

NOTE

DEVELOPING A DIGITAL PROPERTY LAW REGIME

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INTRODUCTION

Imagine you bought a hat. Do you own it? It would clearly seem so. You paid for it with your money, and now you can wear it, cut it apart, throw it away, and decide whether other people can wear it and who specifically has that privilege. But what if you bought that hat in a virtual world such as an online multiplayer video game? You paid for it with your money, your character can choose to wear it or not, and other players cannot wear your hat without your permission. However, should the game developers decide to take away your hat, it seems that there is little that you could do in a legal sense. You might send a support request demanding your hat or at least some recompense, but it seems unlikely that you would be able to go to court over your virtual hat. The game developer created the game and the rules by which this game operates, and you as a

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player have agreed to those rules by playing this game. If the end user license agreement (EULA) says that game developers have free reign to decide when to give away hats and when to take away hats, then you as a player have consented to their power to do so.

These were the type of inquiries conducted in *Bragg v. Linden Research, Inc.*¹ Linden Labs developed a virtual world known as Second Life.² Second Life is essentially an open virtual world where users can do just about anything, including, but not limited to, building things, buying and selling things, hanging out with friends, and going to the local virtual bar.³ There is even a virtual currency called the Linden Dollar that facilitates the buying and selling of items, land, and services in Second Life.⁴ Many games have virtual currency systems that allow players to exchange real currency for in-game currency, which then allows them to buy in-game goods.⁵ What is most surprising about Second Life is that, not only can Linden Dollars be bought with real U.S. dollars, but Linden Dollars can also be exchanged back into U.S. dollars.⁶ As such, Marc Bragg, an attorney from Pennsylvania, once purchased several thousand dollars' worth of Second Life land.⁷ However, Linden Labs claimed that Marc Bragg had purchased the land through an exploit.⁸ As punishment, Linden Labs "banned Bragg per-

¹ *Bragg v. Linden Research, Inc.*, 487 F. Supp. 2d 593 (E.D. Pa. 2007).

² SECOND LIFE, <https://secondlife.com/> [<https://perma.cc/M4DU-RGJJ>].

³ See Kristen Kalning, *If Second Life Isn't a Game, What Is It?*, NBC NEWS.COM (Mar. 12, 2007, 5:54 PM), http://www.nbcnews.com/id/17538999/ns/technology_and_science-games/t/if-second-life-isnt-game-what-it/#.Xd2_KVdKg2w [<https://perma.cc/NF5C-CN6L>].

⁴ Gordon Scott, *Linden Dollar*, INVESTOPEDIA (June 28, 2019), <https://www.investopedia.com/terms/l/linden-dollar.asp> [<https://perma.cc/D8DG-GGK6>].

⁵ Examples of different in-game items players could buy include Poké Balls in Pokémon Go and Orbs in Fire Emblem Heroes. See, e.g., Bob Fekete, *'Pokémon Go' Cost: Price List for All Microtransactions in the Latest Mobile Gaming Craze*, PLAYER.ONE (July 8, 2016), <https://www.player.one/pokemon-go-cost-price-list-all-microtransactions-latest-mobile-gaming-craze-544518> (listing prices for various items in Pokémon Go in Pokécoins) [<https://perma.cc/5TAN-2TLX>]; Nadia Oxford, *Fire Emblem Heroes: How to Get Lots of Orbs*, USGAMER (June 8, 2017), <https://www.usgamer.net/articles/08-06-2017-fire-emblem-heroes-how-to-get-lots-of-orbs> (describing how to acquire and use Orbs in Fire Emblem Heroes) [<https://perma.cc/9HHB-KKZZ>].

⁶ Scott, *supra* note 4.

⁷ See *Bragg v. Linden Research, Inc.*, 487 F. Supp. 2d 593, 596–97 (E.D. Pa. 2007); Tateru Nino, *Bragg Vs Linden Lab—The Story So Far*, SECOND LIFE INSIDER, (Jan. 27, 2007, 5:01 AM), <https://web.archive.org/web/20080317055638/http://www.secondlifeinsider.com/2007/01/27/bragg-vs-linden-lab-the-story-so-far/> [<https://perma.cc/2XG8-QB3M>].

⁸ *Linden Research*, 487 F. Supp. 2d at 597.

manently from Second Life, canceling his account. . . . [and] it put up all of Bragg's virtual land for resale."⁹ Linden Labs' EULA stated that it held the right to terminate a user's account for any reason, or for no reason.¹⁰ Ultimately, the case did not center around whether the land and items in Second Life were legally Bragg's property, but instead around whether the mandatory arbitration clause in Second Life's terms of service agreement was enforceable or not.¹¹

More than a decade after *Linden Research*, we still have no clear answer to the digital property question. Further, we do not have a particularly clear conception of what digital property exactly is, and many early scholars would use the words digital property and virtual property interchangeably.¹² As the world becomes increasingly digitized, and more and more of what we own and use is moved to cyberspace, the question of what digital property exactly is and what rights should we have over it becomes more important. In this Note, I will argue that the nature of digital property requires us to radically rethink what types of property rights we have, and that ultimately a new class of specific "virtual property" or "digital property" rights is necessary.

In Part I, I give a brief history of the scholarship and debate around virtual property and argue why the virtual property debate is still important today. In Part II, I consider ways in which digital property and physical property may differ, and ultimately argue that Palka's¹³ work on virtual property takes the necessary steps toward a coherent and sensible digital property regime. In Part III, I attempt to create the basis of what a digital property rights regime may look like and suggest future developments to my theory on digital property.

⁹ GREG LASTOWKA, VIRTUAL JUSTICE: THE NEW LAWS OF ONLINE WORLDS 17 (2010).

¹⁰ *Terms of Service*, LINDEN LAB, (July 31, 2017), <https://www.lindenlab.com/tos> [<https://perma.cc/KX6T-WNME>].

¹¹ See *Linden Research*, 487 F. Supp. 2d at 611 (holding that the mandatory arbitration clause in Linden's terms of service agreement was unenforceable because the Terms of Use was both procedurally and substantively unconscionable).

¹² Early virtual property scholars used the term virtual property to refer to many different things, and often used words such as virtual property and digital property interchangeably. I clarify the differences between digital property and virtual property in subpart II.B. Part I focuses on different scholars' theories of virtual and digital property, so they may use the term more interchangeably than I would.

¹³ Przemyslaw Palka, *Virtual Property: Towards a General Theory* (Dec. 20, 2017) (unpublished Ph.D. thesis, European University Institute) (on file with Cadmus).

I

THE HISTORY OF VIRTUAL PROPERTY—A PROBLEM THAT
NEEDS ADDRESSING

Much of the early work done on virtual property centered around the idea of virtual worlds. Virtual worlds are online and persistent worlds where thousands of real people can play, interact, and socialize.¹⁴ Many of these worlds take the form of online multiplayer video games, where the player can control an avatar that represents them, travel to different places in the world, and perform in-game tasks and adventures. In the massive multiplayer online role playing game (MMORPG) *World of Warcraft*, a person, through an avatar, can explore the fantasy world of Azeroth.¹⁵ They can explore different continents, create teams with other players, defeat monsters, and obtain rare items such as magical swords.¹⁶ Gregory Lastowka and Dan Hunter first explored virtual property in video games in their article *The Laws of Virtual Worlds*.¹⁷ Shortly after Lastowka and Hunter published their article, Joshua Fairfield published an article entitled *Virtual Property*¹⁸ that sought to explore broader conceptions of virtual property.

Lastowka and Hunter saw that players' rights to items were recognized in the game because the avatars of the players had actual possession over the items, subject to an in-game economy.¹⁹ These virtual worlds use a private property scheme much like ones that exist in modern-day western countries.²⁰ Much like the real world, only you can use or sell your virtual items.²¹ Furthermore, virtual property has real-world monetary value, with many worlds having clear exchange rates with real-world currencies.²² For example, *World of Warcraft* allows players to either buy membership with real currency or with in-game gold.²³ This creates a rough conversion rate of \$26.75

¹⁴ LASTOWKA, *supra* note 9, at 31.

¹⁵ See *What is WoW*, WORLD OF WARCRAFT, <https://worldofwarcraft.com/en-us/start> (last visited Feb. 24, 2020) [<https://perma.cc/9CSM-KN27>].

¹⁶ See *id.*

¹⁷ F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004).

¹⁸ Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047 (2005).

¹⁹ See Lastowka & Hunter, *supra* note 17, at 49–50.

²⁰ *Id.* at 30. All these virtual worlds operate on some sort of capitalist system. There is no virtual world that has a truly communal property system. *Id.* at 33–37.

²¹ *Id.* at 31.

²² See *id.* at 11.

²³ Andrea Diaz, 'World of Warcraft's' Virtual Gold is Seven Times More Valuable Than Venezuela's Real Money, CNN (May 9, 2018, 9:24 PM), <https://www.cnn.com/2018/05/08/world/world-of-warcraft-token-worth-more-than->

USD to 200,000 World of Warcraft gold.²⁴ Some games don't allow a transfer of in-game currencies to real currency, but do allow transfer of items between players. Many of these games use "loot boxes": boxes with random items inside that players can buy with real money.²⁵ Games that allowed transfer of items and had loot box mechanics developed black markets, where some players "amassed in-game items and then either traded or sold them to players who preferred to pay a premium than spend their money on the uncertain chance of landing their desired item in a loot crate."²⁶ The value of virtual items and the markets that arose because of them showed "that they could be recognized as objects of property rights by 'real law', [sic] because, essentially, they resemble 'real world chattels and land[.]'"²⁷

Seven years later, Lastowka wrote his book *Virtual Justice*, which explores the idea of virtual property from a broader perspective. Lastowka recognizes that not only do people recognize value in property through buying and selling it, but they also recognize that value through the crimes committed to obtain it.²⁸ In one case, a Dutch teenager playing Habbo Hotel used phishing methods (directing players to false login pages) to access other people's accounts and steal their in-game furniture.²⁹ In the game RuneScape (another MMORPG), two Dutch teens physically threatened another teen to hand over an in-

venezuelas-currency-trnd/index.html [https://perma.cc/MD76-J4KN]. World of Warcraft players must pay a monthly subscription to play the game. Initially, the game only allowed players to pay the subscription using real money. World of Warcraft now allows players to pay the subscription using in-game gold that they can earn by simply playing the game (such as by completing quests, killing monsters, etc.). See Blizzard Entertainment, *Introducing the WoW Token*, WORLD OF WARCRAFT, (Mar. 2, 2015), <https://worldofwarcraft.com/en-us/news/18141101/introducing-the-wow-token> [https://perma.cc/8GU5-BZBE].

²⁴ This was the conversion rate as of December 2, 2019. *Avg. Price for 200K WoW Gold Sold on PlayersAuctions*, PLAYERAUCTIONS, <https://www.playerauctions.com/market-price-tracker/wow/> (last visited Dec. 2, 2019) [https://perma.cc/8XZH-QRPF].

²⁵ See Katherine Cross, *How the Legal Battle Around Loot Boxes Will Change Video Games Forever*, VERGE (Dec 19, 2017, 9:00 AM), <https://www.theverge.com/2017/12/19/16783136/loot-boxes-video-games-gambling-legal> [https://perma.cc/NB7E-6HEY].

²⁶ Teddy Amenabar, *Video Game 'Loot Boxes' Are Going Away and It Could Crush Rocket League's Black Market*, WASH. POST (Aug. 27, 2019, 7:00 AM), <https://www.washingtonpost.com/video-games/2019/08/27/video-game-loot-boxes-are-going-away-it-could-crush-rocket-leagues-black-market/> [https://perma.cc/2R7C-S5M4].

²⁷ Palka, *supra* note 13, at 91 (citing Lastowka & Hunter, *supra* note 17).

²⁸ LASTOWKA, *supra* note 9 at 128-29.

²⁹ *Police Investigate Habbo Hotel Virtual Furniture Theft*, BBC (June 1, 2010), <https://www.bbc.com/news/10207486> [https://perma.cc/2J37-5MZD].

game amulet.³⁰ In one South Korean case, players in Lineage “took money from [another] Lineage gamer for a number of in-game items that they promised, but never intended to deliver.”³¹ In these situations, people may be more sympathetic to the victims and wish to compensate them while punishing the people who stole the items. In the South Korean case, the judge explained that while the common law protects against the “conversion” of property, the criminals could not be “charged with the Korean equivalent of conversion prohibitions, given that virtual property is not ‘movable’ property; instead, virtual property is considered an intangible resource.”³²

The lack of property-related prosecutions means that disputes involving virtual property do not have the “standard legal interests that accompany property ownership.”³³ While many would balk at the idea of granting property rights over in-game items, the amount of money that surrounds these items and goes into the industry only continues to grow. Transaction amounts for these items have reached as high as the hundreds of thousands of dollars, and the worldwide video game industry itself is set to reach \$300 billion in revenue by 2025.³⁴

Fairfield starts his paper with the following observations: that (1) “much computer code is just one step removed from a pure idea. It is non-rivalrous; that is, one person’s use of the code does not stop another person from using it,”³⁵ but that (2) “there is another kind of code . . . designed to act more like land or chattel than ideas.”³⁶ Fairfield was concerned with a much broader category of virtual items including “domain names, email accounts, accounts in online services, websites, chat rooms, bank accounts in e-banking, and many more.”³⁷ He says that much like physical items, these virtual items are rivalrous, persistent, and interconnected.³⁸ Despite similarities with physical items, virtual items are instead governed by

³⁰ LASTOWKA, *supra* note 9, at 123.

³¹ *Id.* (citing Ung-gi Yoon, *Real Money Trading in MMORPG items from a Legal and Policy Perspective*, 1 J. KOREAN JUDICATURE 418, 420 (2004)).

³² *See id.* at 124.

³³ *Id.*

³⁴ In 2010, one player of the game Entropia Universe sold his in-game nightclub for \$635,000. *See* Sonia Elks, *Virtual Goldmine: In-Game Goods Fuel Debate over Digital Ownership*, REUTERS (Nov. 25, 2019 8:08 PM), <https://www.reuters.com/article/us-global-videogames-property-analysis-t/virtual-goldmine-in-game-goods-fuel-debate-over-digital-ownership-idUSKBN1Y0032> [<https://perma.cc/NPV4-B6QY>].

³⁵ Fairfield, *supra* note 18, at 1048–49.

³⁶ *Id.* at 1049.

³⁷ Palka, *supra* note 13, at 94 (citing Fairfield, *supra* note 18, at 1057–58).

³⁸ Fairfield, *supra* note 18, at 1049–50.

the laws of intellectual property and contracts. This is particularly worrisome for Fairfield, who saw the future of the internet as virtual three-dimensional worlds where educational, medical, and military matters would be conducted.³⁹ Having these worlds be governed by intellectual property law instead of property law could be overly stifling and lead to a “tragedy of the anticommons,”⁴⁰ in which players use “overlapping rights to exclude permit rights-holders to block each other from making productive use of the resource.”⁴¹

Three-dimensional virtual worlds did not come to pass in the years since Fairfield’s paper. However, Fairfield was right about our growing dependence on cyberspace, although not in the exact way and timeline that he originally envisioned it.⁴² Ten years after his paper on virtual property, Fairfield would examine the numerous ways in which traditional property has become subsumed by cyberspace in his book *Owned: Property, Privacy, And the New Digital Serfdom*.⁴³ According to Fairfield, there are two new types of property in relation to cyberspace: smart property and digital property.⁴⁴ In the case of smart property, we have physical objects that are enhanced by software. While we control the physical objects, companies still retain rights to the underlying software. This can be problematic in both the practical use of the objects and our privacy regarding this object. Regarding privacy, consider the case of WeVibe. It was discovered that the WeVibe vibrator was collecting data on users such as the user’s time of use, vibration preferences, and emails.⁴⁵ Some software control can also have physical consequences, as rented smart cars can be turned off by the lender at any time. This increases the power of the auto lender over people who miss payments when they have the ability to turn off their vehicle in stressful and dangerous conditions.⁴⁶ Digital property, on the other hand, refers to

³⁹ *Id.* at 1058–59.

⁴⁰ Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 633–35 (1998).

⁴¹ Fairfield, *supra* note 18, at 1069.

⁴² *Cf.* Palka, *supra* note 13, at 75–76.

⁴³ JOSHUA A.T. FAIRFIELD, *OWNED: PROPERTY, PRIVACY, AND THE NEW DIGITAL SERFDOM* (2017).

⁴⁴ *Id.* at 16–17.

⁴⁵ FAIRFIELD, *supra* note 43, at 1.

⁴⁶ *See, e.g.*, Sean Patrick Farrell, *The Remote Repo Man*, N.Y. TIMES (Sept. 25, 2014), <http://www.nytimes.com/video/business/10000003095109/the-remote-repo-man.html> [<https://perma.cc/G67A-FTUU>] (discussing auto lenders’ ability to use technology such as starter interruption devices to spur timely payment by borrowers with poor credit).

digital objects such as movies, books, games, or music that a person purchases and downloads.⁴⁷ Despite the only difference between these digital objects and their physical counterparts being how they exist (a physical copy versus a digital copy), we have less rights over the digital objects.

Lastowka, Hunter, and Fairfield have successfully illustrated the various problems that arise from uncertainty in the virtual property area. Lastowka and Hunter demonstrate real economic incentives around virtual property. Fairfield has shown that as we become more reliant on cyberspace and technology, control of our lives and privacy will become eroded unless granted traditional property rights. Virtual property problems may not have grown in the exact way or at the pace that they envisioned, but it has become clearer and clearer that there are problems that need addressing.

II

SIMILAR IS NOT THE SAME

In response to Lastowka, Hunter, and Fairfield's arguments, many scholars have pointed out differences between digital objects and physical objects. Some of these scholars argue against property law governing because it could possibly destroy video games. Other arguments wanted to draw more attention to the nuances of what digital objects are.

In the first chapter of *Virtual Justice*, Lastowka adopts a more cautionary tone regarding property rights in virtual property. The legal implications of recognizing virtual property would include: having virtual property such as a virtual castle listed in divorce proceedings, paying taxes on the castle, and disposing of it by will as part of an estate.⁴⁸ This idea, especially in regards to the virtual worlds of video games, was disapproved by people who saw video games as an escape from real world.⁴⁹ Many opposing arguments to virtual property recognition came in one of two forms: (1) property law would only

⁴⁷ FAIRFIELD, *supra* note 43, at 16–17.

⁴⁸ See LASTOWKA, *supra* note 9, at 12.

⁴⁹ See 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, 307–09 (2010) (arguing that granting property rights over virtual property would punish legitimate in-game actions such as in-game pick pocketing.). See generally Christopher J. Cifrino, Note, *Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds*, 55 B.C. L. REV. 235 (2014) (arguing that contract law should remain the dominant paradigm for virtual property rights).

overregulate and overcomplicate cyberspace which is already adequately governed by contract law and intellectual property law,⁵⁰ and (2) there is a metaphysical problem due to virtual properties' intangible nature which makes it hard to conceptualize like other forms of property.⁵¹

A. Contract Law is Not Sufficient

In order to advance the conversation, I would like to show that the contracts and intellectual property governance counterargument is not as strong as it seems to be. This counterargument is best represented by Christopher Cifrino's article, *Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds*, which argues that contract law provides greater flexibility in the form of adaptable EULAs.⁵² Cifrino argues that certain virtual worlds were created to have less protection than property rights would provide, and that certain worlds were created with more.⁵³ For example, some virtual worlds allow players to "steal" virtual items from other players through in-game mechanics.⁵⁴ Imposing property law might destroy these virtual worlds by bringing real-world problems into what was supposed to be an escape from the real world.⁵⁵ Furthermore, any negative ramifications of unfair bargaining should be solved away because a "EULA-based regime allows for the widest possible spectrum of user rights, and with such a regime in place, market pressures will ensure that this potential actually ripens into a variety of virtual worlds."⁵⁶

The argument for contract law fails for two main reasons. First, it takes an overly narrow view by focusing on video games and how property law may ruin those systems. As mentioned above, more and more of our traditional services and property can now be found through cyberspace.⁵⁷ We may be reluctant to have property law govern an in-game sword or castle, but we may not have the same reluctance in regards to our Kindle books, Google Play movies, or iTunes songs.

⁵⁰ See Cifrino, *supra* note 49, at 237

⁵¹ Lastowka & Hunter, *supra* note 17, at 40.

⁵² Cifrino, *supra* note 49, at 258.

⁵³ *Id.* at 259–63.

⁵⁴ See, e.g., Raids, FANDOM: CLASH OF CLANS WIKI, <https://clashofclans.fandom.com/wiki/Raids> (last visited Dec. 2, 2019) (explaining that the mobile game Clash of Clans allows players to conduct "raids" against other players and steal their resources) [<https://perma.cc/HMH2-FFKS>].

⁵⁵ Nelson, *supra* note 49, at 307–08.

⁵⁶ Cifrino, *supra* note 49, at 262.

⁵⁷ FAIRFIELD, *supra* note 43, at 3.

Second, Cifirino and other contract law proponents place too much trust in market pressures providing more favorable EULAs.⁵⁸ The argument that market forces will push EULAs to give more rights to users also assumes two things. It assumes that the product or service which the EULA governs is something fungible and replaceable. For example, if I want to buy a kitchen knife, there are many options available for me to choose. If I am unsatisfied with one type of knife, I can always buy one from a different manufacturer. Online video games and other internet services are less fungible. Consider the two most popular multiplayer online battle arena (MOBA) games: Dota 2 and League of Legends.⁵⁹ Despite being the same genre of games and having similar maps, they not only have somewhat different playstyles, but also a whole host of different characters with their own unique play styles and abilities.⁶⁰ A player cannot get the same experience from different MOBAs than they can get from League of Legends. The argument also assumes that enough consumers have the luxury of holding out from using a certain product or service for the company to feel the economic effect.⁶¹ But as internet and digital products become more and more integrated in our lives, it becomes harder for us to go about our daily lives without them. In the example of the “smart car” rental, many people who accept such stringent terms do so because they need the car to commute to work and earn money.⁶²

B. An Ontological Study

The problems that Lastowka, Hunter, and Fairfield bring up are real and cannot be waved away by saying current intellectual property law and contract law is sufficient. However, is this enough to say that property law should govern digital property? Lastowka and Hunter admit that there were certain metaphysical problems with the concept of virtual property: (1) that virtual property is intangible while real property is tangible, and (2) temporal restrictions such as monthly subscription

⁵⁸ Cifirino, *supra* note 49, at 262.

⁵⁹ See DOTA 2, <http://blog.dota2.com/?l=English> (last visited Mar. 27, 2020) [<https://perma.cc/7RNU-D47T>];

⁶⁰ See *4 Key Differences Between League of Legends and Dota 2*, AUSSYELO (Mar. 28, 2017), <https://www.aussyelo.com/blog/4-key-differences-league-leg-ends-dota-2/> [<https://perma.cc/6BBL-HJPH>].

⁶¹ See Jim Wilkinson, *Buyer Bargaining Power (One of Porter's Five Forces)*, THE STRATEGIC CFO (July 23, 2013), <https://strategiccfo.com/buyer-bargaining-power-one-of-porters-five-forces/> [<https://perma.cc/Z2RN-GWW7>].

⁶² Farrell, *supra* note 46.

fees determine whether a person can use their otherwise unfettered property.⁶³ They brush away these problems by saying that today's property are actually intangible too, because what matters are not the tangible things like real property, but the estates and interests themselves. In regard to the temporal problem, many real-world property rights also have temporal restrictions such as leaseholds.⁶⁴ Lastowka and Hunter were trying to argue that these differences were not fatal to applying property law to virtual property.

However, Palka criticizes that they were trying too hard to find a reason to apply property law and thus neglected exploring the more nuanced aspects of what virtual property actually is. Palka, in his thesis "Virtual Property: Towards a General Theory," says "a clear majority of scholars involved in it dwelled only on normative and policy issues, without trying to actually understand the object of their inquiry, neither in its core, nor in the broader context."⁶⁵ Exemplified by this chart created by Palka, scholars tend to refer to many different things when they talk about virtual property:⁶⁶

⁶³ Lastowka & Hunter, *supra* note 17, at 40–41.

⁶⁴ *Id.* at 42–43.

⁶⁵ Palka, *supra* note 13, at 101.

⁶⁶ *Id.* at 105–06.

TABLE 1 THE OBJECTS OF INQUIRY OF VIRTUAL PROPERTY SCHOLARS,
AND THE TERMINOLOGY USED

©

Term used	Scope	Definition	Source
'virtual property'	In-game items	<i>'Entries in a database resident on a server that permits a participant's computer monitor to display images already present within the software'</i>	(Lastowka & Hunter, 2004) ²⁰⁵
'virtual property'	Domain names	<i>'property interest that is both intangible and exclusionary'</i>	(Nelmark, 2004) ²⁰⁶
'virtual property'	URLs, email accounts, chat rooms, in-game assets	<i>'Rivalrous, persistent, and interconnected code'</i>	(Fairfield, 2005) ²⁰⁷
'virtual goods', 'virtual items', 'virtual objects', virtual property'	Items within MMO games	??	(Chein, 2006) ²⁰⁸
'virtual property'	An email address, a website, a bidding agent, a video game character, or any number of other intangible, digital commodities	<i>'Virtual property is persistent computer code stored on a remote source system, where one or more persons are granted certain powers control the computer code, to the exclusion of all other people'</i>	(Blazer, 2006) ²⁰⁹
'virtual property'	Anything that is "owned" within an online game	<i>'bits in context'</i>	(Meehan, 2006) ²¹⁰
'virtual world goods'	In-game items	??	(Horovitz, 2007) ²¹¹
'virtual world property'	Items within virtual worlds	??	(Boone, 2008) ²¹²

Term used	Scope	Definition	Source
'virtual property', 'virtual assets'	User-created content in online games and sites	??	(Crowne & Kaploun, 2010) ²¹³
'virtual property'	In-game items	<i>'Software code designed to behave like and have the qualities of physical, real-world chattel or piece of reality'</i>	(DaCunha, 2010) ²¹⁴
'virtual property'	URLs, domain names, websites, email accounts, Facebook profiles.	<i>Like Fairfield 2005</i>	(Richardson, 201) ²¹⁵
'virtual property', 'virtual resources'	In-game items	??	(Nelson, 2010) ²¹⁶
'virtual property'	'Valuable and tradable goods, assets, equipments, raw materials, avatars, and currencies existing in virtual worlds of massively multiplayer online games'	??	(Chew, 2011) ²¹⁷
'virtual property'	Avatars, domain names, virtual chattels (in-game items), intellectual property	??	(Gong, 2011) ²¹⁸

Palka categorizes virtual property as a subset of digital property,⁶⁷ and has a lengthy discussion on the ontology of virtual and digital property and about how he reached the conclusion that virtual property is a subset. While his work is more extensive than I can hope to completely summarize, there are a few specific points that I wish to highlight. First, digital

⁶⁷ *Id.* at 148.

property is not necessarily immaterial, nor is physical property intangible in the modern day in the way that Lastowka and Hunter think it may be.⁶⁸ To be clear, intangible property exists even outside of digital property. Examples of this would include debts, goodwill, rights under an insurance policy, shares in a company, and intellectual property.⁶⁹ However, Palka argues that the mode in which digital objects are immaterial is different from the examples of intangible property listed.⁷⁰ The intangible items listed above are social constructions and thus have a *secondary* mode of existence. Some sort of consensus by the rest of society and the legal system is needed to recognize things like corporations, shares in those corporations, and a debt. Should society and the legal system disappear, then those social constructions would disappear as well. A file on your computer, on the other hand, has a *primary* mode of existence—it will continue to exist whether anyone else knows or agrees that it exists. From this distinction, we now have three different categories of objects: tangible objects, intangible objects, and digital objects.

There are also digital objects that exist in a *secondary* mode of existence. Files stored on a cloud server, virtual items in a video game, and even Bitcoin will disappear if the service sustaining its existence is shut off by the service provider.⁷¹ These can be broken down further into the following subdivisions:

Firstly, entities existing by action (a service being provided) can be divided into those having public guarantee of existence (dematerialized money, bills of lading, shares in companies), whose existence does not depend on a business decision of a private party, but public law obliging particular entities to sustain them; a private mode of existence (virtual items, bitcoin, files in the cloud). Secondly, within the entities in the last category, a distinction must be drawn between entities performing an in-service function (virtual property) and those performing an out-of-service function (bitcoin, domain names, files in the cloud). Additionally, files in the cloud dwell in a category of non-essentiality (meaning they do not necessarily need to exist there or in this mode to exist as such—they could just as well stay in the primary mode on a

⁶⁸ Cf. Lastowka & Hunter, *supra* note 17, at 40–41.

⁶⁹ Palka, *supra* note 13, at 151.

⁷⁰ *Id.* at 153–54.

⁷¹ *Id.* at 156.

local drive), and essentiality, in which bitcoin, domain names and virtual items would also fall.⁷²

So, possession of a physical computer, a word document file on that computer, and a virtual sword in a game that is played on that computer can all mean different things. Why are these distinctions important for developing a digital property law regime? It shows that many of the problems and arguments that early virtual property scholars were dealing with originated from a confusion of what each of them was referring to. Fairfield, regarding computer files, domain names, and such, was speaking of digital property at large. Lastowka, Hunter, and Cifirino on the other hand were talking more specifically about virtual property as in-game items. By creating these subdivisions, we can apply relevant regulations and law to one type of digital property without overburdening other types.

III

PROPOSED NORMATIVE FRAMEWORK OF DIGITAL PROPERTY RIGHTS

We have discussed the history of digital property scholarship and saw that the problems posed by earlier scholars are still if not more relevant today. We examined the contract and intellectual property law counterarguments and found that they are insufficient for the problems at hand. We have also, through Palka, cleared up some confusion on the exact nature and terminology of digital and virtual property. In light of these divisions, the problem cannot be tackled by merely saying property law should govern or contract law should govern. What we need is a separate digital property law regime. This new separate digital property law regime needs to give different regulations tailored to the different levels and types of digital property. It can draw on the principles of property law, much as certain elements of intellectual property law draws on certain principles and elements of property law. But applying property law wholesale is too inflexible. This regime does not need to be implemented as a unified package, but much like intellectual property law, it could be introduced over time in a number of different statutes, court rulings, and administrative policies. I will not propose every element of this new digital property law regime in this paper. Instead, I hope to introduce

⁷² *Id.* at 158.

some of the more pressing issues and solutions that can form the basis of a digital property law regime.

As discussed in the previous subpart, one can divide digital property among many different lines: on whether they have a *primary* or *secondary* mode of existence, or on whether they perform in-service or out-of-service functions. The dividing lines we recognize will affect the type of law and regulation we will need. This Note will take four different types of digital objects as case studies for the framework we have developed.

A. Internet of Things

To start, let us look at the area of digital property in which we already have the most amount of protection: digital property with a primary mode of existence. This type of property includes files stored locally on your personal device and thus are not dependent on any network or service.⁷³ This type of property can, realistically, only be accessed in one of two ways: physical theft of your device or hacking into your device. You have a whole host of rights against someone who tries to do either. If someone tries to physically steal your computer, they may be liable for theft, conversion, or trespass to chattels. Hackers face prosecution under anti-hacking and cybercrime legislation such as the United States' Computer Fraud and Abuse Act.⁷⁴

What is more problematic may be tangible objects like your phone, car, and house. How could this be? These are objects with a primary mode of existence, and unlike local files, their tangible nature is what allows us to exercise physical control over them. However, our objects and devices have become increasingly digitized and connected. These include objects such as smart cars, smartphones, and even software enhanced houses.⁷⁵ This cacophony of networked devices has become known as the "Internet of Things".⁷⁶ Although users legally own the physical device, companies still have strong control of the devices in the form of intellectual property in the software, design elements, and pre-installed programs.⁷⁷ Sometimes the control that companies exercise is overreaching and violate our

⁷³ *Id.* at 156.

⁷⁴ See 18 U.S.C. § 1030 (2018).

⁷⁵ See John Callaham, *What Is a Smart Home, and Why Should You Want One?*, ANDROID AUTHORITY (Apr. 15, 2019), <https://www.androidauthority.com/what-is-a-smart-home-806483/> [<https://perma.cc/684M-P2V6>].

⁷⁶ See AARON PERZANOWSKI & JASON SCHULTZ, *THE END OF OWNERSHIP: PERSONAL PROPERTY IN THE DIGITAL ECONOMY* 140 (2016).

⁷⁷ See *id.*

ownership and privacy rights. This was the type of concern that Andrew McPherran had when his landlord converted his apartment into a smart home.⁷⁸ Tenants like McPherran receive what seems like a bevy of benefits: smart locks, smart thermostats, and smart lights, which are all easily accessible through some sort of central device or operating system. However, these devices have also granted the companies that made them a permanent view into people's homes because companies providing such devices like Zego, Stratis, and Vivint all have "privacy policies [that] give permission to use a tenant's data for advertising and marketing."⁷⁹

With traditional property, people have the right to use, modify, and even transform their traditional property.⁸⁰ Our right to use may not be unlimited—we still have to drive our cars on the right side of the road, and we cannot use our property in a way that recklessly endangers others—but it is pretty farreaching. Similarly, technology companies employ various tools to make sure that we cannot modify and repair our devices.⁸¹ These restrictions might either take the form of physical design or through electronic locks. For example, Apple uses proprietary screws and screwdrivers for their devices, thus making it hard for consumers without very specific tools and expertise to tinker with them.⁸² Furthermore, Apple also designed the fingerprint lock in their iPhone 6 in such a way that it required Apple's authorization for installation. This meant that independent repair shops were unable to fix iPhones for cheaper prices—not by any lack of means, skills, or resources on their part—but simply because they did not have the proper Apple authentication.⁸³

Restrictions have also taken the form of EULAs and intellectual property law. Copyright law factors into how we can or

⁷⁸ Alfred Ng, *Your Landlord Turns Your Apartment into a Smart Home. Now What?*, CNET (Mar. 7, 2019, 5:00 AM), <https://www.cnet.com/news/your-landlord-turns-your-apartment-into-a-smart-home-now-what/> [<https://perma.cc/E5AK-NDYZ>].

⁷⁹ *Id.*

⁸⁰ See 39 *Creative DIY Furniture Ideas and Home Décor Hacks*, DIYJOY, <https://diyjoy.com/diy-furniture-hacks/> [<https://perma.cc/LX6E-7SY9>] (last visited Dec. 2, 2019).

⁸¹ Charles Duan, *Save the Right to Hack*, SLATE: FUTURETENSE (Oct. 11, 2016, 7:37 AM), <https://slate.com/technology/2016/10/the-right-to-hack-is-under-attack.html> [<https://perma.cc/XW8Q-NGGL>].

⁸² See Kyle Wiens, *The Retina MacBook Pro Was 'Verified' EPEAT Gold, But It's Not Green*, IFIXIT (Oct. 16, 2012), <https://www.ifixit.com/News/the-retina-macbook-pro-was-verified-epeat-gold-but-its-not-green> [<https://perma.cc/3JWS-VS4M>].

⁸³ FAIRFIELD, *supra* note 43, at 191.

cannot use our devices by working in conjunction with digital rights management (DRM). DRM refers to a wide array of safeguards that technology companies implement in devices that can monitor and restrict your activity.⁸⁴ One example of DRMs at work are region-locked DVDs which prevent you from watching a DVD that you bought overseas in Europe or Asia on your device back in the United States. Section 1201 of the Digital Millennium Copyright Act forbids users from interfering with “technological protection measures.”⁸⁵ Section 1201, in conjunction with DRMs, means that consumers can no longer legally bypass the DRMs on their own devices because it would constitute a copyright violation.⁸⁶ These restrictions have applied not only to people’s phones and computers, but also to vehicles and medical devices. One way to let users retain control over their devices is to allow them to modify and repair the devices. Fairfield suggests such retained control in the form of a “right to hack.”⁸⁷ By giving the people a right to hack, we can scale back these restrictions and allow people to modify and repair their own devices and return control to the users. How might this type of right be implemented? A starting point is by looking at the Unlocking Consumer Choice and Wireless Competition Act (UCCWA) that allows users to hack and unlock their phones to other carriers.⁸⁸ However, as Fairfield notes, this law only allows a very narrow scope of hacking in that it only allows a certain reason for hacking (unlocking it for other carriers) and a certain type of device (smartphones).⁸⁹ Further legislation needs to make the right to hack permanent and extend the right to hack to experts (independent hackers that would operate much in the same way as a mechanic or plumber would for traditional property).⁹⁰

There are some caveats to any right to hack. First, the right to hack should be restricted to property and devices that exist in a primary mode. This means not only smart devices that you own, but programs and files that exist privately on your devices such as a video game that is played offline. Second, if and only if a user modifies or removes a genuine and necessary safety feature of a device (not just physical or elec-

⁸⁴ PERZANOWSKI & SCHULTZ, *supra* note 76, at 121–22.

⁸⁵ Duan, *supra* note 81 (citing 17 U.S.C § 1201 (2018)).

⁸⁶ PERZANOWSKI & SCHULTZ, *supra* note 76, at 130–31.

⁸⁷ FAIRFIELD, *supra* note 43, at 189.

⁸⁸ See Unlocking Consumer Choice and Wireless Competition Act, Pub. L. No. 113–144, 128 Stat. 1751 (2014).

⁸⁹ FAIRFIELD, *supra* note 43, at 198.

⁹⁰ See *id.* at 198–99.

tronic locks that companies use), then that user should be considered to have acted recklessly, and therefore the manufacturer would no longer be liable.

B. Digital Property or Digital Services?

Compared to smart devices, digital property with a secondary mode of existence is controlled either by the government, a company, or an independent network. So while your account might have practical control over certain items (such as a Google Play account with movies or a World of Warcraft account with a sword), the companies are the ones that host these services on their servers and are the ones who have the last say on anything that goes.

Setting aside virtual property for the moment, let us look at other digital properties with secondary modes of existence. Specifically, the type of digital property that is most similar to our traditional notions of property: books, games (themselves, not items within them), movies, and the like. These objects all have physical manifestations, and although declining in popularity, one can still go to a store to buy a physical paper book, a physical game cartridge, and a physical DVD or Blu-Ray disc. One can also now buy those same objects in a digital format through the online mediums of Amazon Kindle,⁹¹ Steam,⁹² and Google Play⁹³ respectively. These mediums have given us many new benefits. For example, e-readers improve portability by allowing users to carry around any number of books on their devices.⁹⁴

However, some scholars such as Fairfield worry that we have lost an important property right: the right to transfer the objects.⁹⁵ Unlike physical copies, users can not resell their digital books and games. This is ensured by a combination of platform design (the Kindle platform has no resale feature), and laws prohibiting resale (usually a combination of contracts and copyright law). Most of these platforms state in their EULAs

⁹¹ *Kindle Store*, AMAZON, <https://www.amazon.com/Kindle-Store/b?ie=UTF8&node=133140011&nocache=1579984084386> [<https://perma.cc/QY2L-TSJQ>].

⁹² *About*, STEAM, <https://store.steampowered.com/about/> (last visited Dec. 2, 2019) [<https://perma.cc/KBX5-8ECT>].

⁹³ *Store*, GOOGLE PLAY, <https://play.google.com/store> [<https://perma.cc/NF8Z-FG7G>].

⁹⁴ See McKenzie Jean-Philippe, *I've Stopped Comparing My Kindle to My Books*, OPRAH MAG. (Aug. 15, 2018), <https://www.oprahmag.com/entertainment/books/a23390866/kindle-vs-book/> [<https://perma.cc/A8DX-GNXD>].

⁹⁵ See FAIRFIELD, *supra* note 43, at 199.

that what they are providing is a license rather than a sale.⁹⁶ Furthermore, the RAM copy doctrine has basically stated that any use of a digital work is *prima facie* a copyright infringement because running a program automatically creates a copy in the device's random-access memory (RAM).⁹⁷ The RAM copy doctrine alongside EULAs means that even if someone buys a copy of an eBook, one can't use it without additional permission.⁹⁸

One suggestion is to redraft the first sale right to clarify that the user owns the copy of a digital object. This can be done by bringing litigation that argues these objects are more akin to physical property, and therefore should be governed by traditional property law despite sellers saying it is not property, and challenging the "mere licensee characterization" interpretation by courts.⁹⁹ Once users have ownership over a copy of the book, such as a downloaded version, they can have the right to resale. Although the right to resell digital objects is still being debated in the United States, some countries like France have already started pushing for the right through court judgments and legislation.¹⁰⁰

Some may argue that digital objects are different enough from physical property to justify giving less protections than traditional property law would. Not only do they provide convenience in terms of ease of access and portability, but also they have numerous small features such as lighting, font sizes, bookmarking, and removable highlighting that set them apart from their physical counterparts.¹⁰¹ In comparison to having actual copies on the user's device, the books are tied to their accounts. They do not need to worry about filling up their storage space with hundreds of books, and may read them either directly through the platform; or download a couple to read and delete them after they are finished reading without fear of permanently losing access to the books. Many of these

⁹⁶ *Kindle Store Terms of Use*, AMAZON § 1 (June 11, 2020), <https://www.amazon.com/gp/help/customer/display.html?nodeId=201014950> [<https://perma.cc/2Y9E-RJ9R>].

⁹⁷ See *MAI Sys. Corp. v. Peak Comput., Inc.*, 991 F.2d 511, 517–19 (9th Cir. 1993); see also Christina Mulligan, *Copyright Without Copying*, 27 CORNELL J.L. PUB. POLY 469, 473 (2017) ("Although the *MAI Systems* decision was controversial, two years later President Bill Clinton's Working Group on Intellectual Property released a White Paper expressing the view that *MAI Systems* was a correctly decided and routine application of the law.").

⁹⁸ See Mulligan, *supra* note 97, at 474.

⁹⁹ FAIRFIELD, *supra* note 43, at 201–03.

¹⁰⁰ See Igor Bonifacic, *French Court Rules Steam Games Must Be Able to Be Resold*, ENGADGET (Sept. 19, 2019), <https://www.engadget.com/2019-09-19-french-court-valve-steam-resold.html> [<https://perma.cc/DP8U-6Y4X>].

¹⁰¹ See Jean-Phillipe, *supra* note 94.

features are only made possible through the platforms that companies design, the servers that they maintain, and updates that companies perform. Companies are reluctant to let go of the “license” term because they have continuous costs in maintaining these services. A traditional book retailer on the other hand, has no further obligations or costs once they have sold the physical copy to a customer. It is unclear how granting the right to resell will affect the ecosystems of services like Steam.¹⁰²

Even if an e-book is different enough from a physical book to warrant granting them less rights, companies still need to provide transparency about what product they are giving to consumers. If companies really insist that what they provide is a license rather than a good, then they need to be clear about it. While lawyers might understand that a book on Amazon Kindle is ultimately a license, it is unclear that the average person does. Instead, all they see on Amazon is the option to “buy now.”¹⁰³ One study showed that over eighty percent of consumers believed that “buying” a e-book conferred traditional property rights such as being able to own and keep the device without any interference from other parties.¹⁰⁴ Companies like Amazon and other e-Book retailers need to replace their “buy now” buttons for e-books, with “license,” “rent,” “subscribe,” or some other similar word. Even with this change, some studies have shown that though the word “license” may put consumers on notice that their rights are different, it doesn’t consistently inform consumers of what that exactly entails.¹⁰⁵ The same study has found that a more promising approach may be to give short notices.¹⁰⁶ These would take the form of little pop ups that inform the user their rights in short bullet points.¹⁰⁷

If a provider refuses to advertise its products appropriately and chooses to keep the buy button, then it must provide more traditional property rights. One fear with digital services is the lack of permanence—that the service will shut down and one will lose access to the materials one once bought. One example of this is Microsoft, who shut down its e-book library and

¹⁰² See Bonifacic, *supra* note 100.

¹⁰³ See Aaron Perzanowski & Chris Jay Hoofnagle, *What We Buy When We Buy Now*, 165 U. PA. L. REV. 315, 321–22 (2017).

¹⁰⁴ *Id.* at 337.

¹⁰⁵ See *id.* at 343–44.

¹⁰⁶ *Id.* at 345–51.

¹⁰⁷ PERZANOWSKI & SCHULTZ, *supra* note 76, at 99.

erased all of its readers' e-books.¹⁰⁸ Although Microsoft offered a refund of all the books, it shows that through the DRM, companies like Microsoft can effectively rescind people's property with little to no cost. Even with the refund, it is a huge inconvenience to people who have bought books with the expectation of being able to access them indefinitely. Some companies such as Valve have said that if Steam shuts down, they will patch the games to be playable offline.¹⁰⁹ While this is admirable, it should not be a choice to begin with. One step below granting full property rights over digital objects would be some right to permanency. If companies advertise their products as something that consumers can buy, then we should guarantee someone's right to access the digital object they purchased regardless of whether the providers lose rights, go bankrupt, or any other scenario that might otherwise result in a user losing their digital object. A service provider must either transition their platform to another company or make the digital object available for permanent download if it shuts down.

C. End User License Agreements

Our discussion of the erosion of transferability and resale rights has revealed another problem. EULAs are too one sided in favor of the companies. They are unilaterally drafted by the company with no room for discussion or modification.¹¹⁰ Companies can frame digital objects as an intellectual property license instead of property and set vague rules on how users may utilize their service or platform. For example, many online games have terms of service agreements that contain a provision giving the service provider the power to ban or penalize players based on any act that the company finds contrary to their policy.¹¹¹ These policies can have disastrous effects, especially on people who have made a career of streaming the game or playing competitively.¹¹² EULAs can also impose mandatory arbitration and set which forum's law they would

¹⁰⁸ Josh Axelrod & Lulu Garcia-Navarro, *Microsoft Closes The Book On Its E-library, Erasing All User Content*, NPR (July 7, 2019, 2:35 PM), <https://www.npr.org/2019/07/07/739316746/microsoft-closes-the-book-on-its-e-library-erasing-all-user-content> [<https://perma.cc/3G9C-D785>].

¹⁰⁹ Richard Davis, *What Happens to My Games if Steam Shuts Down*, COMPUTER GAMING ENTHUSIAST, <https://computergamingenthusiast.com/what-happens-to-my-games-if-steam-shuts-down/> [<https://perma.cc/M8L8-JMH6>] (last visited Feb. 25, 2020).

¹¹⁰ See Palka *supra* note 13, at 212–13.

¹¹¹ See *id.* at 215–16.

¹¹² See Peter Allen Clark, *What to Know About Blizzard, Hong Kong and the Controversy Over Politics in Esports*, TIME (Oct. 21, 2019, 12:11 AM), <https://>

like to use, and other provisions that favor the company making it harder for users to bring and successfully win a claim.¹¹³

Users could argue that these contracts are unconscionable.¹¹⁴ Although *Linden Research* did not answer the question of whether a person can legally own virtual property, it did give some guidance on the boundaries of EULAs.¹¹⁵ States like California require a finding of both procedural and substantive unconscionability, though they operate on a sliding scale (greater degrees of procedural unconscionability will require lower degrees of substantive unconscionability and vice versa).¹¹⁶ Procedural unconscionability focuses on how a contract was made and often involves unfair bargaining power, such as when a contract contains confusing language or hidden terms.¹¹⁷ Substantive unconscionability focuses on the terms of the contract itself to see whether it is immoral or if it is too one-sided.¹¹⁸ In states like California, EULAs are procedurally unconscionable because they are a contract of adhesion.¹¹⁹ A finding of substantive unconscionability requires a lot more. To find substantive unconscionability, the court in *Linden Research* cited the existence of numerous factors such as “the lack of mutuality, the costs of arbitration, the forum selection clause, and the confidentiality provision.”¹²⁰

I suggest that vague terms such as the aforementioned “at company’s sole discretion” clauses be automatically found substantively unconscionable, or at the very least, they need to be a strong factor indicating substantive unconscionability. Furthermore, finding these types of contracts unconscionable needs to be done proactively by some sort of governing body like the FTC does with COPPA claims.¹²¹ Consumers often

[time.com/5702971/blizzard-esports-hearthstone-hong-kong-protests-backlash-blitzzchung/](https://www.fox.com/5702971/blizzard-esports-hearthstone-hong-kong-protests-backlash-blitzzchung/) [https://perma.cc/9C4L-BRMR].

¹¹³ *Bragg v. Linden Research, Inc.*, 487 F. Supp. 2d 593, 611 (E.D. Pa. 2007).

¹¹⁴ See ROBERT A. HILLMAN, *PRINCIPLES OF CONTRACT LAW* 244 (3d ed. 2014).

¹¹⁵ *Linden Research*, 487 F. Supp. 2d at 605–07.

¹¹⁶ *Id.* at 605.

¹¹⁷ HILLMAN, *supra* note 114, at 246–47.

¹¹⁸ *Id.* at 248–49.

¹¹⁹ *Linden Research, Inc.*, 487 F. Supp. 2d at 605–06 (explaining that a contract of adhesion is a “standardized contract, which, imposed and drafted by the party of superior bargaining strength, relegates to the subscribing party only the opportunity to adhere to the contract or reject it.” (citations omitted)).

¹²⁰ *Id.* at 611.

¹²¹ See, e.g., Press Release, Video Social Networking App Musical.ly Agrees to Settle FTC Allegations that It Violated Children’s Privacy Law: FTC Obtains Largest Monetary Settlement in a COPPA Case, Fed. Trade Comm’n (Feb. 27, 2019), <https://www.ftc.gov/news-events/press-releases/2019/02/video-social-net-working-app-musically-agrees-settle-ftc> (explaining how the FTC charged Musi-

don't have the time or resources to argue that a EULA is unconscionable. This means that EULAs, even if unconscionable, can be overly oppressive and force users into accepting their terms. This can be done by issuing an explicit order to investigate these types of contracts to an existing organization such as the FTC, or by creating a new regulatory body.

D. Virtual Property

Items inside of video games may seem to be the least worthy for property status or property law protection. Yet, as Lastowka noticed, significant economies have developed around these in-game items. In the company-to-player relationship, companies make extraordinary amounts of money by selling these in-game items to their players.¹²² In the player to player relationship, real markets of in-game items have developed in games that explicitly allow them such as *Second Life*, and shadow markets have developed in the case of games that do not.¹²³ Despite the amount of money surrounding these objects, companies can take these items away from players with little to no consequences.¹²⁴ These same fears are also relevant to the accounts which these items are tied to, as a company can decide to temporarily suspend or ban your account whenever they want.¹²⁵

Some of the fears of companies abusing this power can be solved with adjustments to EULAs. Others may need more specific protections and remedies that are applicable only to online games. In regards to account banning, a constant problem in the community is that those deciding which accounts get banned are often artificial intelligence (AI), which operate on probabilistic reasoning.¹²⁶ The use of AI has led to uninten-

cal.ly with a COPPA violation for illegally collecting personal information from children) [<https://perma.cc/MM2S-YYLW>].

¹²² See, e.g. Rob Thubron, *Over Half of Activision Blizzard's \$7.16 Billion Yearly Revenue Came from Microtransactions*, TECHSPOT (Feb. 12, 2018, 6:12 AM) <https://www.techspot.com/news/73230-over-half-activision-blizzard-716-billion-yearly-revenue.html> (explaining that, for Activision Blizzard, in-game purchases bring in more money than the actual games themselves) [<https://perma.cc/TQQ8-8VT3>].

¹²³ See DAN D. NABEL & BILL CHANG, VIDEO GAME LAW IN A NUTSHELL 248–49 (2018).

¹²⁴ See Palka, *supra* note 13, at 47–48.

¹²⁵ See, e.g., *Riot Games Terms of Service*, RIOT GAMES (Jan. 15, 2020), <https://www.riotgames.com/en/terms-of-service#your-account> (overviewing the terms and conditions by which Riot Games offers access to enjoy Riot Services) [<https://perma.cc/Y83U-W7A5>].

¹²⁶ Kagan Pittman, *Pattern Recognition AI Algorithm Fights Online Bullying*, ENGINEERING.COM (Sept. 16, 2015), <https://www.engineering.com/PLMERP/Arti>

tional bans, such as when Riot Game's algorithm banned the word "Uyghur".¹²⁷ One suggestion is to give players the right to human review for permanent bans. Currently, game providers have no duty to review or reconsider a case.¹²⁸ However, even limiting human review just to cases of permanent ban can prove to be hugely burdensome for game companies.¹²⁹ The scope of the review will likely need to be narrower, and even then companies may have to establish a dedicated department or committee to review these cases.

If we cannot wholly prevent companies from rescinding players' virtual property, then we should at the very least make them compensate for any loss associated with that rescission. Many games already offer apology gifts for unexpected server crashes, bugs in the game, exploits, and when they need to take away player's items.¹³⁰ In cases where players are clearly violating the terms of service agreements, one could envision having a step ladder of warnings and penalties before the game provider resorts to banning a player's account or taking away items.

Another issue is that we need to recognize that virtual property can be valuable even if we don't give it property rights. Our refusal to recognize this value has slowed our efforts in protecting consumers in areas such as loot boxes. Many studies have shown that loot boxes are psychologically akin to gambling by exhibiting many similarities such as unpredictability, chance playing a part in determining the results, and variable-ratio reinforcement.¹³¹ Stories of middle schoolers spending

cleID/10675/Pattern-Recognition-AI-Algorithm-Fights-Online-Bullying.aspx (showing that despite improved success rate in lowering reoffending rates, AI still has problems dealing with voice chats and sarcasm) <https://perma.cc/PPF5-F78F>].

¹²⁷ Rob Thubron, *League of Legends Says Banning the Word "Uyghur" Was an Error*, TECHSPOT (Oct. 22, 2019, 6:57 AM), <https://www.techspot.com/news/82438-league-legends-banning-word-uyghur-error.html> [<https://perma.cc/8ESH-S33Y>]. Uyghurs are a Muslim minority living in the People's Republic of China. *Id.*

¹²⁸ See Palka, *supra* note 13, at 44.

¹²⁹ *Id.* at 214. Even less than one percent of cases reviewed for a game like Clash of Clans could number thousands of cases per day. See *id.*

¹³⁰ Liana Ruppert, *'Fortnite' Team Offers Apology Gift for Those Wrongfully Banned* COMICBOOK (Nov. 14, 2018), <https://comicbook.com/gaming/news/fortnite-wrongfully-banned-players-gift-free-v-bucks/> [<https://perma.cc/8AUL-Q9R6>].

¹³¹ See Kendra Cherry, *Variable-Ratio Schedules Characteristics*, VERYWELL MIND (May 25, 2020), <https://www.verywellmind.com/what-is-a-variable-ratio-schedule-2796012> [<https://perma.cc/Y8R7-C9EC>].

\$5,000 USD in one month confirms this worry.¹³² Yet, in the United States, efforts to apply gambling laws and regulations to loot boxes encountered hurdles when some courts refused to acknowledge that virtual items and virtual currency could be considered things of value. *Mason v. Machine Zone Inc.*¹³³ shows just how hard it is for a court to find online games as illegal gambling. Machine Zone's Game of War: Fire Age had a feature where players could use in-game currency to spin a virtual wheel for a chance to win in-game items.¹³⁴ Although the case satisfied most of the elements of California Penal Code section 330b, the court decided it was not gambling because the game failed to meet the definition of "machine, apparatus, or device" because it lacked any real-world characteristics or hardware.¹³⁵ They further reasoned that the virtual currency that the player purchased to play the casino was "more akin to purchasing cinema or amusement park tickets" because the virtual gold was not redeemable for actual money.¹³⁶

Courts and legislatures need to realize that, as more and more of our lives are found online, we need to apply consumer protection laws to these new areas. Even if we are not prepared to provide property rights over virtual objects, we need to be ready to quickly pass new legislation to cover these areas. This includes being knowledgeable about the problem at hand. Prior legislation aimed at loot boxes failed to recognize the nature of the interactive entertainment industry and sales models that are most common in it. Hawaiian lawmakers introduced four bills to regulate loot boxes on January 24, 2018.¹³⁷ House Bill 2686 and Senate Bill 3024 both propose to prohibit the sale of video games with loot boxes to consumers under the age of 21,¹³⁸ while House Bill 2727 and Senate Bill 3025 would require that video game publishers to disclose the chance of obtaining any item from a loot box and to label video game

¹³² See Jon Russel, *Japan's Mobile Gaming Industry Faces a Ban on Lucrative 'Kompu Gacha' Games*, TNW (May 6, 2012), <https://thenextweb.com/asia/2012/05/06/japans-mobile-gaming-industry-faces-a-ban-on-lucrative-kompu-gacha-games/> [<https://perma.cc/L9GP-SQTU>].

¹³³ 140 F. Supp. 3d 457 (D. Md. 2015).

¹³⁴ See NABEL & CHANG, *supra* note 123, at 251.

¹³⁵ *Mason*, 140 F. Supp. 3d at 461-63.

¹³⁶ *Id.* at 465.

¹³⁷ See Michael Brestovansky, *'Loot Box' Bills Fail to Advance*, HAW. TRIB.-HERALD, (Mar. 24, 2018 12:05 AM), <https://www.hawaiitribune-herald.com/2018/03/24/hawaii-news/loot-box-bills-fail-to-advance/> [<https://perma.cc/QCP8-SB2Z>].

¹³⁸ H.R. 2686, 29th Leg., Reg. Sess. (Haw. 2018); S. 3024, 29th Leg., Reg. Sess. (Haw. 2018).

packages with warnings about in-game purchases.¹³⁹ Assembly Bill 2194 in California would require video games containing loot boxes sold in California to be clearly labeled that it contains microtransactions.¹⁴⁰ H.F. 4460 in Minnesota would prohibit sale of games with loot boxes to consumers under the age of eighteen as well as require that games be labeled with warnings.¹⁴¹ These bills focused on appropriately labeling video game packages and prohibiting sales.¹⁴² However, most games these days are sold in a digital format without a physical game package. In 2018, eighty-three percent of video games sold in the United States were sold in a digital format.¹⁴³ Also, many of the games with loot boxes follow a free-to-play model where game designers choose not to charge for the initial sale of the game.¹⁴⁴ Legislatures and courts will need to find some way to keep themselves informed about developments in different parts of the tech industry as new developments can quickly make proposed regulations useless.

E. Data

The last thing I will consider briefly is data. Data represents both an incredible revenue source for companies and a worrisome privacy threat to individuals. ‘Data is the oil of the internet’ is a sentiment that has been expressed by people like 2020 Democratic Presidential Candidate Andrew Yang¹⁴⁵ and European Consumer Commissioner Melegana Kuneva.¹⁴⁶ Andrew Yang has gone as far as to suggest that we should have a

¹³⁹ H.R. 2727, 29th Leg., Reg. Sess. (Haw. 2018); S. 3025, 29th Leg., Reg. Sess. (Haw. 2018).

¹⁴⁰ Assemb. 2194, 2017–2018 Leg., Reg. Sess. (Cal. 2018).

¹⁴¹ H.R. 4460, 90th Leg., Reg. Sess. (Minn. 2018).

¹⁴² See *infra* notes 138–148.

¹⁴³ Christina Gough, *Digital and Physical Game Sales in the U.S. from 2009 to 2017*, STATISTA (Aug. 9, 2019), <https://www.statista.com/statistics/190225/digital-and-physical-game-sales-in-the-us-since-2009/> [https://perma.cc/Q78E-JXZH].

¹⁴⁴ See *Free To Play (F2P)*, TECHOPEDIA, <https://www.techopedia.com/definition/27039/free-to-play-f2p> (last visited July 10, 2020) [https://perma.cc/U6UD-7955].

¹⁴⁵ Julia Jester, *Andrew Yang Wants Tech Companies to Pay Users for Their Personal Data*, NBC: MEET PRESS BLOG (Oct. 15, 2019, 10:15 AM), <https://www.nbcnews.com/politics/meet-the-press/blog/meet-press-blog-latest-news-analysis-data-driving-political-discussion-n988541/ncrd1066271#blogHeader> [https://perma.cc/GX33-DW9K].

¹⁴⁶ Meglena Kuneva, European Consumer Comm’r, European Comm’n, Keynote Speech at the Roundtable on Online Data Collection, Targeting, and Profiling (March 31, 2009), http://europa.eu/rapid/press-release_SPEECH-09-156_en.htm [https://perma.cc/LSA5-5M2F].

property right in our personal data.¹⁴⁷ It seems as though one's personal data is a perfect topic for a discussion on digital property. While personal data and digital property are related and affect one another, it is also not right to say the two are the same. Palka states that personal data is a type of information.¹⁴⁸ While information is also becoming commodified, property of information or knowledge would mean something completely different than property in digital objects. Even Fairfield, who states that "traditional property rights are nothing but information" has halted and even argued against the notion that all information is property.¹⁴⁹

I do not want to sidestep the issue by saying this is beyond the scope of this Note and move on nor would I want to ignore the topic and not address it at all. So, I will offer a few insights. Property rights in our personal data does not necessarily mean that we will have greater privacy protections. In fact, Fairfield argues that propertizing personal information may further commoditize it, thus giving others greater access to it.¹⁵⁰ On the flip side, property rights in digital objects can be used to protect our privacy. If we had property rights in digital property, government surveillance through digital property would raise a Fourth Amendment issue.¹⁵¹ The cybertrespass rule determines when a company has over intruded onto a device.¹⁵² Consider the Wi-Fi enabled Hello Barbie doll. While it may look and serve the same role as previous Barbie dolls, this one can talk to people and learn from them. The Barbie doll records conversations and sends them to a third-party service called ToyTalk. ToyTalk in turn analyzes the conversations, allowing the Barbie doll to give a more personalized response to whoever is talking to it.¹⁵³ While to some this may seem like a neat and personalized touch to a child's toy; others may be worried about the fact that companies are listening to our conversations within our homes. The cybertrespass rule essentially establishes a right to exclude when it comes to our devices and allows us to stop companies from using our digital resources.¹⁵⁴ Revamping our ownership of smart property,

¹⁴⁷ *Data as a Property Right*, YANG 2020, <https://www.yang2020.com/policies/data-property-right/> (last visited Dec. 2, 2019) [<https://perma.cc/Q5L6-ZT22>].

¹⁴⁸ Palka, *supra* note 13, at 55.

¹⁴⁹ FAIRFIELD, *supra* note 43, at 135, 159–61.

¹⁵⁰ *Id.* at 160.

¹⁵¹ *Id.* at 104–06.

¹⁵² *Id.* at 118.

¹⁵³ PERZANOWSKI & SCHULTZ, *supra* note 76, at 150–51.

¹⁵⁴ *See* FAIRFIELD, *supra* note 43, at 119–21.

and how EULAs work can further bolster our privacy rights by either preventing companies from preloading devices with intrusive software that essentially spy on you or by giving you the right to remove those software.¹⁵⁵ Whether one's personal data and information should be considered one's property is a separate discussion. However, we can further bolster our privacy rights by implementing digital property reform.

CONCLUSION

Despite scholarship and conversation of digital and virtual property having been around for well over a decade, we are still stuck in the same cycle of arguing whether property law, contract law, or intellectual property law should govern. The problems, although different in scope from what early scholars had thought, have grown in severity and multitude. We have made some good strides in the scholarship since then. Whether scholars are proponents of property law, contract law, or intellectual property law, they have all recognized that there are some problems with the current governing structure of digital objects. We have a better idea of what digital property, virtual property, and other terms actually refer to. And we also have a better understanding on the exact nature of digital objects, and the ways that they are similar and different from physical objects.

As our understanding continues to grow more nuanced, we can start to see direction in which to take digital property governance. That digital objects may be a new class of objects that requires a unique class of rights to govern it. This new regime would require us to apply more traditional property rights to smart property and the software that accompany it, and weaker rights to in-game property that our avatars acquire. My hope is that this Note will start to push more nuanced analysis and discussion of what types of law we need in the realm of digital objects.

¹⁵⁵ Gary S. Miliefsky, *Creepy Cortana—Is She Spying on You?*, CYBER DEF. MAG. (Dec. 16, 2017), <https://www.cyberdefensemagazine.com/creepy-cortana-is-she-spying-on-you/> [https://perma.cc/27YQ-TFSN].

