¹ Rare “Moments” sold at astronomical prices, with a LeBron James dunk selling for \$200,000, while a 5,000-pack release sold out instantly after 90,000 signed up to buy in.¹⁴²

Putting aside the fact that NFTs can be freely bought and sold, the primary source of value (or at least hype) behind *Top Shot* and other NFTs is its code-enforced commitments. If Dapper Labs issues one “Genesis” Zion Williamson block highlight, the decentralized nature of the Ethereum blockchain ensures that there will only ever be one authentic copy.¹⁴³ If Dapper Labs minted another, it would be visible to everyone on the platform and would come with severe reputational consequences.¹⁴⁴ Anybody viewing the highlight can view its properties, including its scarcity and entire transaction history, and therefore be assured that it is indeed the one and only “Genesis” Zion Williamson block. Such guarantees of provenance, authenticity, and scarcity, enforced by immutable code, can prove highly valuable, including in adjacent contexts such as art.

Some developers have developed blockchain-native games whose items are recorded on popular protocols such as Ethereum and Solana.¹⁴⁵ Many of these games promise to “replicat[e] the tangibility of real-world assets and

140. *Infographic*, NBA TOP SHOT, <https://www.nbatopshot.com/infographic> (last visited Mar. 4, 2021).

141. Jabari Young, *People Have Spent More Than \$230 Million Buying and Trading Digital Collectibles of NBA Highlights*, CNBC (Feb. 28, 2021), <https://www.cnbc.com/2021/02/28/230-million-dollars-spent-on-nba-top-shot.html>.

142. Thomas Urbain, *Digital Authentication Opens New Doors for Art, Sports Collectors*, YAHOO! NEWS (Feb. 27, 2021), <https://news.yahoo.com/digital-authentication-opens-doors-art-015902230.html>. Note, however, that this pales in comparison to the \$5.2 million recently paid for a mint condition 1952 Topps Mickey Mantle physical baseball card. Bill Shea, *NBA Top Shot: People are Buying the Virtual Highlight Cards, But Risks Remain*, THE ATHLETIC (Feb. 15, 2021), <https://theathletic.com/2385311/2021/02/15/nba-top-shot-people-buying-virtual-highlight-cards-risks-remain/>.

143. Ethereum is one of a handful of blockchains upon which NFTs are recorded. *Blockchains Vie for NFT Market, but Ethereum Still Dominates*, COINTELEGRAPH (Oct. 8, 2021), <https://cointelegraph.com/news/blockchains-vie-for-nft-market-but-ethereum-still-dominates-report>.

144. It would also be much easier to catch Dapper in the act than it would be to realize that a baseball card company actually printed 700 instead of 500 copies of a particular card.

145. For a list of games on the Ethereum blockchain, ordered by user activity, see *Top Ethereum Games*, DAPPRADAR, <https://dappradar.com/rankings/protocol/ethereum/category/games> (last visited Jan. 19, 2022).

ownership” and provide for direct player-to-player transactions.¹⁴⁶ Some have even managed to sell items that do not yet exist to raise money to develop the very games that the items will be featured in—for example, “virtual gaming metaverse” *Star Atlas* raised \$20 million for development by selling NFTs conveying ownership of spaceships that could be used in the game when it eventually launches.¹⁴⁷ For these games, code-enforced “ownership” can be a valuable core feature that simultaneously functions as competitive differentiation and fundraising mechanism.

This is hardly to suggest that all developers should enshrine commitments made to players on a decentralized ledger, which comes with its own challenges and implications,¹⁴⁸ or that NFT prices are not primarily driven by speculation and unfounded hype.¹⁴⁹ If applied indiscriminately to all items and features, immutable code-based commitments would hamstring developers and likely resurface some of the very problems that the EULA status quo helps address—competitive imbalance, increased difficulty moderating player behavior, and reduced update flexibility.¹⁵⁰

However, NFTs do show that firm promises can enhance virtual asset values, and developers could draw on this insight by formalizing many of the

146. STAR ATLAS, WHITE PAPER: YOUR GUIDE TO THE UNIVERSE! (2021), <https://staratlas.com/white-paper.pdf>; see also *Axie Economy & Long-term Sustainability*, AXIE INFINITY, <https://whitepaper.axieinfinity.com/gameplay/axie-population-and-long-term-sustainability> (last visited Jan. 19, 2022) (“Game resources and items are tokenized [on the blockchain], meaning they can be sold to anyone, anywhere on open peer-to-peer markets”).

147. *Star Atlas: The Most Ambitious Blockchain Game*, NAAVIK, <https://naavik.co/themetas/staratlas-ua> (last visited Jan. 19, 2022).

148. For example, the fees paid to process transactions on a blockchain can sometimes outstrip the transaction amounts themselves. See, e.g., Will Gottsegen, *Time’s NFT Launch Sends Gas Fees Spiraling*, COINDESK (Sept. 23, 2021), <https://www.coindesk.com/business/2021/09/23/chaotic-time-magazine-nft-launch-sends-gas-fees-spiraling/> (describing how buyers spent “almost four times as much on transaction fees as they did on the NFTs themselves”). This has been an issue for *Gods Unchained* players seeking to buy and sell trading cards to optimize their decks. u/maiopupli, *Are You Guys Just Eating the Gas Fees?*, REDDIT (Sept. 22, 2021), https://www.reddit.com/r/GodsUnchained/comments/ptcc2a/are_you_guys_just_eating_the_gas_fees/. Additionally, no discussion involving blockchain is complete without acknowledging its arguably significant negative environmental impact. See Justine Calma, *The Climate Controversy Swirling Around NFTs*, THE VERGE (Mar. 15, 2021), <https://www.theverge.com/2021/3/15/22328203/nft-cryptoart-ethereum-blockchain-climate-change>.

149. See, e.g., Anil Dash, *NFTs Weren’t Supposed to End Like This*, THE ATLANTIC (Apr. 2, 2021), <https://www.theatlantic.com/ideas/archive/2021/04/nfts-werent-supposed-end-like/618488/> (“Companies selling toilet paper, potato chips, and light beer are tailgating on NFTs’ newfound popularity to offer incomprehensible blockchain-themed promotions on social media.”).

150. See *supra* Section II.C.

policies and features they currently offer on a merely informal or ad hoc basis. Clearly announcing that an item will have a limited supply, contractually guaranteeing scarcity within a EULA or purchase agreement, or displaying specific information about an item's scarcity in an in-game trade menu could help achieve similar effects for rare in-game items. Given the current state of developer discretion, such formal assurances would represent a significant step toward a more optimal balance of developer and player rights.

D. DISTINGUISHING BETWEEN GAME AND ITEM

Developers seeking to make new, firm promises can consider adding contract layers that distinguish in-game items from the underlying game to avoid triggering some of the common concerns about ownership discussed in Section II.C. A base EULA can lay out ground rules on issues such as updates, player conduct, and termination that apply broadly to the entire game, while additional language can address item-specific topics such as ownership, disposition, scarcity, and developer-provided virtual perks.

The *Top Shot* terms of service provide an instructive example. Dapper Labs distinguishes between the “App,” the platform which allows players “to purchase, collect, and showcase NBA moments,” and “Moments,” the NFTs themselves that have “a defined set of attributes”¹⁵¹ Users own the underlying NFT “completely,” but Dapper Labs own all rights “in and to all other elements of the App, and all intellectual property rights therein”¹⁵²

In typical EULA fashion, *Top Shot* users agree to refrain from engaging in illegal or undesirable behavior such as posting objectionable content or distributing viruses, while Dapper Labs reserves sole and absolute discretion to terminate users' accounts for such behavior.¹⁵³ However, termination only impacts a user's ability to access or use the “App” and does not affect the user's ownership rights in any NFTs she already owns.¹⁵⁴ A user who finds herself suspended and unable to enjoy her “Moment” displayed through the “App” can nonetheless sell it to somebody who can, which preserves the NFT's value within the shared *Top Shot* ecosystem. With this structure, a developer in the virtual game world could ban a player for illegal behavior while allowing such player to sell her items in a separate marketplace to somebody who can use them. The benefits of this contractual distinction also flow in the opposite direction. Just as a user's behavior on the base *Top Shot*

151. *Terms of Service*, NBA TOP SHOT, <https://www.nbatopshot.com/terms> (last visited Mar. 4, 2021).

152. *Id.*

153. *Id.*

154. *Id.*

platform does not undermine her ownership, Dapper Lab's mishaps in maintaining the platform do not give users a claim against Dapper Labs, even if those mishaps impact the value of users' NFTs. In the *Top Shot* terms of service, users expressly assume the risk that upgrades to the "Flow" platform—the blockchain that *Top Shot* runs on—may have "unintended, adverse effects" on the *Top Shot* ecosystem.¹⁵⁵ Since a user pays for ownership of the NFT itself, Dapper Labs makes no promises regarding the *Top Shot* platform, which acts more as an ancillary vehicle to boost NFT values.

Others in the NFT space have pushed this distinction even further. One example is Loot, an NFT platform whose NFTs are simply "text file[s] consisting of 8 phrases overlaid on a black background."¹⁵⁶ Such phrases, like "Short Sword" or "Divine Slippers," for example, evoke gaming archetypes but are not themselves usable items in any game.¹⁵⁷ Instead, entire communities, at times referred to as "decentralized autonomous organizations" (DAOs), emerged to build out the infrastructure of "the Loot ecosystem,"¹⁵⁸ with some creating entire games that accept Loot's text phrases as inputs and grant holders corresponding in-game features.¹⁵⁹ Just like how players own "Moments" that are displayable on—but independent of—the *Top Shot* "App," players can take their Loot NFTs, which exist independently of the games that incorporate them, and use their Loot NFTs across a wide range of games.¹⁶⁰ Such a model flips the existing in-game item model on its head by making items the focal point—akin to developing an entire basketball game based on "Moments" and providing that players could only play as LeBron James if they held a LeBron James NFT. To successfully accommodate this paradigm shift, EULAs would need to meticulously distinguish the underlying item from the overlaying game.

Such developments, still in nascent stages, are unlikely to pose a direct threat to mainstream games in the short term. In very few games do players currently care more about the items than the underlying game, and developers must be careful not to undermine gameplay by allowing players to "pay-to-

155. See NBA TOP SHOT, *supra* note 151.

156. See *Loot Project: The First Community Owned NFT Gaming Platform*, COINBASE BLOG (Sept. 14, 2021), <https://blog.coinbase.com/loot-project-the-first-community-owned-nft-gaming-platform-125fa1d5ffa8>.

157. *Id.*

158. See DivineDAO, *Introducing the Divine City*, MEDIUM (Oct. 5, 2021), <https://divinedao.medium.com/introducing-the-divine-city-460596889bfc>.

159. See, e.g., GENESIS PROJECT, <https://genesisproject.xyz/> (allowing Loot holders to "resurrect a Genesis Adventure of Brilliance" for use in future games by inputting certain pieces of Loot "equipment" text phrases).

160. *Id.*

win” using expensive, rare NFTs.¹⁶¹ Furthermore, even if players are amenable, blockchain developers will need massive budgets and multi-year development cycles to create games that compete in production quality with the mainstream industry’s top performers.¹⁶²

Meanwhile, even proactive mainstream developers seeking to introduce player rights may find the adoption of *Top Shot’s* model a bit drastic—a developer might prefer to reserve the ability to modify items to ensure that they work across updates, or bar sales from terminated accounts to deter bad behavior. But developers are better served when these policies arise from thoughtful consideration of the particular characteristics of their virtual worlds, rather than blunt application of EULA terms. Contract layers can help facilitate such decisions.

V. A TOGGLE MENU APPROACH TO EULA TAILORING

Contract rights can provide valuable assurance for business promises but can also give rise to inefficiency and litigation when they conflict.¹⁶³ Developers seeking to improve their EULAs should use a toggle menu approach and selectively provide rights that comprise the optimal set for each respective game. Game characteristics will determine what rights are feasible, while commercial considerations stemming from those characteristics will dictate what rights are desirable.

Some considerations are more logistical and involve how to tweak contract language or game features to accommodate new rights. Others are based in principle and will depend on each developer’s vision and strategy for each game. Understanding these considerations may help explain why developers

161. After all, most in-game items available for player purchase are optional enhancements that exist separately from underlying core gameplay. See *infra* Section V.B.I. (discussing how allowing players to buy items that directly affect gameplay can severely undermine player experience).

162. For example, *Grand Theft Auto V* had a \$265 million budget and took 5 years to produce. See *From Development to Marketing, Game Studios Spared No Expense in Making These Games*, GAMEDESIGNING, <https://www.gamedesigning.org/gaming/most-expensive-games/> (last visited Jan. 19, 2022).

163. See, e.g., *Bragg v. Linden Rsch., Inc.*, 487 F. Supp. 2d 593 (E.D. Pa. 2007). Defendant Linden Lab auctioned rights to virtual land in *Second Life*, a game it developed. When plaintiff Marc Bragg used a loophole in the auction system to acquire virtual land cheaply, Linden Lab terminated Bragg’s account and his rights to the land. Bragg argued that Linden Lab could not represent that it was selling “ownership” and then unilaterally revoke his rights to the land, while Linden Lab argued that the rights were always licenses and that termination was fully within its discretion under the EULA; see also *Evans v. Linden Rsch., Inc.*, No. C 11-01078 DMR, 2012 WL 5877579 (N.D. Cal. Nov. 20, 2012) (addressing a similar issue for a separate group of *Second Life* players).

have not been as active in tailoring in-game rights as this Note argues they should.

A. LOGISTICAL CONSIDERATIONS

1. *Updates*

Developers need flexibility to update their games to fix bugs, maintain competitive balance, and otherwise improve the game experience, since promising to obtain consent from players prior to each update would be costly and inefficient.

However, developers can explore less limiting promises that nonetheless prove valuable by reducing the risk that an update will adversely impact an item. For example, a developer selling a plot of land in a game might be unwilling to guarantee that new updates will not decrease the plot's value. However, if the developer did not expect to update the game map going forward, it could provide approximately the same assurance by guaranteeing that the plot would always be conveniently situated near the main teleportation portal—a promise that would help preserve a key source of the plot's value.¹⁶⁴ Similarly, a developer selling a limited-edition item might promise to never change the item's aesthetic, even if surrounding game graphics were updated, so that it would retain a distinctive character that might grow more desirable over time.¹⁶⁵

2. *Obsolescence*

An adjacent challenge arises when a game nears the end of its lifecycle and the costs of maintaining servers for the game exceed expected future revenues. Under the status quo, the developer would simply post an announcement, shut down the servers, and shift resources to newer games.¹⁶⁶ With players granted certain ownership rights, however, the alternatives available to a developer could be more complicated. For example, a developer who grants ownership rights may need to commit to maintaining support for a fixed period of time

164. Plot 5 in *The Mist* is a highly desirable housing location in *Final Fantasy XIV* in part because it is conveniently located “close to a Market Board, a Summoning Bell, and an Aetheryte.” bxakid, *FFXIV: The Best Housing Plots You Need to See Before 5.35*, MGG (Oct. 1, 2020), <https://www.millennium.gg/news/20497.html>.

165. For example, some legacy skins in *League of Legends* are prized specifically for their dated aesthetic even as the game's graphics have improved over the past decade. Luke Winkie, *9 of the Rarest League of Legends Skins*, PC GAMER (Nov. 19, 2018), <https://www.pcgamer.com/lol-skins/> (noting how the “Rusty Blitzcrank” skin’s “unappealing design has now become one of the rarest variants in League of Legends history.”).

166. See, e.g., 2K Liana, *supra* note 76 (describing annual shutdowns for old versions of *NBA 2K*).

or allow players to cash out their items for in-game currency in a newer version of the game. Developers might even consider allowing players to host their own private servers, subject to certain limitations, to access their in-game items if the developer abandons support.¹⁶⁷ What arrangement proves most efficient will depend largely on player expectations, which can in turn be shaped by the developer's public stance and marketing at the time of sale.¹⁶⁸

3. *Transaction Costs*

Making more numerous and more complicated contractual promises will also require developers to draft, administer, and keep track of those promises, introducing additional costs for developers. Certain promises, such as reversing fraud after an investigation, may prove more expensive to carry out than others.

Guaranteeing certain rights and attributes at the item level could also be costly, as developers would have to draft a set of rights that players would have to agree to with each purchase. However, for ultra-rare collectibles whose value stems from scarcity, a contractual promise to limit the supply of those items might be worth the cost, especially where such formalization is merely the outward manifestation to players of the developer's original intent. Developers should make their own determinations as to what rights to provide, and at what level of detail, based on the particular characteristics of their virtual world. In a case like *NBA 2K*, the optimal choice may be to limit costs by keeping things simple and promising nothing.¹⁶⁹

4. *Secondary Markets*

Developers offering ownership and disposition will need to determine what level of secondary market activity to allow. Different degrees of activity provide their respective advantages: allowing real money trades in any medium may allow for more efficient pricing, whereas only allowing in-game item

167. See generally Mark A. Lemley, *Disappearing Content*, 101 B.U. L. REV. 1255 (2021) (suggesting a similar arrangement in which libraries or even private companies are allowed to make old versions of copyrighted material available for preservation purposes, but also noting difficulties associated with doing so for multiplayer video games given interoperability challenges for players with different versions).

168. As an increasing number of developers release remastered versions of classic games, even items from games previously considered obsolete may come to retain unexpected value. See, e.g., Sean Hollister, *Diablo II: Resurrected Will Let You Import Your 20-Year-Old Savegames*, THE VERGE (Mar. 4, 2021), <https://www.theverge.com/2021/3/4/22314085/diablo-ii-remastered-original-save-files-savegames> (noting how *Diablo II: Resurrected* will allow players to import old *Diablo II* saved files, including the rare in-game items contained within, into the remastered game).

169. See *supra* Section II.D.

trades in an official market would enable a more curated player experience. Available options might include:

Figure 2: Potential Levels of Developer-Sanctioned Market Activity¹⁷⁰

Level of player-to-player activity	Example
All trades forbidden	<i>Magic: The Gathering Arena</i>
In-game items and currency only	<i>World of Warcraft</i>
Real money in official markets only	<i>Diablo III</i> (until 2014)
Real money in any market	<i>Magic: The Gathering Online</i>

While a gray market will always exist,¹⁷¹ the degree to which a developer blesses and facilitates transactions in a particular market will affect the level of risk associated with such transactions.¹⁷² The robustness of a game's secondary market can impact its in-game economy, including inflation rates and demand for new goods directly offered by the developer.¹⁷³ Developers should carefully consider what works best based on each game's core mechanics and incentive

170. See *supra* note 91; *Auction House*, WOWPEDIA, https://wow.gamepedia.com/Auction_House (last visited Mar. 4, 2021); John Hight, *Diablo III Auction House Update*, DIABLO III (Sept. 17, 2013), <https://us.diablo3.com/en-us/blog/10974978/diablo%C2%AE-iii-auction-house-update-9-17-2013>.

171. See, e.g., EL DORADO, <https://www.eldorado.gg/> (last visited Mar. 4, 2021) (unapproved third-party site making "in-game trading great again" by selling in-game currency and items for real money).

172. Compare Jimenez, *supra* note 25 (describing how Blizzard terminated an account sold by one player to another), with WIZARDS OF THE COAST, *supra* note 95 (outlining Wizards of the Coast's policy allowing players to buy and sell online cards and even redeem them for physical copies).

173. For example, since in-game currency spent in *World of Warcraft's* auction houses goes to other players instead of back to the developer, players collectively retain the same spending power as before their trade. Blizzard charges a 5% transaction fee to force indirectly players, as a collective whole, to eventually have to acquire more gold by playing the game. See *Gold Sink*, WOWPEDIA, https://wow.gamepedia.com/Gold_sink (last visited Mar. 3, 2021) (discussing how developers combat inflation by removing money from the game's economy using "gold sinks").

structure, as a laissez-faire approach to real-money transactions may not always be the best approach.¹⁷⁴

B. PRINCIPLE-BASED CONSIDERATIONS

1. *Pay-to-Win*

Developers introducing the right to own and dispose of in-game items risk undermining core gameplay and enabling players to take shortcuts instead of playing or improving at the game. Such was the case with the auction house in *Diablo III*, an attempt by Blizzard to create a convenient and safe way for players to buy and sell in-game currency and items, including with real money.¹⁷⁵ Unlike in many other games,¹⁷⁶ where microtransactions often involve nonessential items such as cosmetic skins, the *Diablo III* auction house allowed sales of items, such as powerful weapons, that affected gameplay.¹⁷⁷ The auction house proved hugely unpopular among a large group of players, who felt that it undermined *Diablo III*'s core experience.¹⁷⁸ Less than two years after launching the auction house, Blizzard shut it down completely.¹⁷⁹

However, *Diablo III*'s main problem was not that that it allowed real-money transactions, but “[r]ather . . . the existence of the auction house in the first place, whether for real cash or fake gold.”¹⁸⁰ In a game where “better loot *is* the ultimate goal,” the decision to allow players to simply buy loot instead of grinding for it by repeatedly killing in-game monsters removed “the reward structure that would otherwise motivate them to play”¹⁸¹ *Diablo III*'s failure, when contrasted with the success of auction houses in other games such as *World of Warcraft*,¹⁸² does not suggest that developers should avoid allowing user transactions, but rather that they need to tailor market design to each game instead of carelessly defaulting to either extreme.¹⁸³

174. See *infra* Section V.B.1 (discussing the drawbacks of *Diablo III*'s real-money Auction House); see also *infra* Section V.C.2 (discussing potential concerns about cannibalizing whale revenue).

175. Bo Moore, *Why Diablo's Auction House Went Straight to Hell*, WIRED (Sept. 20, 2013), <https://www.wired.com/2013/09/diablo-auction-house/>.

176. See, e.g., OVERWATCH WIKI, *supra* note 86 (describing how cosmetics “do not affect gameplay”).

177. See Moore, *supra* note 175.

178. See Hight, *supra* note 170.

179. *Id.*

180. *Id.*

181. *Id.*

182. *World of Warcraft* does not allow sales of gameplay-altering items beyond basic crafting materials. See Moore, *supra* note 175.

183. Note that *World of Warcraft*'s auction houses do not allow real money transactions. *Id.*

2. *Maintaining the Fantasy*

A related risk is whether introducing certain rights may make the game appear too transactional, bursting the fantasy bubble that developers strive so hard to create. However, since every developer who has introduced microtransactions has already made a similar tradeoff, this risk should not be viewed as an insurmountable obstacle.

Thoughtful developers can seamlessly integrate money into the game experience. Many developers have made some effort in this regard by charging prices in virtual currency, which removes the purchase experience one step further from the real world.¹⁸⁴ Others go further. For instance, in *Genshin Impact*, the immensely popular open-world RPG developed by miHoYo, the “gacha” mechanism¹⁸⁵ for obtaining new characters, weapons, and items is deftly packaged as the player making a “wish.”¹⁸⁶ Each “wish” is accompanied by a beautiful animation of a shooting star that dovetails with the game’s overall fantasy theme.¹⁸⁷ While not every game will lend as well to such a mechanism, developers should weigh the risks and benefits of particular transaction designs based on their own game and player community.

3. *Gambling, Speculation, and Addiction*

Developers will need to further consider whether facilitating increased microtransactions, which can lead to increased addiction, gambling, and speculation among players,¹⁸⁸ is a desirable goal for their strategy and community.

In years past, an addictive game could destroy a player’s health, relationships, and career prospects,¹⁸⁹ but its direct financial costs would often

184. See *supra* note 112 for a recap on “gacha” mechanisms.

185. See, e.g., 2K Mike, *supra* note 73 (explaining how “VC” or virtual currency works in *NBA 2K*).

186. *Wishes*, GENSHIN IMPACT WIKI, <https://genshin-impact.fandom.com/wiki/Wishes> (last visited Mar. 3, 2021).

187. The animation does not make whiffing on a rare character any less infuriating, but at least it looks good and engages the community—a user rendition of the “*Genshin Impact* Gacha Experience” animation is the second-most upvoted post on the *Genshin Impact* subreddit. See u/Totouri, *I Animated the Genshin Impact Gacha Experience*, REDDIT (Jan. 2021), https://www.reddit.com/r/Genshin_Impact/comments/kx4sbv/i_animated_the_genshin_impact_gacha_experience/.

188. See, e.g., Luke Winkie, *Here’s How Loot Box & Microtransaction Addiction Destroys Lives*, IGN (July 13, 2020, 2:57 PM), <https://www.ign.com/articles/heres-how-loot-box-addiction-destroys-lives> (describing the harmful effects of microtransaction addiction).

189. Meredith Watkins, *Video Game Addiction Symptoms and Treatment*, AM. ADDICTION CTRS., <https://americanaddictioncenters.org/video-gaming-addiction> (last visited Sept. 29, 2021).

be limited to its purchase price and potentially the cost of licensed merchandise. But, since microtransaction spending does not have a hard limit, the potential financial impact on an addicted gamer is much greater, to the point where financial planners have issued self-promoting pieces warning about the significant risks that microtransactions pose for student loan borrowers.¹⁹⁰ These dangers are further compounded by the “gacha” or “loot box” mechanisms present in many games, which add an addictive element of uncertainty that many argue should be considered gambling.¹⁹¹

Furthermore, valuable items almost invariably attract opportunistic behavior such as speculation and fraud. Casual *Magic: The Gathering* players “have complained, loudly and for years,” about increasingly high prices and rampant speculation, including “hostage situation[s]” where “[a]mbitious dealers have been suspected of buying out every single available copy of a card to inflate its price”¹⁹² Such undesirable behavior can be difficult to avoid and can dissuade newcomers from engaging with a game, limiting its attractiveness.

C. POSSIBLE EXPLANATIONS FOR DEVELOPERS STAYING WITH THE STATUS QUO

EULAs have remained noticeably static even as industry business models have evolved dramatically. Conservatism stemming from past mistakes, concerns about alienating key customers, and legitimate needs for flexibility provide some insight into why developers may have been less active in tailoring contractual rights for a \$100 billion dollar industry than they likely should.

1. *Disrupting a Favorable Equilibrium*

The EULA status quo has accompanied the game industry in its meteoric ascent to becoming a hundred-billion-dollar business. In the absence of clear and appealing counterfactuals, many developers may have adopted a more

190. See Ameritech Financial, *Microtransactions in Video Games May Lead to Financial Troubles*, Says Ameritech Financial, CISION PR NEWSWIRE (June 13, 2018), <https://www.prnewswire.com/news-releases/microtransactions-in-video-games-may-lead-to-financial-troubles-says-ameritech-financial-300665429.html>.

191. See, e.g., Sheldon A. Evans, *Pandora’s Loot Box*, 90 GEO. WASH. L. REV. (forthcoming 2022) (arguing that loot boxes should be regulated as a form of gambling); David Lazarus, *Column: Are ‘Loot Boxes’ in Video Games a Form of Gambling?*, L.A. TIMES (Dec. 11, 2020, 6:00AM), <https://www.latimes.com/business/story/2020-12-11/video-game-loot-boxes-gambling> (describing legislative amenability to loot box regulation in both the United States and the United Kingdom).

192. Cecilia D’Anastasio, *The Stockbrokers of Magic: The Gathering Play for Keeps*, WIRED (Apr. 23, 2020, 7:00AM), <https://www.wired.com/story/the-stockbrokers-of-magic-the-gathering-play-for-keeps/>.

conservative “if it ain’t broke, don’t fix it” approach, especially when considering the apparent apathy that most players have demonstrated even while spending large amounts of money.¹⁹³ For developers, players’ implicit willingness to rely on extralegal enforcement may serve as unspoken assent to maintain a developer-friendly equilibrium.¹⁹⁴

Prominent mishaps by more forward-thinking developers may have also discouraged the crowd. *Diablo III*’s real-money auction house and Linden Labs’ sales of virtual land “ownership” rights in *Second Life* both tried and failed to create and capture user value by selectively introducing pseudo-property rights—one was widely criticized by the player community,¹⁹⁵ while the other invited opportunistic behavior and litigation.¹⁹⁶ This Note has sought to explain their shortcomings and provide recommendations that avoid their mistakes.¹⁹⁷

2. *Uncertain Impact on Whales*

Developers may be concerned about the impact that EULA changes could have on whales’ spending behavior. Whereas the average player might spend a few dollars a year, whales can spend hundreds or thousands per month, with as few as 0.15% of players accounting for fifty percent of total revenue.¹⁹⁸ The player spending \$150,000 on the free-to-play *Transformers* game drives much of the game’s profitability and may not behave in ways that developers can reliably predict.¹⁹⁹ For example, allowing players to pay more for in-game items that roll over across versions of *NBA 2K* could increase joint value by giving mainstream players an efficient way to express their preferences and increasing their incentive to buy future versions of *NBA 2K*. However, doing so would also decrease developer revenues from whales, many of whom already buy every new version and purchase massive amounts of new in-game items from scratch without additional incentives.²⁰⁰

Whether such a change would yield a net benefit for developers would likely be an empirical question. Cannibalization of whale revenue could outweigh any increase in mainstream spending, but increased player engagement might also drive whales to spend even more to differentiate

193. See *infra* Section II.C.2.

194. See *supra* Section II.C.3.

195. See *infra* Section V.B.1.

196. See, e.g., *supra* note 163 and accompanying text.

197. See *supra* Part V.

198. See *supra* note 69.

199. See *supra* note 70.

200. See *supra* notes 75-76 and accompanying text.

themselves.²⁰¹ Some developers may have already made the relevant assessments and concluded that most rights discussed in this Note are not worth introducing. However, since these dynamics likely vary by right and by game, it appears unlikely that all developers have consciously arrived at the same conclusion across all rights and all games.

3. *Business Premium on Flexibility*

Developers may assign much greater value to flexibility than this Note expects. They may be concerned that granting certain rights, some of which could be perpetual, might limit their ability to quickly pursue unexpectedly lucrative opportunities. If Epic Games had contractually committed to dedicating significant resources to its original main “Save the World” game mode in *Fortnite*, it may not have been able to pivot as quickly as it did to growing its vastly more successful “Battle Royale” game mode, which has generated billions in revenue and made the franchise one of the largest in the world.²⁰² As the industry continues to grow rapidly and acquire mainstream legitimacy, new opportunities will emerge. High-profile partnerships, such as *League of Legends*’ virtual skin and real-world apparel collaborations with Louis Vuitton or *Fortnite*’s in-game concert with rapper Travis Scott, likely involved complex negotiations surrounding assignment and licensing of rights and may have required significant in-game changes that could hardly have been anticipated when the developers first drafted their EULAs.²⁰³ Developers may find that retaining absolute flexibility to make the changes necessary to pursue these opportunities might be more valuable than securing marginal gains in current revenue. However, considering the tremendous revenue that games already generate and the fact that certain rights such as free item restoration can provide value without meaningfully limiting developers, such concerns should only apply to a subset of rights in a subset of games.

201. Derision of “defaults” and admiration for rarer skins in *Fortnite*, for example, may increase spending among both mainstream players and “whales.” See *supra* note 122.

202. See Brandon Saltalamacchia, *The Evolution of Fortnite: How Fortnite Became the Game We Know and Love Today*, GAMESRADAR (June 29, 2018), <https://www.gamesradar.com/the-evolution-of-fortnite-how-fortnite-became-the-game-we-know-and-love-today/>.

203. See Jake Silbert, *Louis Vuitton Drops ‘League of Legends’ Apparel Collaboration*, HYPEBEAST (Dec. 9, 2019), <https://hypebeast.com/2019/12/league-of-legends-louis-vuitton-apparel-collaboration-collection-accessories> (describing the virtual apparel collaboration between Louis Vuitton and *League of Legends*); Andrew Webster, *Travis Scott’s First Fortnite Concert Was Surreal and Spectacular*, THE VERGE (Apr. 23, 2020), <https://www.theverge.com/2020/4/23/21233637/travis-scott-fortnite-concert-astronomical-live-report> (noting that Scott’s performance attracted an average live audience of 4.7 million viewers).

VI. CONCLUSION

Regardless of how one feels about the existing balance between contract and property in virtual worlds, the existing EULA regime will likely remain the primary legal mechanism governing in-game items in the near to medium term. The contrast between games such as *NBA 2K* and *Magic: The Gathering Online* demonstrates that developers' uniform assumption of plenary discretion across a wide range of games and items is likely suboptimal. Unbundling contractual rights and guarantees provides a toggle menu that developers can use to tailor EULAs to the particular characteristics of individual games. While developers undoubtedly benefit from their EULA dominance, selectively relinquishing plenary power in certain areas can more than pay for itself by providing increased opportunities for player engagement and spending. Doing so would help address some of the most glaring weaknesses in the existing EULA regime and provide a stronger foundation for an industry that is poised for further explosive growth.