Virtually Liable

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Veronica Brown is a hot fashion designer, making a living off the virtual lingerie and formalwear she sells inside the online fantasy world Second Life. She expects to have earned about $60,000 this year from people who buy her digital garments to outfit their animated self-images in this fast-growing virtual community.

But Brown got an unnerving reminder last month of how tenuous her livelihood is when a rogue software program that copies animated objects appeared in Second Life. Scared that their handiwork could be cloned and sold by others, Brown and her fellow shopkeepers launched a general strike and briefly closed the electronic storefronts where they peddle digital furniture, automobiles, hairdos and other virtual wares.

"It was fear, fear of your effort being stolen," said Brown, 44, whose online alter ego, Simone Stern, trades under the name Simone! Design.
Brown has reopened her boutique but remains uncomfortably aware that the issue of whether she owns what she makes—a fundamental right underpinning nearly all businesses—is unresolved.¹

I. Introduction

The single greatest argument against property rights in virtual worlds is that developers would face liability for destruction of virtual property and have to maintain virtual worlds indefinitely.² This Note evaluates and rejects these claims for two reasons. First, property rights are likely to benefit developers, not harm them. Second, even if developers would suffer liability, courts should still recognize virtual property rights because it would increase welfare and wealth.

Virtual worlds are online environments where millions of people from across the globe come to socialize, play games, and earn money.³ Individual virtual world users invest thousands of dollars and hundreds of hours a year in these virtual environments.⁴ For all of the money and time users invest, however, the legal status of the items users acquire in these virtual worlds remains unclear. United States courts have yet to recognize a property right in the items users acquire in virtual worlds.⁵ Instead, contracts between virtual world developers and users govern rights in virtual property.⁶

As Professor Joshua Fairfield argues, governing virtual worlds solely through contract severely limits a virtual world user’s ability to protect his interest in virtual property.⁷ Contract’s failure to protect user interests results in

³. See F. Gregory Lastowka & Dan Hunter, The Laws of Virtual Worlds, 92 CAL. L. REV. 1, 3 (2004) (stating that virtual worlds are places where individuals come to "play, trade, create, and socialize").
⁵. See Joshua A.T. Fairfield, Virtual Property, 85 B.U. L. REV. 1047, 1050 (2005) ("Despite (or perhaps because of) these contracts, no distinct protection for property rights in virtual property has appeared in the United States . . ..").
⁶. See Joshua A.T. Fairfield, Anti-Social Contracts: The Contractual Governance of Online Communities, 53 MCGILL L.J. 427, 435 (2008) ("The companies that create virtual worlds draft EULAs to govern the behavior of the people who use their worlds.").
⁷. Id.
an increase in the risk of holding virtual property and, ultimately, a loss in value. This loss in value translates into a loss of virtual world user welfare and wealth.

Virtual world developers claim that this loss of user welfare is necessary because if a court were to recognize property rights, then developers would face overwhelming liability, ultimately driving them out of business. Particularly, developers fear that a court’s recognition of virtual property rights would expose developers to potential liability for destruction of virtual property and force them to maintain virtual worlds indefinitely. This Note confronts these claims head on by answering two questions. First, are developers’ fears of liability well founded? Second, even if developers do risk some liability, is this a persuasive reason for a court to deny property rights in virtual worlds?

This Note begins by providing readers with a brief overview of virtual worlds. Part II outlines the basic characteristics of today’s most popular online environments, including how users interact with and acquire property within virtual worlds. Additionally, this Part examines user participation in virtual worlds and explains why online environments are increasingly important in today’s economy. Finally, Part II.C details the fight over property rights in virtual worlds, focusing on developers’ opposition to legally cognizable property rights for users.

Part III addresses developers’ claims that a court’s recognition of property rights would expose them to excessive liability. In particular, this Part looks at potential liability for theft and destruction of virtual property, developer liability for wrongful eviction, and warranty claims. Ultimately, Part III concludes by acknowledging that developers risk some liability if a court were to recognize virtual property rights, but leaves open the harder question of whether this risk serves as a persuasive justification for denying property rights.

Part IV begins to address the question left open in Part III: Is the potential for developer liability a persuasive justification for denying property rights? To answer this question, Part IV develops two frameworks through which to analyze competing claims to property rights. First, Part IV.A develops and

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8. Cf. Dennis S. Corgill, Insider Trading, Price Signals, and Noisy Information, 71 IND. L.J. 355, 383 (1996) (stating in regards to securities prices "[w]ith other factors held constant, if the price of a security increases, risk has decreased; if price decreases, risk has increased").

9. See infra Part V.B (explaining how the increased risk of holding virtual property results in a decrease in the price of that property).


11. See id. (explaining that developers fear if users had property rights in virtual worlds, the developers would face liability for loss of virtual property and if the developer decided to discontinue the virtual world).
explains the Pareto model as a standard through which to analyze whether
courts should grant property rights in virtual worlds in spite of potential
developer liability. Next, Part IV.B develops and explains the wealth
maximization model as another standard through which to analyze the virtual
property rights dispute.

Building on the frameworks from the previous Part, Part V evaluates how
a court’s recognition of property rights in virtual worlds would affect virtual
world users. First, this Part outlines the limitations of the contractual
governance model virtual world developers currently use. In particular, Part
V.A focuses on how the Terms of Service (TOS) and End User License
Agreements (EULAs) that currently govern virtual worlds are inadequate to
protect the interests of virtual property owners against developers, other
players, and third parties (hackers, for example). Next, Part V.B examines the
effects virtual property rights would have on user welfare and wealth.
Ultimately, this Part concludes that virtual property rights would increase both
user welfare and wealth.

With a fuller picture of how a court’s recognition of property rights in
virtual worlds would affect both users and developers, Part VI returns to the
Pareto and wealth maximization standards developed in Part IV to answer the
final question of whether courts should find persuasive potential developer
liability as a justification to deny virtual property rights. Finally, Part VII
concludes the Note by acknowledging that while some of developers’ fears of
liability are not misplaced, a court confronted with the issue of recognizing
property rights in virtual worlds should not find these fears as a persuasive
justification for denying virtual property rights.

II. Virtual Worlds Primer

A. What Are Virtual Worlds and Virtual Property?

Virtual worlds are online, interactive environments where individuals from
around the world come to "play, trade, create, and socialize." The worlds
range from places that appear strikingly similar to real-world environments
to
places that allow individuals to "adventure together in an enormous, persistent
game world, forming friendships, slaying monsters, and engaging in epic quests
that can span days or weeks." In most of these worlds, users assume digital
representations of themselves called avatars, which are designed primarily for
social interaction. Virtual world users employ these avatars to interact with
both their virtual environment and other users. An example, perhaps, is more
illustrative.

Second Life is one popular virtual world in the United States. Upon
joining Second Life, a user’s first task is to create his avatar. This avatar can
take on many forms, and Second Life allows a user to control the look of his
avatar "from the tip of [its] nose to the tint of [its] skin." Once a user has an
avatar, he can enter Second Life and begin to explore the virtual landscape.
There, he will find diverse events ranging from fashion shows to art openings.
At each of these events, a user will meet other avatars, which are themselves
digital representations of real-world individuals from all around the globe.
Essentially, Second Life operates as a digital representation of the real world.

can. If you want to go shopping or fight dragons, you can. If you want to start a
business, create a game or build a skyscraper you can. It’s up to you.

Id.


15. Lastowka & Hunter, supra note 3, at 6.

16. See Andrea W.M. Louie, Designing Avatars in Virtual Worlds: How Free Are We to Play Superman?, 11 NO. 5 J. INTERNET L. 3, 4 (2007) ("In order to participate in [virtual worlds], players must create avatars, or graphical online representations of their online characters, that will explore, interact, and battle in the virtual world.").

17. See id. at 5–6 (explaining that before users can participate in virtual worlds, they must first create an avatar).


19. See Louie, supra note 16, at 5–6 (explaining that avatars allow virtual worlds users to "communicate, move, and interact").


21. See Lastowka & Hunter, supra note 3, at 64 (recounting that users of Sims Online, one virtual world, can "meet [other] avatars who invite ‘you’ to come into their homes, sit down, get something to eat, or play a game of chess").
B. Why Are Virtual Worlds Important?

While one might find it easy to dismiss online communities like Second Life as a diversion for a few tech-savvy individuals, virtual worlds are becoming a large part of online life for many people. By the year 2011, industry insiders estimate that 250 million users will actively participate in one virtual world or another.22 Current numbers for individual virtual worlds are also impressive. Second Life, for example, boasts eight million registered users, of which two million are active.23 This number of active users has grown from 120,000 just a little over a year ago.24 Second Life, however, pales in comparison to Habbo Hotel, an international virtual world, which claims over eighty million registered users.25 Importantly, these numbers do not simply reflect people who are signing up and never participating. As recently as 2006, the average user spent close to nine hours per week participating in virtual worlds.26

Part of the draw to virtual worlds is that they allow users to buy and trade in virtual property. Professor Joshua Fairfield defines virtual property as "code that mimics the properties of real-space objects . . . , [which] is rivalrous, connected, and persistent."27 Drawing analogies to web addresses, email accounts, and bank accounts, Professor Fairfield argues that courts should also treat items acquired in virtual worlds as virtual property because "[t]hey are rivalrous. If one person owns and controls them, others do not. They are persistent. Unlike the software on your computer, they do not go away when you turn your computer off. And they are interconnected. Other people can interact with them."28

Virtual property comes in many forms. In Second Life, for example, on a given day a user can purchase Christmas trees, Michelangelo’s artwork to

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24. Id.
27. Fairfield, supra note 5, at 1049–50.
28. Id. at 1055.
decorate his virtual house, and coffee machines. Additionally, in at least one virtual world, users have the ability to create new property and sell it to other users. In fact, some users find designing virtual property so profitable that many make some or all of their real-life income working in virtual environments. Significantly, while these items exist only in code, they have real-world value outside of the game. EBay, for example, has an entire section of its website devoted to the sale, for dollars, of items acquired in virtual worlds. In fact, buying virtual items with real money has become so popular that one researcher estimated the total of real money trade for virtual property to equal $2.07 billion for 2007.

C. The Developers' Perspective on Property Rights

Notwithstanding the number of users who participate in virtual worlds, the number of transactions in and value of virtual items, and the shared characteristics between virtual items and real-world property, no U.S. court has yet recognized property rights in items acquired in virtual worlds. This, however, is not to say that courts should not or will not. As individuals continue to invest more time and money in virtual worlds, how courts treat virtual items becomes increasingly important. Unfortunately for today’s


32. On December 1, 2007, for example, there were over 1,440 items listed for sale in virtual worlds on EBay. Prices ranged from $999.99 for a level seventy Horde Shaman with Epic Flying Mount in World of Warcraft, to $24.99 for a 6,240 square meter private island in Second Life. EBay’s virtual property auctions can be found at http://www.ebay.com > click "Video Games" > click "Internet Games."


34. See Fairfield, supra note 5, at 1050.
players, the very companies to which users owe the existence of virtual property, virtual world developers, are the most strident opponents to virtual property rights.35

Virtual world developers oppose granting property rights to users for one simple reason—fear of liability. Richard Raysman and Peter Brown describe the problem aptly:

Gaming companies worry that they could be held liable for economic losses suffered by players when the company chooses to discontinue the game. Moreover, companies fear that if players are given legal interest in virtual property, their profits will be depleted by an influx of demands for restoration of property or compensation for permanent losses. In addition, extending property rights to virtual items creates additional incentives for system hacking and game manipulations. When hackers or pirates enter the virtual world to sell property in the real world, they often prevent dedicated players from being able to acquire or keep these assets through play alone. These acts potentially could make the virtual economy unstable and wipe out virtual fortunes, which might leave the game companies responsible for compensating their players.36

Raysman and Brown’s account of virtual world developer opposition to property rights leads to the two issues with which this Note is concerned. First, will a court’s recognition of property rights in virtual worlds really expose developers to overwhelming liability? The next Part analyzes this issue. Second, if developers’ fears are not misplaced, when is risk of liability (if any exists) a persuasive justification for not recognizing property rights? Parts IV–VI will analyze this issue.

35. See World of Warcraft—Terms of Use Agreement, http://worldofwarcraft.com/legal/termsofuse.html (last visited Feb. 23, 2008) (stating that Blizzard retains title to all objects within Warcraft, including "accounts, titles, computer code, themes, objects, characters, character names, stories, dialogue, [and] catch phrases") (on file with the Washington and Lee Law Review); There.com—Terms of Service: Member Agreement, http://webapps.prod.there.com/help/74.xml (last visited Feb. 23, 2008) ("As part of your interaction with the There Environment, you may acquire, create, design or modify There Objects, but you agree that you will not gain any ownership interest whatsoever in any There Objects or There Environment . . . .") (on file with the Washington and Lee Law Review); Second Life—Terms of Service, http://secondlife.com/corporate/tos.php (last visited Feb. 23, 2008) ("You agree that even though you retain certain copyright or other intellectual property rights with respect to Content you create while using the Service, you do not own . . . data Linden Labs stores on its servers (including without limitation any data representing or embodying any or all of your Content.") (on file with the Washington and Lee Law Review).

36. Raysman & Brown, supra note 2, at 3.
III. What Is the Liability Exposure for Virtual World Developers Were a Court to Recognize Property Rights in Virtual Worlds?

This Part evaluates developers’ claims that a court’s recognition of property rights in virtual worlds would expose them to excessive liability. Particularly, Part III seeks to lay out the possible theories of liability that virtual world users could assert against developers after a court recognized property rights in virtual worlds.

A. Virtual World Developers’ Liability for Theft or Destruction of Virtual Property

Developers’ first fear of liability is for the theft or destruction of virtual property.\(^37\) This subpart evaluates developers’ potential liability for this loss. To begin, however, one must first discern how a court would characterize the developer/user relationship in virtual worlds.

1. Is the Developer/User Relationship a Bailment or a Lease?

Developers set up virtual worlds so that virtual property is stored on the developer’s server.\(^38\) Consequently, one way a court could view the user/developer relationship is for either the care or storage of virtual property. Under the common law this is known as either a bailment or a lease. The first step, then, is deciding whether the user/developer relationship is a bailment or a lease. Accordingly, this section evaluates each in turn.

The law of bailment provides the first possibility for developer liability regarding virtual property. Although courts have not come to a uniform definition of bailment,\(^39\) most agree a bailment is “an express or implied mutual agreement to safely keep property between the owner and its custodian either gratuitously or for some consideration.”\(^40\) One of the big issues with bailment is trying to figure out whether the arrangement is really a bailment or instead a

\(^{37}\) See id. at 3 ("[C]ompanies fear that if players are given legal interest in virtual property, their profits will be depleted by an influx of demands for restoration of property or compensation for permanent losses.").


\(^{39}\) See 8 C.J.S. Bailments § 1 (2006) (offering several different state court definitions of bailment).

\(^{40}\) Id. (citing Bohannon v. State, 555 S.E.2d 112 (Ga. Ct. App. 2001)).
That is, is person B agreeing to undertake the care of person A’s property by taking possession of it (and therefore a bailment), or, instead, is person A leasing space from person B in which to store person A’s property?

Courts find two factors important in distinguishing between a lease and a bailment. First, courts look at whether the person leaving the property made such a delivery as to amount to a relinquishment of exclusive possession, control, and dominion over the property so that the person on whose premises it was left can exclude the possession of all others. If there has been no such delivery and relinquishment of exclusive possession and access to the property is not subject to the control of the lessor, courts generally regard the arrangement as a lease of the premises on which the goods are kept. Second, courts look at whether the parties contemplate only the rental of a place to put personal property or whether the relationship involves the care of property. Consequently, to characterize the developer/user relationship as a bailment a court must find that a user relinquished control of the virtual property to the developer and that both the developer and user intended for the developer to care for the property.

This characterization is problematic for two reasons. First, the user is not really relinquishing control. If the user provides a username and password, then he has access to and control of his property. This arrangement is similar to the rental of a storage unit. Courts have consistently held that keeping property in a storage unit is a lease and not a bailment, even when the owner of the complex limits access to the units during certain hours of the day. Second, developers likely never intended to care for the virtual property left in a user’s

41. See, e.g., Sisters of Charity of the Incarnate Word v. Meaux, 122 S.W.3d 428, 428 (Tex. App. 2003) (deciding whether the rental of a storage locker in a gym was a bailment contract or a lease).

42. See Dubay v. Trans-America Ins. Co., 75 A.D.2d 312, 317–18 (N.Y. App. Div. 1980) (finding that where a rental company provided a crane to a contractor and also supplied the crane operator, that this was a bailment and not a lease because the rental company had not relinquished total control over the property).


44. See Jones v. Hanna, 814 S.W.2d 287, 289 (Ky. Ct. App. 1991) (“[O]ne who merely grants storage room, without assuming, expressly or impliedly, any duty or responsibility with respect to the care or control of the property stored, is not a bailee.”).

45. See, e.g., id. (finding that a storage complex that only permitted access from six A.M. to nine P.M. was still a lessor because it exercised no physical control over the property). This analogy also falls in line with the practice of virtual world developers limiting access to the virtual world for routine maintenance. This occasional limitation on access alone would not be enough to convert what is otherwise a lease into a bailment. Cf. id. (finding the rental of a storage unit as a lease and not a bailment even though the landlord limited the tenant’s access to the unit to certain hours).
Developers specifically disclaim that the user/developer relationship is one that contemplates the developers’ agreement to care for virtual property. Instead, the developer/user relationship is more akin to leasing a locker at a gym. To make working out more convenient, the gym provides a storage locker for its members where they can keep workout gear for use in the gym and store other personal property while working out. Gyms likely do not intend to undertake a duty to care for the property members leave in their lockers. Accordingly, courts confronted with locker rentals treat the situation as a lease and not a bailment. Similarly, developers merely provide a convenient place to store virtual property for use in a virtual environment; developers in no way intend to provide care for the items. For these reasons a court would likely classify the developer/user relationship as analogous to that of a landlord and tenant, and therefore this Note will analyze developer liability through this lens.

2. When Is a Developer Liable for the Theft of Virtual Property by a Third Party Under a Lease?

Evaluating potential liability through the lens of a lease, the first way a user could seek to hold a developer liable is for the theft of virtual property by a third party. Conceivably, theft in virtual worlds could happen in one of two ways. First, a user could enter another user’s virtual home and simply remove the property. Second, a hacker could gain access to a virtual world server and transfer ownership rights in virtual property from one account to another.

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46. See Second Life—Terms of Service, http://secondlife.com/corporate/tos.php (last visited Mar. 1, 2008) ("Linden Labs provides the service, the Linden software, your account and all other services strictly on an "as is" basis, provided at your own risk . . . .") (on file with the Washington and Lee Law Review); World of Warcraft—Terms of Use Agreement, http://www.worldofwarcraft.com/legal/termsofuse.html (last visited Feb. 25, 2008) ("Neither Blizzard nor its parent, subsidiaries, licensors or affiliates shall be liable in any way for damage or loss of any kinds resulting from . . . the loss or damage to player characters, accounts, statistics, inventories, [or] user profile information stored by World of Warcraft.”) (on file with the Washington and Lee Law Review).

47. See Sisters of Charity of the Incarnate Word v. Meaux, 122 S.W.3d 428, 433 (Tex. App. 2003) (finding that the rental of a storage locker in a gym was a lease and not a bailment and therefore no heightened duty to care for the property arose).

48. In the user/developer arrangement, third parties would include any person who is not a signatory to the lease—hackers and other users, for example.

49. Merriam Webster’s Collegiate Dictionary 559 (11th ed. 2003) (defining a hacker as "a person who illegally gains access to and sometimes tampers with information in a computer system").
account. This last type of theft is analogous to illegally transferring funds from one bank account to another.

Under landlord/tenant law, most jurisdictions hold that a landlord owes tenants some duty of reasonable care to protect a tenant from the criminal acts of a third party.50

Regarding theft of personal property from leased premises, courts usually only find a landlord liable if the landlord failed to provide adequate locks on the tenant’s premises.51 *Braitman v. Overlook Terrace Corp.* 52 is illustrative in this regard.

In *Braitman*, tenants brought suit after an unknown thief gained access to their apartment because of a broken lock and stole $6,100 worth of the tenants’ personal property.53 The tenants notified the landlord of the defective lock several days prior to the burglary, but the landlord failed to repair it.54 Ruling for the tenants, the New Jersey Supreme Court found that "[a] residential tenant [could] recover damages from his landlord upon proper proof that the latter unreasonably enhanced the risk of loss due to theft by failing to supply adequate locks to safeguard the tenant’s premises after suitable notice of the defect."55

Applying the *Braitman* duty to virtual worlds, a court could find a developer liable to a user for theft of virtual property by a third party if the developer failed to do two things. First, regarding users entering another user’s virtual house and walking off with property, developers need to provide tools to players that allow them to protect their property from other players. Developers already do this through code. For example, Linden Labs, the Second Life developer, provides code that allows a user to set access rights to their virtual property.56 Particularly, Second Life allows property owners to dictate things like who can enter their property, what other users can bring with

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51. See 49 AM. JUR. 2D Landlord and Tenant § 441 (2006) (citing cases so holding).
52. See Braitman v. Overlook Terrace Corp., 346 A.2d 76, 87 (N.J. 1974) (affirming the trial court’s ruling that the defendant owed the plaintiff a duty of care and the defendant’s breach of this duty was the proximate cause of the plaintiff’s loss).
53. *Id.* at 78.
54. *Id.* at 77.
55. *Id.* at 84.
them, what other users can do while on the owner’s property, and even whether outside sounds can enter the owner’s property.\textsuperscript{57} Regarding theft by other players, a developer would likely meet the Braitman standard by providing access rights options similar to Linden’s.

Second, developers also would need to take steps to protect virtual property from hackers. The lock that protects users from theft by hackers is network security. A court would likely find that a developer fulfilled its duty if it took reasonably prudent steps towards network security and responded promptly to newly discovered exploits in the software. Because developers likely already expend thousands of dollars in maintaining security, courts would also probably find that developers met the Braitman standard and therefore were not liable for theft of virtual property by a hacker.

3. Developer Liability for Destruction of Virtual Property

In addition to theft of virtual property, users could also seek to hold developers liable for destruction of virtual property. There are two ways this could happen. First, a hacker could gain access to virtual world servers and delete or corrupt all of the data. Second, an act of God or the negligence of the developer could do the same. This section analyzes potential developer liability for each loss in turn.

a. Destruction by Hacker

The first way a user might try to hold a developer liable for destruction of virtual property is if a hacker gained access to a virtual world server and deleted or corrupted all of the information. In virtual worlds, a hacker is the equivalent of the real-world arsonist—causing destruction of property in violation of criminal laws. In a real-world lease, courts find landlords liable for a tenant’s loss at the hands of an arsonist if the landlord had "prior knowledge of foreseeable arson danger."\textsuperscript{58} A representative case on this issue is \textit{Viola v. Arlen Realty Corp.}\textsuperscript{59}


\textsuperscript{59} See Viola, 402 So. 2d at 234 (affirming the trial court’s judgment that the landlord
In Viola, the landlord had gutted the apartment below the plaintiff’s to repair a broken sewer line. An arsonist entered and set fire to the vacant apartment, which spread and caused damage to the plaintiff’s apartment. The arsonist gained entry to the apartment through either an unlocked door or through a window the landlord failed to board up. Additionally, this fire was the second that originated from the vacant apartment. On these facts, the Louisiana Court of Appeals affirmed the trial court’s finding of negligence and found the landlord liable for the tenant’s damages.

Another case on point is B & D Associates v. Russell, in which a tenant also sought damages from a landlord when an arson fire destroyed the tenant’s business premises. In Russell, the landlord owned a commercial building that two tenants shared. Before the arson fire, a prior fire damaged the other tenant’s portion of the building, causing that tenant to vacate. While the landlord was working to repair the damaged portion of the building, an arsonist entered the vacated tenant’s store and set a new fire, causing substantial damage to the plaintiff’s store. The plaintiff brought suit for damages, including lost income, based in part upon a failure of the landlord to secure adequately the store left abandoned by the first fire. Ruling partially for the plaintiff, the Connecticut Court of Appeals found that the intervening criminal act of the arsonist was not enough as a matter of law to relieve the landlord from liability.

Analogizing from the Viola and Russell standards, a court could find a developer liable for destruction of virtual property at the hands of a hacker in the same way it would find liability for theft of virtual property at the hands of a hacker—if the developer failed to secure adequately virtual world servers. A

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60. Id. at 233.
61. Id. at 234.
62. Id.
63. Id.
64. Id.
65. See B & D Assocs. v. Russell, 807 A.2d 1001, 1009 (Conn. App. Ct. 2002) (reversing in part a trial court’s finding that the plaintiff as a matter of law could not recover lost profits as a result of fire).
66. Id. at 1003–04.
67. Id. at 1003.
68. Id.
69. Id. at 1003–04.
70. Id. at 1004.
71. Id. at 1009. Nevertheless, the court still found the landlord was not negligent for the fire damage. Id.
developer that maintained basic network security, however, would likely meet the low bar established by the arson cases.

b. Acts of God or Developer Negligence

The other way a court could find a developer liable for destruction of virtual property is if the negligence of a virtual world developer resulted in the destruction of virtual property though an act of God. Under either of these instances, courts would employ the traditional standard for all torts—duty, breach, and proximate cause. Most likely, cases dealing with the destruction of virtual property will turn on the duty and breach elements.

Virtual world developers likely owe a duty of reasonable care to virtual property owners. Within the fire context, a landlord’s duty to a tenant depends in part on the amount of control the landlord retains over the property. Because virtual world architecture is set up to store at least some virtual property on the developer’s server, a court could find that developers owe users a duty. The common law duty in cases of negligence is reasonable care. Within the context of the destruction of virtual property by an act of God by something like fire, "[w]hat is reasonable care will depend on the likelihood of injury, . . . the probable seriousness of the injury, the burden on the landlord in reducing or avoiding the risk of [injury], and the degree of control the landlord has over the risk."

What constitutes a breach of this duty depends entirely on the cause of the damage. For example, if a power surge caused the destruction, a court could find a developer negligent for failing to install surge protectors. If someone stole a virtual world server, a court could find a developer liable if he failed to secure adequately the building in which the server was stored. Admittedly,

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72. See Usrey, supra note 58, § 3 (listing the traditional tort standard as the standard for recovery for damages when there is a fire to leased premises).
73. Cf. id. § 10 ("No duty will be imposed on a landlord to prevent a fire on leased premises unless the landlord retains possession, custody, and control of the premises or the part of the premises where the fire occurred.").
74. Economically, this is also the best result. Within virtual worlds, the most logical cost avoiders are the developers themselves. Developers have exclusive control over the physical property on which virtual property is stored. Developers are best positioned to protect these assets because they are the only parties in interest who can.
75. See Restatement (Second) of Torts § 283 (1965) ("Unless the actor is a child, the standard of conduct to which he must conform to avoid being negligent is that of a reasonable man under like circumstances.").
76. Usrey, supra note 58, § 5.
users could assert theories of liability in many circumstances. Because of the nature of virtual property, however, a prudent developer could avoid most liability simply by restoring the property. On the developer’s side, virtual property costs almost nothing to create and even less to recreate. A developer who periodically backed-up the data stored on virtual world servers could simply reload the data from the last back-up and instantly place users in the same position they were in prior to the destruction of the server. If developers were to back-up data on a twenty-four hour cycle, then data loss would be negligible. By minimizing data loss the developer would also minimize its liability for damages.

Based on the foregoing, developers could face some increase in liability for theft or destruction of virtual property through either the acts of a third party or the negligence of a developer. Developers, however, can easily limit liability on the front-end by taking simple preventive measures. By implementing basic network security and backing-up virtual world data on a periodic basis, a developer could likely minimize its exposure to negligible levels.

B. Will Recognition of Property Rights Require Virtual World Developers to Maintain Virtual Worlds Indefinitely?

In addition to fears about facing liability for destruction of virtual property, developers also fear that if courts were to recognize property rights in virtual worlds, developers would have to maintain worlds indefinitely. Continuing to view the developer/user relationship through the lens of a lease of space, this subpart evaluates whether developers’ fears in this area are warranted. To begin, though, a brief introduction to the types of tenancies courts recognize under a lease is necessary.

1. Tenancies

Under property law, a landlord and a tenant can enter into several types of tenancies. These include term leases, periodic tenancies, and tenancies at

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77. These could range from floods to fires to tornadoes.
78. This requirement is not onerous. Financial institutions and many businesses do this same thing every night to mitigate data loss from the very types of causes that developers would also need to worry about.
79. See Raysman & Brown, supra note 2, at 3 ("Gaming companies worry that they could be held liable for economic losses suffered by players when the company chooses to discontinue the game.").
will.80 A term lease is a lease for a fixed period of time—that is, it specifies a specific start date and end date.81 A periodic tenancy is a lease that typically runs from either month to month or year to year.82 A tenancy-at-will runs until either party to the lease desires it to end.83 Importantly, if the lease agreement specifies a set monthly payment, then courts tend to construe the agreement as a periodic tenancy even when parties expressly state that the tenancy is at will.84 Most virtual worlds operate on a month-to-month payment system,85 and therefore this Note will analyze the developer/user arrangement under a periodic tenancy framework.

2. Banning Users

Under the common law, either party to a lease can terminate a month-to-month tenancy with at least a month’s notice.86 Meaning, if users renewed their subscriptions to virtual worlds at the beginning of each month (for example, February 1st), a developer that wanted to terminate the tenancy on July 31st would need to give notice by June 30th.87 If courts analogized the virtual world subscription model to a periodic tenancy, developers could face a problem in that this rule limits their flexibility in both banning users and ceasing operation of the virtual world.

In virtual worlds, if a developer decides a user is causing too much trouble, a developer can simply deactivate the user’s account, in effect evicting

80. See generally RESTATEMENT (SECOND) OF PROPERTY §§ 1.4–1.6 (1977) (describing the characteristics of different tenancies).
81. Id. § 1.4 cmt. a.
82. Id. § 1.5 cmt. a.
83. Id. § 1.6.
84. Id. § 1.6 cmt. b.
86. See RESTATEMENT (SECOND) OF PROPERTY § 1.5 cmt. f (1977) ("In the absence of any provision in the lease in regard to notice to terminate a periodic tenancy, the common law required . . . notice equal to the length of the period in [instances other than year-to-year tenancies]."). A landlord can also terminate a lease for cause without the month’s notice requirement if the tenant violates a provision of the lease. Id. § 13.1.
87. See id. § 1.5 cmt. f, illus. 5 (stating that if a landlord gave notice to a tenant to vacate on June 20th, the tenant would not have to leave until July 31st).
the user from the virtual world. In real-world leases, account deactivation is analogous to self-help eviction. Self-help eviction occurs when a landlord attempts to remove a tenant in violation of the lease from the premises without resort to legal process, but instead through the landlord’s own actions.

The law on self-help eviction is far from uniform. Some state laws allow a landlord to use self-help eviction to remove a tenant who is in violation of a provision of the lease. Other states, though, require a landlord to use an expedited judicial process to regain possession. A majority of states requiring judicial process, however, also allow a tenant to waive his self-help immunity, thereby lowering a landlord’s cost of repossession.

States that allow self-help repossession either by law or waiver limit a landlord’s right to this remedy to instances when the landlord can repossess without a breach of the peace and by using only reasonable force. Courts universally hold that threats of personal violence or harassment of the tenant to regain possession constitute a breach of the peace. In virtual worlds, where users and developers are frequently thousands of miles apart, breach of the peace is likely not a problem. The stickier issue, however, is reasonable force. Many state courts and statutes explicitly prohibit a landlord’s changing of the locks as a lawful way to effect a self-help eviction.

From a developer/user perspective, deactivating an account is strikingly similar to a lockout—both prevent access to property without notice. Courts that find landlords in violation of self-help eviction standards also find


89. See BLACK’S LAW DICTIONARY 1391 (8th ed. 2004) (defining self-help as "[a]n attempt to redress a perceived wrong by one’s own action rather than through the normal legal process").

90. See 2 MILTON R. FRIEDMAN & PATRICK RANDOLPH, JR., FRIEDMAN ON LEASES § 18:6 n.264 (Patrick A. Randolph, Jr. ed., 2004) (listing states that continue to allow a landlord to exercise self-help to retake possession of leased property from a tenant in violation of the lease).

91. See id. § 18:6 n.265 (listing state statutes so requiring).

92. See id. § 18:6 n.266 (listing state court decisions which have upheld these waivers within leases). For a list of state courts that have found self-help waivers invalid as a matter of public policy, see id. § 18.6 n.267.

93. See id. § 18.6.

94. See id. (stating with regards to peaceable entry that "[p]ersonal violence and menace to person need little discussion").

95. See id. § 18:6 n.272 (listing state court decisions and state statutes banning lock changing as a lawful method of self-help eviction).
landlords liable to the tenant for wrongful eviction. Wrongful eviction exposes a landlord to liability for damages, which could include lost profits, costs for reestablishing a business, and, at times, punitive damages.97

Landlord/tenant law therefore presents several hurdles for developers. First, to maintain timely control over banning users, a developer would have to ensure that the governing law allowed for self-help evictions in the first place. Many TOS provide a choice of law provision.98 If a developer chooses as governing law a state that allows for self-help eviction, it could clear this first hurdle. Developers face a problem here, though, in that the state in which the property is located provides the governing law regarding that property,99 seemingly making a choice of law provision anomalous. If courts find choice of law provisions invalid regarding virtual land, the question then becomes, in which state is the virtual property located—that is, which state’s law governs? Is it the state of user, the state of the developer, or is the nature of virtual property such that a court would find a choice of law provision valid?

Even assuming a court allows a developer to choose a governing law that allows for self-help eviction, the second issue becomes whether banning a user is the equivalent of changing the locks and therefore a violation of the reasonable force requirement of self-help evictions? Courts and scholars advance several public policy arguments for the self-help requirements of peaceable entry and reasonable force.100 Primarily, these boil down to two: prevention of violence and lack of need because of expedited state proceedings.101 As stated above, the likely distance between user and developer decreases concerns about breach of the peace. Likewise, the availability of expedited state proceedings for virtual world developers ceases to remain realistic when dealing with millions of "tenants" spread across the world. These distinguishing characteristics, however, did not appear to affect at least one court’s decision when a virtual world user brought suit after a developer banned him.

96. Id.
97. Id. § 18:7.
98. See, e.g., World of Warcraft—Terms of Use Agreement, http://www.worldofwarcraft.com/legal/termsofuse.html (last visited Feb. 9, 2008) ("Except as expressly provided otherwise, this Agreement shall be governed by, and will be construed under, the Laws of the United States of America and the law of the State of Delaware, without regard to choice of law principles.") (on file with the Washington and Lee Law Review).
99. See 16 AM. JUR. 2D Conflict of Laws § 62 (2006) ("[T]he disposition of real property or an interest therein [is] governed by the law of the state where the land is located.").
100. See generally FRIEDMAN & RANDOLPH, supra note 90, § 18:6 (laying out several arguments).
101. Id.
In Bragg v. Linden Research, Inc., Marc Bragg brought suit when Linden Labs, the developer of Second Life, banned Bragg from the virtual world for violating a provision of the TOS. The dispute at issue arose when Bragg bought a parcel of virtual land in Second Life for $300. According to Linden, Bragg improperly acquired the land using an "exploit" coded into the virtual world. Consequently, Linden took the parcel away from Bragg and froze his account, "effectively confiscating all of the virtual property and currency that he maintained on his account within Second Life." Bragg brought suit to recover his land, and soon thereafter, Linden filed a motion to compel arbitration pursuant to the TOS. Judge Robreno of the Eastern District of Pennsylvania denied the motion to compel arbitration, based in part upon Second Life’s use of the self-help remedy. Judge Robreno found that Linden’s reservation of the self-help remedy evidenced lack of mutuality, and therefore supported a finding of substantive unconscionability. Although the Bragg decision does not address self-help as a remedy in and of itself, the decision indicates that courts’ distaste for the self-help remedy could continue into cases involving virtual property.

The Bragg case hints at a second issue with banning users, namely that a tenant who leases space to store property expects to get that property back at the termination of the lease. Conceivably, a developer could accomplish this return of property by simply emailing the property files to the banned user’s address. Practically speaking, however, this solution presents an issue for developers in that a user who has possession of the property also has the ability to modify the code and cause adverse effects in the virtual world if it was uploaded again. A banned user will likely want to cash out of the virtual world by selling his now useless virtual property to an active user of the virtual world. If the banned user were to maliciously modify the code prior to sale,

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103. Id. at 597.
104. Id.
105. Id.
106. Id.
107. Id.
108. Id. at 611.
109. Id.
110. Id. at 597 (finding as a basis of unconscionability the fact that when Linden banned Bragg it effectively confiscated his property).
111. Recall, EBay and other third party websites have already developed the mechanisms to accomplish this. See supra note 32 and accompanying text (describing EBay’s virtual
though, when the purchasing user uploaded it, the bad code could cause problems in the virtual world. Virtual worlds that allow user coding, however, already face this problem. In Second Life, for example, users can code their own virtual items and make them available to other users of the virtual world. User coding has caused problems for Linden in the past because some users have created and uploaded malicious code which has caused temporary denials of service by overloading the system. There.com, another virtual world, responded to problems like this by requiring approval before allowing users to upload new code to the virtual world. This same approval process could serve to protect developers in a landlord/tenant system.

3. Turning Off the World

In addition to fears of liability for banning users, developers fear liability if they were to try to shut down a virtual world. As stated above, to shut down a virtual world, the developer would first have to give at least a month’s notice. The issue then becomes, what happens at the end of that month? In landlord/tenant law, courts label a tenant who stays after the end of a lease as a property auctions.

112. See infra note 211 and accompanying text (recounting the effect of one user uploading malicious code in Second Life).


115. See Robert Lemos, Second Life Plagued by ‘Grey Goo’ Attack, http://www.theregister.co.uk/2006/11/24/secondlife_greygoo_attack/ (last visited Feb. 3, 2008) ("Makena Technologies, the company that manages [There.com], allows developers to create their own content, but must approve the digital objects before they are allowed to be injected into the game.") (on file with the Washington and Lee Law Review).

116. Conceivably, storage units use this same system. A storage unit owner has the right to dictate what items a tenant can store in a unit. Frequently, unit lessors will restrict lessees from storing certain hazardous or flammable substances in the storage facility.

117. See Raysman & Brown, supra note 2, at 3 ("Gaming companies worry that they could be held liable for economic losses suffered by players when the company chooses to discontinue the game.").

118. See Part III.B.2 (explaining that a periodic month-to-month tenancy requires at least a month’s notice to terminate).
Importantly, “no notice to quit or demand for possession is necessary, because possession by a tenant at sufferance can be put to an end whenever the landlord, acting promptly, wishes.” But, to put a tenancy at sufferance to an end, the landlord again must either resort to self-help or judicial process. If a developer cannot use self-help—meaning, in effect, it cannot simply deactivate accounts—then, especially if large numbers of users are still active in the world, a developer could find shutting down a virtual world a costly endeavor. With self-help foreclosed, a developer would have to resort to judicial process. Depending on the number of users remaining at sufferance, winding up the virtual world could cost a developer millions of dollars.

Another potential problem confronting virtual world developers is that the value and utility of virtual property is inextricably tied to the existence of the virtual world. Users would unlikely be content to simply take their virtual property and walk away were a developer able to effect an eviction and shut down the virtual world. Just because the value of the code is tied solely to the virtual world, however, does not necessarily mean that liability follows when a developer ceases operating a virtual world or otherwise evicts a user. One of the characteristics of the ownership of property is bearing the risk of loss for that property. This risk of ownership would include loss as a result of creative destruction. As technology evolves, older products lose value and make way for newer ones. While the owner of a Betamax tape player certainly has suffered a loss by the dominance of the VHS recorder, courts have never recognized this as a compensable injury. An illustrative case on this point is Wolf Studebaker Inc. v. Studebaker-Packard Corp.

In Wolf Studebaker, a car dealership owner brought suit against the manufacture of Studebakers for moving its factory to Canada and ultimately

119. See 49 AM. JUR. 2D Landlord and Tenant § 124 (2006) ("‘Tenancy at sufferance’ arises when a person who came into possession of land rightfully continues in possession wrongfully after his or her right thereto has terminated.").
120. Id.
121. Id. § 274 (stating that the landlord of a tenant at sufferance has the option to proceed by self-help or judicial process, depending on which the law of the state allows).
122. See Meehan, supra note 38, at 48 ("It is within the context of a game that the bits have value.").
123. Cf. Alex Raskolnikov, Contextual Analysis of Tax Ownership, 85 B.U. L. Rev. 431, 474 (2005) (listing bearing the risk of loss as one of the factors under tax law to determine who owns a particular piece of property).
ceasing production.\textsuperscript{125} The New York County Supreme Court ruled against the plaintiff, finding that the decision of Studebaker was not motivated by malice or conspiracy to injure the plaintiff and therefore the "incidental injury . . . suffered by plaintiffs [was] regrettable but not actionable."\textsuperscript{126} This same rationale holds true for developers. If a developer chooses to cease maintaining a world for business reasons or to evict a user for violating a term of the agreement, courts are unlikely to find liability for the loss in value of the virtual property merely because the value of the property is tied to the virtual world.

Regardless of how courts ultimately address the issue of self-help in virtual worlds, as the law now stands developers might not be able to avail themselves of self-help remedies, notwithstanding any waiver within the TOS. In terms of banning users, the practical reality that many developers fail to exercise their self-help remedies, lest they destroy their subscription base, decreases this risk.\textsuperscript{127} With regards to shutting down a virtual world, however, if developers find the self-help option unavailable, then they risk either costly litigation to "evict" or potential liability for damages under an action for wrongful eviction.\textsuperscript{128}

\section*{C. Breach of Warranty Claims for Defective Virtual Property}

A third way users could attempt to hold developers liable is under a breach of warranty claim. This subpart evaluates these claims. First, it provides a brief overview of the history of warranty law and outlines the relevant warranty standards that U.S. courts enforce. Next, it explores theories of liability under warranties that inhere to the sale of personal property.

\subsection*{1. A History of the Law of Warranty}

Under American law there are two types of warranties, express and implied. An express warranty is \"[a] warranty created by the overt words or

\begin{itemize}
\item \textsuperscript{125} Id. at 159–60.
\item \textsuperscript{126} Id. at 161.
\item \textsuperscript{127} See Fairfield, supra note 6, at 450 (observing that breaches of the TOS in virtual worlds are usually ignored by developers and at most result in a ban of a couple of days).
\item \textsuperscript{128} Interestingly, if developers were to organize virtual worlds within a subsidiary corporation, then developers might be able to use the limited liability characteristic of corporations as a tool to shut-down the virtual world.
\end{itemize}
actions of the seller."\textsuperscript{129} An implied warranty is "[a]n obligation imposed by
law when there has been no representation or promise."\textsuperscript{130} To understand how
warranties affect virtual property, a brief history of warranty law is necessary.

Warranty law dates back hundreds of years\textsuperscript{131} and, initially, the Catholic
Church enforced it.\textsuperscript{132} The Church adopted a very pro-consumer standard and
would hold a seller liable even for latent defects that were unknown to both the
buyer and seller at the time of purchase.\textsuperscript{133} After the Reformation, the craft
guilds took over this role and developed the \textit{lex mercatoria},\textsuperscript{134} which adopted
the same standards the Church used.\textsuperscript{135} The foundation of \textit{lex mercatoria} was
\texttt{caveat venditor}—"let the seller beware"—a pro-consumer standard.\textsuperscript{136} In 1603,
however, English courts changed the doctrines of warranty law by instituting
the more commonly known standard of \texttt{caveat emptor}—"let the buyer
beware."\textsuperscript{137} Under this standard, a merchant was only liable for a defective
product if the merchant made express, false representations to the buyer.\textsuperscript{138} In
effect, English law rejected any notion of an implied warranty, while retaining
the law on express warranties.

Nineteenth century U.S. courts followed the English rule and recognized
express warranties, but refused to recognize implied warranties.\textsuperscript{139} With the
arrival of industrialization, though, U.S. courts retreated from a strict \texttt{caveat
emptor} approach to warranties and began recognizing some limited implied

\begin{footnotes}
\footnotetext[129]{\textsuperscript{129} Black's Law Dictionary 1619 (8th ed. 2004).}
\footnotetext[130]{Id.}
\footnotetext[131]{Id.}
\footnotetext[132]{See Barkley Clark & Christopher Smith, The Law of Product
Warranties 1-1 (1984) ("Since medieval times in England, an identifiable body of law has existed
to govern the liability of a seller if the goods sold disappoint the buyer.").}
\footnotetext[133]{Id. ("Prior to the Reformation, sellers who parted with substandard goods were
required by the Church to rectify the wrong done to the buyer, even if the defect were unknown at
the time of sale.").}
\footnotetext[134]{See id. at 1-2 (stating that Church law required the seller to make good for the buyer’s
loss "if the defect was latent and unknown to either buyer or seller").}
\footnotetext[135]{Lex mercatoria translated is law merchant. Black's Law Dictionary 930 (8th ed.
2004). Law merchant is "[a] system of customary law that developed in Europe during the
Middle Ages and regulated the dealings of mariners and merchants in all the commercial
countries of the world until the 17th century." Id. at 903.}
\footnotetext[136]{See Clark & Smith, supra note 131, at 1-1 ("Craft guilds and the institutions of
feudalism placed the same limits on merchant sellers as did the Church.").}
\footnotetext[137]{Id.}
\footnotetext[138]{Id.}
\footnotetext[139]{See id. at 1-3 ("In many judicial decisions the seller of defective goods would prevail
unless the buyer could make a showing of fraud or the use of sufficiently precise words to
establish an express warranty.").}
\end{footnotes}
warranties against sellers of defective goods. 140 For the most part, however, the English rule remains in effect, and consequently, American courts rarely recognize common law implied warranties. 141 Instead, most implied warranties in the United States are statutory.

The National Conference of Commissioners on Uniform State Laws (NCCUSL) developed one of the nation’s first statutory implied warranties in 1906 when it approved the Uniform Sales Act (USA). 142 The USA was a precursor to the UCC, and the NCCUSL carried the USA’s implied warranties forward into the UCC. 143 The NCCUSL limited the scope of the UCC’s implied warranties, however, as they only apply to the sale of goods. 144 For the purposes of this Note, the history of warranty shows that "there is no single source of warranty law. Instead, there are many interwoven strands, some statutory, some regulatory, and some judicial." 145 The first issue, then, is deciding which source of warranty law governs sales of virtual property. 146

2. Developer Liability for Breach of Warranty in the Sale of Virtual Property

The UCC governs the purchase and sale of goods in real-world transactions. 147 Additionally, the UCC has provisions governing both implied and express warranties. 148 If a court’s recognition of property

140. Id. at 1-4.
142. CLARK & SMITH, supra note 131, at 1-4.
143. Id.
145. CLARK & SMITH, supra note 131, at 1-5.
146. It is important to note that developers do not sell all the property that exists in virtual worlds. Second Life, for example, allows users to code and sell their own property. See Second Life—Create Anything, http://secondlife.com/whatis/create.php (last visited Feb. 23, 2008) (“In Second Life you can create anything you can imagine with powerful, highly flexible building tools . . . . And once you’ve built something, you can easily begin selling it to other residents, because you own the IP Rights of your creations.”) (on file with the Washington and Lee Law Review). Because the developers are not the manufacturers of this property they are not liable for any potential warranties with regards to its defects.
148. See, e.g., id. § 2-314 (setting out UCC standards for the implied warranty of merchantability).
149. See, e.g., id. § 2-313 (setting out UCC standards for express warranties).
rights in virtual property would alter the legal landscape in such a way as to make developers liable for breaches of UCC warranties when they were only liable for breaches of common law warranties before, then this could represent a potential developer liability. The question then becomes, does the UCC apply?

Although the language of the UCC limits its application to goods, courts have consistently held that Article 2 applies to the purchase and sale of computer programs. Almost all of the courts to address this issue, however, have dealt with software that a user installed from a physical medium—a CD-ROM, for example. The problem with virtual worlds, though, is that the ownership of virtual property is not tied to a users’ ownership of physical property. In effect, all the user owns is a license to use the code. In this case, the UCC’s application is less clear.

Courts confronted with the issue of the UCC’s application to software license sales not tied to a physical medium invariably have declined to address it, finding either that the UCC’s application does not make any difference because both the common law and UCC rule are the same on the matter presented or simply assuming the UCC’s

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152. See CARTER ET AL., supra note 150, § 1.5.4 n.81 (listing a string of cases so holding).

153. See Llewellyn Joseph Gibbons, Stop Mucking up Contract Law: A Proposal for a Federal Common Law of Contract, 35 RUTGERS L.J. 959, 984 (2004) (“Most courts that apply Article 2 to software transactions do so because there is a sufficient goods nexus . . . .”). Professor Gibbons further states that courts find Article 2 applicable by "analogiz[ing] software to music . . . finding that '[m]usic is produced by the artistry of musicians and in itself is not a "good," but when transferred to a laser readable disc becomes a readily merchantable commodity.'” Id. (quoting Advent Sys. Ltd. v. Unisys Corp., 925 F.2d 670, 675 (3d Cir. 1991)).

154. See Arbitron, Inc. v. Tralyn Broad., Inc., 400 F.3d 130, 138 (2d Cir. 2005) ("It is not clear whether, under New York law, a license agreement of the sort at issue in this case constitutes a contract for the sale of goods, or is otherwise governed by the U.C.C. . . . . But the applicability of the U.C.C. to the license agreement before us is not something we need to decide today."); Internet Archive v. Shell, 505 F. Supp. 2d 755, 764–65 (D. Colo. 2007) ("While the parties do not address whether the putative contract is governed by the UCC or the common law, under both bodies of law parties’ conduct may constitute a meeting of the minds sufficient to form a contract.").
application. Specht v. Netscape Communications Corp., is illustrative of the former situation.

In Specht, several customers of Netscape brought suit after downloading a program from the Netscape website that had a spyware component. In response to the suit, Netscape filed a motion to compel arbitration pursuant to a term in the license agreement. Ultimately, the issue in the case came down to a battle of the forms argument and whether the arbitration agreement ever became part of the deal. The Second Circuit declined to decide whether the UCC governed the formation of the contract, finding that the result was the same whether the court applied the common law or the UCC. The court did, however, state in dicta that it was "not obvious . . . that UCC Article 2 ('sales of goods') applied to the licensing of software that is downloadable from the Internet."

Cutting the other way, though, is a 2003 NCCUSL proposal to exclude "information" from the definition of "goods" under Article 2. Specifically, the draft comment states that "Article 2 would not directly apply to an electronic transfer of information, such as the transaction involved in Specht v. Netscape." This change was very controversial during the revision process, with consumer advocates "express[ing] concern that revised Article 2's approach [would] create widespread uncertainty about what rules apply

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155. See Recursion Software, Inc. v. Interactive Intelligence, Inc., 425 F. Supp. 2d 756, 786 n.17 (N.D. Tex. 2006) ("The Court notes that the parties have not addressed the issue of whether the Texas Uniform Commercial Code applies to software licenses. The Court assumes that it does."); Davidson & Assocs., Inc. v. Internet Gateway, Inc., 334 F. Supp. 2d 1164, 1177 n.11 (E.D. Mo. 2004) ("The Court assumes, as have several other courts, that the games in question constitute goods under the UCC.").

156. See Specht v. Netscape Commc'ns Corp., 306 F.3d 17, 38 (2d Cir. 2002) (affirming the district court's holding denying a motion to compel arbitration).

157. Spyware is "any computer program that gathers information about a user or an organization without their consent." Josh Sugnet, Note, Catching a Black Cat in a Dark Room: Evaluating the Shortcomings of Federal and State Anti-Spyware Legislation, 28 HASTINGS COMM. & ENT. L.J. 443, 446 (2006).

158. Specht, 306 F.3d at 21.

159. Id. at 25.

160. Id.

161. See id. at 29 n.13 (declining to decide the issue because "[t]he district court’s analysis and the parties’ arguments on appeal show that, for present purposes, there is no essential difference between UCC Article 2 and the common law of contracts").

162. Id.

163. CARTER ET AL., supra note 150, § 1.5.3.

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to . . . software, and that over time this exclusion [would] eviscerate Article 2’s role as the basic law of the sale of goods."165 Additionally, as of 2007, no state has enacted this proposed revision.166

For several reasons, these facts point to the UCC’s continued application to software transactions regardless of the delivery medium. First, courts readily apply the UCC to transactions in software.167 All that virtual property transactions change is the mode of delivery of that property. Furthermore, the failure of states to adopt the Revised UCC’s changes to exclude downloadable software evidences some intent to have courts apply the UCC to software sales that are not tied to physical property. Finally, that the NCCUSL even thought the revision was necessary in the first place also weighs towards the UCC’s application to web-delivered software. For these reasons, courts would likely already apply the UCC to developer/user disputes in virtual worlds.

Recall, this Note is only concerned with whether a court’s recognition of property rights will change the legal landscape for developers in such a way that it increases their liability. A court’s recognition of property rights would not change developer liability regarding warranty claims because developers likely are already subject to UCC warranties under the current model and would continue to be subject under a property system. Consequently, developers incur no additional liability by simply adding property rights into the mix.

D. Summary

This Part evaluated developers’ claims of liability if a court were to recognize property rights in virtual worlds. In particular, it found that there is some risk of liability for the theft or destruction of virtual property as a result of developers’ negligence168 and some risk of loss for banning users or turning off a virtual world.169 Having developed the potential for developer liability, the next issue then becomes, when is developer liability a persuasive justification for a court to deny property rights in virtual worlds?

165. CARTER ET AL., supra note 150, § 1.5.3.
166. Id. (2007 Supp.).
167. See supra note 152 and accompanying text (listing cases so holding).
168. Part III.A supra.
169. Part III.B supra.
IV. A Social Welfare Maximizing Framework Through Which to Analyze Competing Claims to Property Rights

This Part begins to answer the question of when developer liability would serve as a justification for denying property rights in virtual worlds. In deciding whether to create new legal rights, courts often make decisions that maximize efficiency. The dispositive question then becomes, would a court’s recognition of property rights improve market efficiency and therefore serve as a justification for granting property rights? Or, alternatively, would a court’s recognition of property rights actually decrease market efficiency and therefore serve as a justification for denying property rights in virtual worlds? Economists generally use two models to determine whether a change in policy is efficiency increasing: Pareto efficiency and wealth maximization.

A. Pareto Efficiency

The first way to measure efficiency is through the Pareto standard. Economists define a Pareto efficient situation as one in which it is "impossible to change [the situation] so as to make at least one person better off (in his own estimation) without making another person worse off (again, in his own estimation)." Graphically it appears as follows:

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170. See Richard Posner, Economic Analysis of Law 529–52 (6th ed. 2002) (arguing that when judges make substantive law, the rules of law are usually consistent with maximizing efficiency).

171. See Thomas J. Miceli, Economics of the Law 4 (1997) (explaining the two most commonly used standards used in social welfare efficiency analysis).


173. Graph derived from Miceli, supra note 171, at 5.
In this graph $U_U$ and $U_D$ represent the utility of an individual user and the game developer, respectively. Curve $UD$ represents what is known as the utility possibility frontier (UPF). When the market is operating at its highest efficiency, transactions are occurring on the UPF, and the welfare of each market participant is maximized. For example, if the market for virtual property is operating at point $B$ on the graph, then economists say the market is Pareto efficient. Any change in the market—either a move along the curve or a move to some point below the curve—will make at least one party worse off. If the market were to move from $B$ to $C$, the welfare of the developer would increase, while the welfare of the user would decrease. This loss in welfare on the part of the user, by definition, would make this a Pareto inefficient change.

Alternatively, if the market is operating at point $A$, then there is room for a Pareto superior change. Any change that moves the market into the area denoted $ABC$ at a minimum makes no party worse off and increases the welfare of at least one of the parties to the transaction. Conversely, a movement to any area outside of $ABC$ would not be Pareto superior because it would result in a decrease in the welfare of the developer, the user, or both.

Whether a court’s recognition of property rights in virtual goods is a Pareto superior change depends on whether the recognition will make at least one party better off without decreasing the welfare of the other party. Part III evaluated one effect on developer welfare, potential liability. Part V will evaluate how a court’s recognition of property rights would affect user welfare. Finally, with these welfare pictures developed, Part VI.A will return to the Pareto standard to determine whether, under an economic efficiency justification, a court should recognize property rights in items acquired in virtual worlds.

**B. Wealth Maximization Theory**

The second and more widely accepted measure of efficiency is wealth maximization. Under wealth maximization, economists aggregate the

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175. See *Thomas J. Miceli, The Economic Approach to Law* 4 (2004) ("[A]n allocation is said to be Pareto efficient (or Pareto optimal) if there exists no other allocation that is Pareto superior to it.").
176. See *id.* at 4–5 (explaining that there is room for a Pareto superior change when the market is operating at point $A$).
177. *Id.*
178. See *Miceli, supra* note 171, at 4 ("Most of the law and economics literature employs wealth maximization . . . as the concept of efficiency.").
amount of wealth earned by each participant in the market under a given policy to derive the total wealth generated by the entire market. Mathematically, the formula appears as \( W = W(W_D, W_{U1}, W_{U2}, W_{U3} \ldots) \), where \( W \) represents the aggregate social wealth derived from a given policy, \( W_D \) represents the wealth of the developer, and \( W_{U1}, W_{U2}, W_{U3} \) and every other user represents the wealth of the users of the virtual world. To determine whether a policy is wealth maximizing, one needs to add the wealth of each individual market participant under an existing policy, \( P_1 \), and aggregate it again under a new policy, \( P_2 \). If the aggregate wealth under \( P_2 \) exceeds the aggregate wealth under \( P_1 \), then the wealth maximizing choice is a change of policy in favor of \( P_2 \). An example, perhaps, is more illustrative.

Suppose a court’s recognition of property rights in virtual worlds would cost a developer $75 in lost profits. Second, suppose the developer’s virtual world has ten users and that a court’s recognition of property rights in virtual worlds would increase the users’ property values by $5 each. Consequently, the users experience an $50 aggregate increase in wealth. Society, however, is worse off to the tune of $25 ($50-$75) and an efficiency oriented court should not grant property rights under a wealth maximizing framework. Alternatively, suppose a court’s recognition of property rights in virtual worlds would increase the wealth of each of the ten users by $10, but still only cost developers $75 in lost profits. Here, society is now better off by $25 ($100-$75) and an efficiency conscious court should grant property rights.

To determine whether a court’s decision to grant property rights in virtual worlds is wealth maximizing, this Note must first determine the effect such recognition would have on users and developers. Again, Part III analyzed, qualitatively, the effect property rights would have on developers. Part V will analyze the qualitative effect on users. Finally, Part VI.B will apply numbers to the qualitative analyses of Parts III and V to determine whether a court’s recognition of property rights is in fact wealth maximizing.

V. How Would a Court’s Recognition of Property Rights in Virtual Worlds Affect Users?

Before addressing the issue of whether a court should deny property rights under the Pareto and wealth maximizing frameworks because of potential developer liability, this Note first must determine the effect such recognition would have on users. To determine this effect, this Part compares how well off

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179. Id. at 5.
180. See id. (providing the basis for this formula).
users are under the current system with how well off users would be under a property rights system. First, it focuses on the current model of virtual world governance and how the practical realities of virtual worlds and the limitations of contractual governance often leave users without adequate protection for the property they acquire in virtual worlds. Next, this Part explores whether a court’s recognition of property rights ultimately serves to benefit users.

A. Problems with the Current Model (or Lack Thereof) of Virtual Property

Currently, virtual world developers’ TOS govern virtual worlds and rights in virtual property. As Professor Fairfield points out, the first issue with governing virtual worlds solely by contract revolves around privity. Privity is a contractual doctrine that limits standing to enforce the terms of a contract to the parties to the contract. When users sign up to participate in virtual worlds, they must agree to developers’ TOS—an enforceable contract between the user and the developer. In large virtual worlds, this means developers are in contract with millions of individual users. Users, however, do not have contracts with one another, and therefore no privity of contract exists between them. The following diagram illustrates the arrangement:

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181. See Fairfield, supra note 6, at 435 ("The companies that create virtual worlds draft EULAs to govern the behavior of the people who use their worlds.").

182. See id. (discussing the inherent limitation of governing virtual worlds solely by contract).

183. See, e.g., OAIC Commercial Assets, L.L.C. v. Stonegate Village, L.P., 234 S.W.3d 726, 738 (Tex. App. 2007) ("In order to establish standing to maintain a breach of contract action, a plaintiff must show either third-party beneficiary status or privity.") (citations omitted); see also BLACK’S LAW DICTIONARY 1237 (8th ed. 2004) (defining privity of contract as "[t]he relationship between the parties to a contract, allowing them to sue each other but preventing a third party from doing so").

184. See Jack M. Balkin, Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds, 90 VA. L. REV. 2043, 2049 (2004) ("In most cases, in order to participate in virtual worlds, players must agree to the platform owner’s Terms of Service (‘TOS’) or End User License Agreement (‘EULA’").
Here, $D$ represents the developer and each $U$ represents a different user within the game. Each user has signed a contract with the developer and is therefore in privity of contract with the developer, but has signed no contract with the other users.

Privity is such an important issue within virtual worlds because of the function of the TOS within the world. In virtual worlds, developers use the TOS agreement to define rules governing the community. Developers intend

185. Graphic derived from Fairfield, supra note 6, at 448.


In addition to abiding at all times by the Community Standards, you agree that you shall not: (i) take any action or upload, post, e-mail or otherwise transmit Content that infringes or violates any third party rights; (ii) impersonate any person or entity without their consent, including, but not limited to, a Linden Lab employee, or falsely state or otherwise misrepresent your affiliation with a person or entity; . . . (iv) take any action or upload, post, e-mail or otherwise transmit Content as determined by Linden Lab at its sole discretion that is harmful, threatening, abusive, harassing, causes tort, defamatory, vulgar, obscene, libelous, invasive of another’s privacy, hateful, or racially, ethnically or otherwise objectionable; (v) take any actions or upload, post, e-mail or otherwise transmit Content that contains any viruses . . . (vii) upload, post, email or otherwise transmit any unsolicited or unauthorized advertising, or promotional materials, that are in the nature of "junk mail," "spam," "chain letters," "pyramid schemes," . . . (ix) attempt to gain access to any other user’s Account or password; or (x) "stalk", abuse or attempt to abuse, or otherwise harass another user.

Id.; see also World Of Warcraft—Terms of Use Agreement, http://www.worldofwarcraft.com/legal/termsofuse.html (last visited Dec. 6, 2007) (setting forth community standards) (on file with the Washington and Lee Law Review); Station.com—Sony Online Entertainment LLC Terms of Service—Station Communication Features,
these rules to create an environment where users feel safe and can enjoy their
time in the virtual world without harassment or annoyance.187 The TOS
agreements usually have provisions that are meant to protect players from
spam, hacking, offensive language, and cyber-stalking.188 When a user violates
a TOS rule governing community norms, the developer reserves the right to ban
the user from playing the game.189 In essence, the TOS operates as the law in a
virtual world.

The weakness in governing virtual worlds through TOS agreements is
found not in the TOS’s substantive provisions but instead in developers’
selective enforcement of them.190 When developers fail to enforce, privity
becomes an issue. Again, because the TOS agreements are contracts between
individual users and the developer, privity of contract limits a user’s standing to
enforce the terms of the agreements against other violating users.191 In practical
effect, a failure of privity means that a user could see another player clearly
breaking a community standard set forth in the TOS but find himself unable to
do anything more than report the violating user to the developer and hope for
enforcement.

Although the privity doctrine limits their ability to enforce the TOS, users
could try to establish standing under the contractual doctrine of intended
beneficiaries.192 The law of intended beneficiaries eases the privity requirement
by allowing a person who is not a party to the contract to enforce the terms of
the contract.193 Unfortunately, courts are unlikely to classify users as intended
beneficiaries.

community rules governing Sony’s game Everquest) (on file with the Washington and Lee Law
Review).

187. C.f. supra note 186 and accompanying text (listing several different developers’ TOS
proscribing such activity).
188. See supra note 186 and accompanying text (quoting terms from several developers
TOS so stating).
visited Dec. 6, 2007) ("Any violation by you of the terms of the foregoing sentence may result in
immediate and permanent suspension or cancellation of your Account.") (on file with the
190. See Fairfield, supra note 6, at 450 (stating that violations of TOS "in a virtual world
usually results in little action by the virtual-world provider").
191. See supra note 183 and accompanying text (outlining the limitations the privity of
contract doctrine places on contractual enforcement rights).
726, 738 (Tex. App. 2007) ("In order to establish standing to maintain a breach of contract
action, a plaintiff must show either third-party beneficiary status or privity.") (citations omitted).
193. See BLACK’S LAW DICTIONARY 165 (8th ed. 2004) (defining an intended beneficiary as
To qualify as an intended beneficiary, a third party must show two things. First, the third party must prove that it was the intention of the promisee "to give the beneficiary the benefit of the promised performance." 194 Second, the third party must prove that the parties to the contract intended to recognize a right to performance in the third party. 195 In other words, did both the developer and the user intend for other users to have a right to enforce the TOS against them?

The first beneficiary requirement is likely not an issue. Undoubtedly, developers at least partially intend TOS provisions requiring users to refrain from harassment, abusive language, and spamming to benefit users and not developers. 196 Instead, users are more likely to fail the second requirement of intended beneficiary status—granting other users a right to enforce.

If developers wanted to enable users to enforce the TOS against one another, all they would have to do is add into the agreements a simple clause granting all users in the virtual world intended beneficiary status. Many TOS, however, lack this clause197 and others expressly disclaim it. 198 Additionally, allowing users to enforce the TOS does not make economic sense for developers. Professor Fairfield correctly observes that developers usually ignore harassment in virtual worlds and, when they do respond, will at most

194. Restatement (Second) of Contracts § 302(1)(b) (1964).
195. See id. ("Unless otherwise agreed between promisor and promisee, a beneficiary of a promise is an intended beneficiary if recognition of a right to performance in the beneficiary is appropriate to effectuate the intention of the parties . . . .").
196. To be sure, a strong argument can be made that while the primary effect of these provisions is to benefit users, benefits also inhere to developers in that these provisions make virtual worlds more user-friendly and therefore encourage players to spend more time in and continue to use virtual worlds. Just because the promisee also benefits, though, does not mean that the doctrine of intended beneficiaries is not applicable. See id. ("Since the primary purpose of contracting parties is commonly to benefit themselves, ‘the promisee need not be motivated solely by its desire to bestow a benefit upon the third party.’") (quoting Beverly v. Macy, 702 F.2d 931, 941 (11th Cir. 1983)).
only impose a ban for a few days.199 This is unsurprising because developers derive most of their revenues from subscriptions.200 If developers allowed beneficiaries to enforce the TOS, then developers risk having their subscription base destroyed when users bring suit against other players for offensive conduct and seek to have those players banned.201 Given the economic realities of the virtual world subscription model and the absence/disclaimer of intended beneficiary clauses in the TOS, courts are unlikely to find intended beneficiary status for users of virtual worlds. Consequently, a user would lack standing to enforce the suit against breaching players.202

B. How Would a Court’s Recognition of Property Rights in Virtual Worlds Affect Users?

With a court’s recognition of property rights in virtual worlds, new methods for users to protect their interest in virtual property would arise, the first of which is trespass to chattels. Trespass to chattels allows owners of property to seek relief against a third party who intentionally interferes with an owner’s possession of his personal property.203 Courts find individuals liable for trespass to chattels if they either intentionally dispossess another of the

199. Fairfield, supra note 6, at 450; see also Second Life—Community: Incident Management Report, http://secondlife.com/community/blotter.php (last visited Feb. 17, 2008) (listing Linden’s responses to TOS violations within Second Life) (on file with the Washington and Lee Law Review). Linden’s longest sentence was a ban of fourteen days for an assault by scripted object. Id. Of the twenty-five dispositions listed, nine were warnings and thirteen were account suspensions of three or fewer days. Id.


201. Fairfield, supra note 6, at 450. Because the rights users seek to enforce are contractual, even if a user were able to bring suit it is unlikely he would be able to get another user banned from the virtual world. Banning is a remedy outlined in the TOS, and the third-party beneficiary would, in effect, be seeking specific enforcement of TOS banning provision. Courts are usually loathe to require specific performance, preferring substitutional relief instead. See E. ALLEN FARNSWORTH, CONTRACTS § 12.4 (4th ed. 2004) (“The common law courts did not generally grant specific relief for breach of contract. The usual form of relief at common law was substitutional.”). Even without specific performance, though, it is likely the threat of lawsuit by other users is enough to force many subscribers to quit playing.

202. See RESTATEMENT (SECOND) OF CONTRACTS § 315 (1964) (“An incidental beneficiary acquires by virtue of the promise no right against the promisor or the promisee.”). The Restatement defines an incidental beneficiary as “a beneficiary who is not an intended beneficiary.” Id. § 302.

203. RESTATEMENT (SECOND) OF TORTS § 222 (1965) (outlining remedies for trespass to chattels claims).
chattel or intermeddle with a chattel in the possession of another.204 Further, courts find trespassers liable for the tort in three relevant instances: (a) when the owner of the chattel is dispossessed of the chattel;205 (b) when the chattel is impaired as to its condition quality or value;206 or (c) when the possessor is deprived of use of the chattel for a substantial time.207 The remedies for trespass include damages, liability for conversion,208 and injunction,209 depending on the nature of the trespass.

Within virtual worlds, a user could commit trespass to chattel if she entered the property of another and interfered with his possession and enjoyment of the property. Invasions like this already frequently happen in virtual worlds and are known as "griefing."210 One example of griefing happened in 2006 when a user uploaded malicious code to the Second Life server which filled the virtual world with spinning golden rings.211 The attack overwhelmed the system and caused some virtual world services to shut down.212 Under a contractual governance regime, an affected user could only hope a developer would hunt down and ban the griefer. With a court’s recognition of property rights, however, any users who lost use of their virtual property during this outage potentially could assert a personal claim against the griefer and, therefore, could protect his property himself instead of having to rely on the developer.

To be sure, many forms of griefing exist in virtual worlds, not all of which should afford a user a cause of action under trespass to chattels. For example, when CNET interviewed one Second Life user who had amassed one million dollars in virtual world property, a griefer interrupted the interview by programming a "procession of floating phalluses that danced out of thin air and

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204. Id. § 217.
205. Id. § 218(a).
206. Id. § 218(b).
207. Id. § 218(c).
208. Id. § 56.
210. See Metaversed, supra note 56 (explaining several types of griefing) (on file with the Washington and Lee Law Review). Different types of griefing included holding avatars hostage with virtual guns and filling the environment with intangible floating graphics called "particles." Id.
212. Lemos, supra note 115.
across the stage.\footnote{213} Under a theory of trespass to chattels courts likely would not find this type of griefing actionable. Recall, for a person to bring suit for trespass to chattel, among other things, the person must show either that another impaired the quality or condition of the chattel (in other words, damaged it) or deprived the chattel’s owner of its use for a substantial time.\footnote{214} In most cases of griefing, the griefer would either not damage the chattel (because it is coded not to suffer damage) or not deprive the chattels owner of its use for a substantial period of time. If either of these were the case, then a court would not find a griefer liable for trespass to chattels.

A second way users could protect their interest in virtual property were a court to recognize virtual property rights is through the doctrine of conversion. Conversion is "an intentional exercise of dominion or control over a chattel which so seriously interferes with the right of another to control it that the actor may justly be required to pay the other the full value of the chattel."\footnote{215} Typically, a person commits conversion by taking or destroying another’s personal property.\footnote{216} A person who commits conversion is liable for damages.\footnote{217}

Within the context of virtual worlds, conversion could occur in several instances. First, a malicious user could gain access to an innocent user’s account and transfer the innocent user’s property to another account. This exact scenario occurred in 2008 when a Final Fantasy XI player lost over $3,800 in virtual property after another player gained unauthorized access to his account and stole his virtual property.\footnote{218} The player approached local police who refused to investigate because "points earned in games are devoid of monetary value. . . . [Consequently, the thief] didn’t commit a crime."\footnote{219} Had a court recognized property rights in virtual property at the time the virtual world thief stole the Final Fantasy player’s property, the player could have brought an action under conversion of chattels and recovered his $3,800. Under the contractual governance regime, however, the player must bear his losses.

\footnote{214} \textit{Restatement (Second) of Torts} § 218 (1965).
\footnote{215} \textit{Id.} § 222A.
\footnote{216} \textit{Id.} § 223.
\footnote{217} \textit{Id.} § 222 cmt. a.
\footnote{219} \textit{Id.}
In addition to suffering loss if another user were to gain access to his account, a user could also lose virtual property if a hacker were to infiltrate a virtual world server and delete or corrupt a user’s virtual property. Returning to the Washington Post excerpt from the introduction, imagine a hacker were to gain access to the Second Life servers and delete all of Veronica Brown’s dress shop and inventory. Under the current contractual regime, Veronica would have no property rights in her shop or inventory and therefore no ability to seek recovery from the hacker. Instead, Veronica would have to rely on the virtual world developer either to restore her property or compensate her for her loss. If the developer was unable to restore her property or refused, then Veronica would have to bear her losses. With property rights, though, Veronica could go after the hacker personally for conversion and protect her own interests.

A court’s recognition of property rights makes users better off by increasing enforcement rights in virtual property. Users experience an increase in welfare simply because they have an increase in utility in the property. This increase in utility is a result of an increased ability to enjoy the possession and use of virtual property through a newfound ability to protect the efficacy of that property.

Additionally, with a court’s recognition of property rights users also experience an increase in wealth. Contract law’s failure to protect many user interests in virtual property has, naturally, increased the risk of investing in virtual property—users are constantly uncertain if they will ever receive compensation for a loss. The market accounts for this increased risk in holding virtual items through a discounted price.220 A court’s recognition of property rights would remove some of this risk. The market would respond to a decrease in risk by increasing the value of virtual property.221 Accordingly, virtual property holders would experience an increase in wealth.

Recall, under both Pareto efficiency and wealth maximization standards, economists take account of the effect a change in policy has on all market participants.222 Having demonstrated that a move to property rights increases both user welfare and wealth, the next issue becomes, what effect will a court’s recognition of virtual property rights have on developer welfare and wealth? Part III demonstrated that there was some increase in the risk of liability for virtual world developers were a court to recognize property rights in virtual

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220. See Corgill, supra note 8, at 383 (stating regarding security prices that "[w]ith other factors held constant, if the price of a security increases, risk has decreased; if price decreases, risk has increased").

221. Id.

222. See Parts IV.A–B, supra (setting out both the Pareto and wealth maximization standards).
Part III, however, focused solely on how virtual property rights would negatively affect developers. This view is myopic. Instead, developers will also benefit from a court’s recognition of property rights in virtual worlds. Part VI accounts for these benefits and revisits the Pareto and wealth maximizing frameworks developed in Part IV to determine ultimately whether a developer’s potential for liability serves as a persuasive reason for efficiency oriented courts to deny property rights.

VI. Pareto and Wealth Maximization Revisited

This Part returns to the social welfare frameworks established in Part IV and determines whether developers’ potential liability serves as a persuasive justification for a court to deny virtual property rights. First, Part VI.A revisits the Pareto model. Likewise, Part VI.B returns to the wealth maximization model.

A. Pareto

Recall, under the Pareto model, a change in policy is Pareto efficient if it makes at least one party to a transaction better off while, at a minimum, not making any other party any worse off. In the virtual worlds context, a court’s recognition of property rights is Pareto efficient if it increases user welfare, while not resulting in a decrease in developer welfare. As explained previously, virtual property rights make users, on the whole, better off by improving users’ ability to protect their virtual property interests. The only issue remaining, then, is whether property rights work to the detriment of developers.

As demonstrated in Parts III.A–C, developers could suffer some liability if a court were to recognize property rights. In particular, developers risk liability for theft and destruction of virtual property because of their negligence, and for banning users and shutting down virtual worlds. To focus solely on liability, however, is myopic. While, admittedly, developers will suffer an increase in liability if courts were to recognize property rights in virtual worlds,
Developers will also benefit. The issue then becomes, what are these benefits and will they offset any potential liability?

Developers generate revenues from virtual worlds in one of two ways: subscription fees or a combination of subscription fees and the sale of virtual property. For subscription model developers, a decrease in the risk of ownership of virtual property benefits developers in two ways. First, a court’s recognition of property rights would increase the number of consumers willing to participate in virtual worlds. Throughout society, some segment of the population is risk averse. In choosing between two investments that have the same return (when accounting for risk) but different levels of risk, risk averse investors choose the sure thing. This economic reality has consequences in the commercial aspects of virtual worlds. Returning to the example from the introduction, virtual world business owners like Veronica Brown have the option to invest their money in virtual businesses or to substitute away to a less risky real-world activity—an activity for which courts provide adequate legal protection. Assuming an equivalent return on investment, the risk averse among the population will always opt away from the virtual world. A court’s recognition of property rights would decrease the risk disparity between virtual world investment and real-world investment, thereby attracting more individuals to invest in virtual worlds. An individual’s increased willingness to invest has the direct effect of increasing subscription revenues because a user cannot invest if he does not subscribe.

Second, developers could also charge a higher monthly fee for access to the account. Recall, the value of virtual property is inextricably tied to the existence of a virtual world. An increase in the value of virtual property would result in an increase in the value a user places on having access to his account and, accordingly, use of his property. Consequently, developers would experience an increase in market power that would allow them to increase subscription fees. For a virtual world like World of Warcraft, which boasts ten

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229. See Cooter & Ulen, supra note 172, at 47 (“Economists presume that most people are averse towards risk.”).

230. Id. at 46.

231. Id.

232. See Meehan, supra note 38, at 48 (“It is within the context of a game that the bits have value.”).
VIRTUALLY LIABLE

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million subscribers\textsuperscript{233} at a monthly fee of $12.99,\textsuperscript{234} a conservative, 10% increase in subscription fees because of the new market power would yield an increase in revenues of $1.3 million a month, or $15.6 million a year.

A court’s recognition of property rights in virtual items also benefits developers who earn revenues through some form of virtual property sales. For subscriber model virtual worlds, the benefit to revenues was indirect: an ability to charge higher fees and an increase in subscribers. For developers who sell property, though, the effect of property rights in virtual items is more direct.

In January 2008, Second Life sold $45,774 worth of virtual land.\textsuperscript{235} Again, assuming conservatively that a court’s recognition of property rights in virtual worlds would result in an increase in the value virtual property of 10%, Second Life would derive additional monthly revenue of $4,577. Forecasting this amount over a year (and not accounting for the increase in subscribers who would also buy new land), Second Life would increase revenues by $54,930 in addition to any increase in subscription revenues because of the increase in market power and the increase in the number of subscribers.

These effects are natural. Just like the failures of contract resulted in a decreased market value of virtual property, the failures also resulted in a decrease in value users placed on subscription and purchasing property from developers. In an efficient market, the increase in subscription and property sales revenues would work to offset any potential liability. If revenues did offset liabilities, a court’s recognition of property rights could actually make developers better off. By definition, then, a court’s grant of virtual property rights is Pareto superior—developers are at least as well off as they were before (and likely better) and users are better off.

Finally, this Note assumed the worst when it came to developer liability. The Note did not explore the developers’ potential to limit exposure through contractual limitations like indemnification, liquidated damages clauses, waivers, and arbitration agreements. If enforceable, all of these liability


limiting devices further decrease potential developer liability and weigh in favor of a grant of property rights. Second, developers faced the largest potential for liability when trying to shut off the virtual world. Developers who employed the corporate form might have the option to further limit their exposure by making each virtual world a subsidiary corporation of the developer. Finally, a court’s recognition of property rights could open the door up to widely available insurance in virtual items. Developers could benefit from an insurance regime both by selling and as a method to reduce their exposure.

B. Wealth Maximization

Under wealth maximization theory, courts move towards a public policy change if the change results in a net increase in social wealth. To be sure, under wealth maximization there are both winners and losers. Economists label the change efficient, though, as long as the winners win more than the losers lose. The question then becomes, does the increase in value that would inhere to virtual property owners if a court were to recognize property rights exceed the increase in liability developers would suffer under the same change? Take Second Life, for example. Deloitte and Touche accountants estimated the total GDP for Second Life in 2007 at $700 million. Again, assuming that a court’s recognition of property rights in virtual worlds would increase the value of virtual property by 10%, then Linden’s liability, ceteris paribus, would need to exceed $70 million a year to defeat a welfare maximizing analysis. First, any claim that developer liability would exceed $70 million a year is tenuous at best. Litigation is expensive and would likely dissuade most users from bring suit in the first place. Further, users who bring suit likely just want a return of their property. Developers who keep adequate records of user property and periodically back-up systems could avoid suit early by simply restoring lost property. Third, as explained above, developers are likely net beneficiaries of a move to property rights. Any developer benefit would increase the liability required to defeat a wealth maximizing rationale.

236. Part III.B supra.
237. Part IV.B supra.
238. Part IV.B supra.
239. DELOITE TOUCHE TOHMATSU, MEDIA PREDICTIONS TMT TRENDS 2007 17 (2007) (“If these trends were to continue, Second Life’s overall GDP could be close to $700 million in 2007.”) (on file with the Washington and Lee Law Review).
240. Part VI.A supra.
For example, if a grant of property rights in virtual worlds were to increase yearly subscription revenues by $15 million and property sales by $15 million, then liability would have to exceed $100 million to defeat wealth maximizing analysis. Accordingly, while developers could make a colorable claim that virtual property rights possibly are not Pareto efficient, making that claim with regards to wealth maximization is less believable.

VII. Conclusion

As the number of participants and amount of money invested within virtual worlds increases, defining rights in virtual property becomes more important. While the property rights battle between users and developers will likely continue into the foreseeable future, developers’ fears of liability as a justification for denying property rights in items in virtual worlds should play a decreased role in the debate. First, developers’ fears of liability stand on questionable legal grounds. Second, under both a Pareto efficiency and a wealth maximizing framework, courts are unlikely to find any potential legal liability developers risk as a persuasive justification for denying virtual world users property rights.