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The Virtual Property Problem: What property rights in virtual resources might look like, how they might work, and why they are a bad idea

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THE VIRTUAL PROPERTY PROBLEM: WHAT PROPERTY RIGHTS IN VIRTUAL RESOURCES MIGHT LOOK LIKE, HOW THEY MIGHT WORK, AND WHY THEY ARE A BAD IDEA

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Abstract

'Virtual property' is a solution looking for a problem. Arguments justifying 'virtual property' lie among three common themes — Lockean labor theory, theft protection and deterrence, and market efficiency. This paper goes beyond those who advocate for or against the creation of 'virtual property.' First, Locke's labor theory is dismissed as a justification. Then, two models of what property rights may look like when applied to virtual resources are created. These models are then applied to six different virtual world scenarios in order to see the effects of 'virtual property.' Finally, the failure of property rights to benefit the users, developers, and virtual resources of virtual worlds is explained.

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I. INTRODUCING THE VIRTUAL PROPERTY PROBLEM

Imagine owning Fenway Park. You sell tickets to Red Sox games. These tickets allocate seats in Fenway to individual spectators. Some of these tickets are sold by the entire season — guaranteeing the same seat to the buyer for each game of the season.

Season ticket holders are able to renew their purchase each year. Some have done so for years and years and years. Others have had their tickets passed down amongst family members. The tickets once owned by a grandfather are now owned by the grandson.

These season ticket holders have put tremendous time and money into being able to sit in these same seats each year for each game. Should these fans be granted a property right in their seats? What of the tickets themselves — should spectators be allowed to resell them? If so, how should the law protect the sale?

Now imagine living near a city park. You and a number of residents have taken it upon yourselves to help beautify the park. You plant grass, replenish flower gardens, and repair jungle gyms. The park is now a jewel in your city because of your effort.

The city, however, has decided to sell the land to a property developer. Despite your wishes, and the wishes of your friends who helped beautify the park, there is nothing you can do to stop the sale. Should you have a property right in the park you spent so much time restoring?

The virtual property problem works in a way similar to the scenarios above. The important question is how laws should protect the users, developers, and virtual resources of virtual worlds. One suggestion is to extend property rights to the resources in virtual worlds.

Property rights, however, will not meet the goals of those who seek to protect users, developers, and virtual resources. Such an extension of property rights will provide little protection beyond that which already exists and add increased complexity to virtual worlds. In the end, the very value we seek to protect will be destroyed.

This paper examines the virtual property problem. It relies upon United States legal theory to accomplish this examination for two reasons. First, the virtual property problem is first and foremost a theoretical problem. This is because 'virtual property' does not currently exist and therefore the arguments for and against such property lie more in theory and less in practice. As such, the insights and answers provided should be understandable to anyone coming from a common law tradition. Second, many large, commercial virtual worlds are operated by United States companies — including the current leader, Activision-Blizzard's *World of Warcraft*. These virtual worlds are governed by End User License Agreements that often contain choice of law clauses that make United States law the contract's governing law where possible.[1] For these reasons, United States law is the basis of this paper's theoretical analysis.

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[1] *See*, *e.g.*, World of Warcraft's North American-based End User License Agreement, http://www.worldofwarcraft.com/legal/eula.html (last visited Aug 1, 2009) (paragraph 15(F) makes Deleware law govern); Second Life's Terms of Service, http://secondlife.com/corporate/tos.php (last visited Aug. 1, 2009) (paragraph 7.1 makes California law govern); Everquest User Agreement and Software License, http://help.station.sony.com/cgi-bin/soe.cfg/php/enduser/std_adp.php?p_faqid=12248 (last visited Aug. 1, 2009) (paragraph 16 makes California law govern); EA Online Privacy Policy and Terms of Use (governing both Dark Age of Camelot and Ultima Online), http://legal.ea.com/legal/legal.jsp?language=en (last visited Aug. 1, 2009) (paragraph 17(d) makes England law govern if you reside in the EU; makes California law govern if you reside elsewhere); *but see* EVE Online End User License Agreement, http://www.eveonline.com/pnp/eula.asp (last visited Aug. 1, 2009) (paragraph 16 makes Republic of Ireland law govern); World of Warcraft's EU-based End User License Agreement, http://www.wow-europe.com/en/legal/eula.html (last visited Aug. 1, 2009)

Section II begins by redefining virtual property as virtual resources. Section III outlines the reasons why we might want to do this and how it may be accomplished. Positive and normative models for extending property rights to virtual resources are created. Section IV applies these two models to six different scenarios in order to understand how virtual resource property rights will affect users, developers, and virtual worlds. Section V argues why extending property rights to virtual resources does not meet the goals of those who seek such an action. Section VI concludes the paper.

II. REDEFINING VIRTUAL PROPERTY AS VIRTUAL RESOURCES

Virtual property is a problematic metaphor. It carries not only the baggage all metaphors carry — an inexact, albeit evocative definition — but also the baggage carried by the word 'property.' Property means different things to different groups of people, yet each of these groups engage in the virtual property debate.

A. The problem of metaphors

Metaphors take attributes from one thing and ascribe them to another.[2] Through this, attributes are taken out of one context and placed into another. One way to recognize this is to divide the metaphor into two parts: the target and the source.[3]

The items, objects, and characters within a virtual world are the target of the virtual property metaphor. The attributes of the metaphor's source are then ascribed to these targets. Property is that source; but property has a problematic history of inexact meaning and competing views as to its true attributes.

The problem is that good metaphors tend to hide the target's context under the metaphorical blanket of the source's context. Property's slippery definition and chameleon terms add to this problem. Thus, the virtual property metaphor confuses the debate by redirecting discussion away from the target context — the attributes and nature of virtual items — and onto the source context — the confused concept of property.

(not specifying governing law).

[2] *See* I. A. RICHARDS, THE PHILOSOPHY OF RHETORIC 116 (1936) (metaphor is when we "compound different uses of the word into one, and speak of something as though it were another").

[3] *See id.* at 96-101 (Richards uses the terms 'tenor' and 'vehicle' as 'target' and 'source').

B. The different meanings of 'property'

Much of the confusion over the meaning of 'property' arises from the differences between lay, legal, and economic uses of the word. Laymen often view property in terms of objects and things that can be owned and possessed.[4] Lawyers tend to view property in terms of rights to a thing, thus the famous 'bundle of rights' definition.[5] Economists focus on relationships between people and, in this way, use property interchangeably with entitlements.[6] Accordingly, property in an economist's view includes rights to things and land, liability to another in tort, and obligations to others through contract.[7] The attributes ascribed through the virtual property metaphor vary depending upon which of these property views you accept.

C. Exchanging the term 'Property' for the term 'Resources'

Each of these three perspectives deals with overlapping objects and goals. Central to each is the allocation of assets within virtual worlds between the developers of the world and the world's users. For this reason, these assets should be termed 'virtual resources' rather than 'virtual property.'

Resources are assets available to an individual or group.[8] These assets can be varied: money, materials, staff, promises, liabilities, and more.[9] The accounts, characters, and items within virtual worlds may also be considered an asset.[10]

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[4] Early English legal books illustrate this in how they described property as "that generall lawe or generall custome of propretye wherby goodis mouable and vnmouable be brought in to a certayne propretye/ so that euery man may knowe his owne thynge. And this law is called the law or general custom of property because it is diffused throughout the whole world." G. E. Aylmer, *The Meaning and Definition of "Property" in Seventeenth-Century England*, PAST & PRESENT, Feb. 1980, at 87, 87 (citing ST. GERMAN'S DOCTOR AND STUDENT 33 (T.F.T. Plucknett & J.L. Barton, eds., 1974)).

[5] Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) (viewing property rights as a 'bundle of rights').

[6] FRANK H. STEPHEN, THE ECONOMICS OF THE LAW 11 (1988) ("the economist's notion of property is much broader than that of the lawyer[,] . . . [i]t includes both tort and contract law, common and statutory law, civil and criminal law, vested and non-vested rights and civil rights"); *see also* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View Of The Cathedral*, 85 HARV. L. REV. 1089, 1089 (1972) (arguing for a framework of viewing these 'rights' as 'entitlements').

[7] *Id.*

[8] "[A] stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively." THE NEW OXFORD AMERICAN DICTIONARY 1450 (2001).

[9] *See id.*

[10] *See id.*

These accounts, characters, and items are the resources available in virtual worlds; they are all virtual resources. The question is how property protections may be extended to these virtual resources, and what effect this extension will have.

III. EXTENDING PROPERTY PROTECTIONS TO VIRTUAL RESOURCES

A. Why is this important?

1. The value of virtual resources

Virtual resources have real-world value. Gray markets currently buy and sell virtual world currency, accounts, and items. Edward Castronova documented his efforts to understand these gray market economies in *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*.[11]

Castronova looked at the gray market value of virtual resources from Sony's *Everquest*[12] massively multiplayer online roleplaying game (MMORPG).[13] He estimated the gross national product (GNP) of *Everquest*'s servers in 2001 to be roughly US$135 million.[14] Per capita, this translated into approximately US$2,266 earned annually.[15]

Nearly eight years have passed since Castronova examined *Everquest*'s gray market in virtual resources. *Everquest* is no longer the market leader in numbers of virtual world users — that title now belongs to Activision-Blizzard's *World of Warcraft*.[16] A non-empirical spot-check of some gray market vendors indicates their continued strength.

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[11] Edward Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (CESIfo Working Paper No. 618, Dec. 2001), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=294828 (last visited Aug. 1, 2009).

[12] EverQuest Universe, http://everquest.station.sony.com (last visited Aug. 1, 2009).

[13] Short for Massively Multiplayer Online Role-Playing Game; Massively Multiplayer Online (MMO) being a descriptive term for "game software that lets hundreds of users participate simultaneously." DOUGLAS DOWNING, PH.D., ET AL., DICTIONARY OF COMPUTER AND INTERNET TERMS 314 (10th ed. 2009).

[14] Castronova based this estimation upon the number from the market for user accounts. This is an inexact estimate, as Castronova himself recognizes, but does indicate the value placed on the characters and objects in virtual worlds. Castronova, *supra* note 11, at 32-33.

[15] *Id.*

[16] MMOGChart.com, http://www.mmogchart.com/Chart7.html (last visited Aug. 4, 2009) (providing a pie chart showing market share for Massively Multiplayer Online Games (MMOG)).

First, the price for 5000 World of Warcraft gold pieces on the Whisperwind *World of Warcraft* server is examined.[17] Since trade between the two factions in *World of Warcraft* is limited, data for the Alliance faction is used.[18] Table 1 lists this data.

Gold Selling Company	US$ Price for 5000 Gold Pieces
Guy4Game[19]	**$45.87**
Game 4 Power[20]	**$46.99**
Gold 4 Power[21]	**$69.99**
Wow Mine[22]	**$18.75**

Table 1 – The cost of 5000 *World of Warcraft* Gold Pieces on 6/27/2009

Castronova estimated the GNP of *Everquest* through an analysis rooted in the price for *Everquest* character accounts.[23] Gray markets sell *World of Warcraft* character accounts just as they sold *Everquest* characters during Castronova's study. Table 2 lists examples of real money value placed upon a level 80 paladin character in *World of Warcraft*.[24]

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[17] For a description of why there are different realms in World of Wacraft, *see* WoW -> Info -> Realm Types, http://www.worldofwarcraft.com/info/basics/realmtypes.html (last visited, Aug. 2, 2009).

[18] *See* WoW -> Info -> Basics -> Getting Started, http://www.worldofwarcraft.com/info/basics/gettingstarted.html (last visited Aug. 2, 2009) (describing the existence of the two factions and the difficulties of trading between the two).

[19] *See* Guy4Game – Honest Reliable . . . Sellers, http://www.guy4game.com/home.php?cat=961 (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[20] *See* Game 4 Power, http://www.game4power.com/World-of-Warcraft-US/Whisperwind-Alliance.html (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[21] *See* Gold 4 Power, http://www.gold4power.com/World-of-Warcraft-US/Whisperwind-Alliance.html (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[22] *See* Wowmine, http://www.wowmine.com/buy-cheap-wowgold-new.php?serverarea=5 (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[23] Castronova, *supra* note 11, at 32-33.

[24] For a definition of classes and a brief description of each, *see* WoW -> Info -> Classes, http://www.worldofwarcraft.com/info/classes/index.html (last visited Aug 1, 2009).

Account Selling Company	US$ Price for a Level 80 Paladin
Buy MMO Accounts.com[25]	**$717.00**
	$667.00
	$667.00
Guy4Game[26]	**$657.30**
	$530.80
	$527.60

Table 2 – Example prices for Level 80 Paladins on 6/27/2009.

The above examples illustrate the continued vitality of gray markets for virtual resources. Where there is value, legal protections soon follow. The important question is how this value should be protected. Extending property rights to virtual resources is one of the solutions offered by many commentators.

2. The need for practical proposals

Yet commentators so far have neglected to present a clear outline of how property rights should be extended to virtual resources. Where does a 'virtual property' begin and where does it end? How do these rights interact with the rights of other users and the developers of virtual worlds?

Two prominent articles on the virtual property debate are representative of this lack of a solution. *The Laws of Virtual Worlds* offers the suggestion that extending property rights to virtual resources is logical.[27] This logic is based upon three normative accounts of property: a utilitarian theory, a Lockean labor theory, and a personality theory.[28] Nevertheless, Lastowka and Hunter never outline how property rights should apply to virtual resources; rather, accounts, avatars, and items in virtual worlds are listed as falling under the 'virtual property' umbrella.[29]

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[25] *See* Buy MMO Accounts.com, http://www.buymmoaccounts.com/wow-accounts/paladin.php?faction=alliance&sortby=price&sort=desc (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[26] *See* Guy4Game.com, http://www.guy4game.com/world-of-warcraft-us/wow-accounts/index.php?gclid=CNrO_JCHrJsCFRmbnAod3yWNCw#Level=80&Gender=All&Class=Paladin&Race=All&Role_ori=All&Price=All&Faction=All&Order=Price&Page=1&Talent=All&OrderMethod=desc (last visited 6/27/2009) (copy of Jun. 27, 2009 data on file with author).

[27] F. Gregory Lastowka & Dan Hunter, *The Laws of Virtual Worlds*, 92 CAL. L. REV. 1, 43-50 (2004).

[28] *Id.*

[29] *Id.* at 37-43.

Virtual Property goes further in defining how property rights should extend to virtual worlds. Fairfield relies upon three characteristics of property in order to help define when virtual resources should be imbued with property rights: (1) rivalrousness, (2) persistence, and (3) interconnectivity.[30] Fairfield further attempts to encapsulate virtual resources within a nebulous idea he calls 'code.'[31] This does not appear to be code in the programming sense, but rather code-based objects such as accounts, virtual land, and items in virtual worlds.[32] This approach is ambiguous, however, and does not provide a clear outline of how property rights will apply to virtual resources.

The above two articles advance the idea that property rights should extend to virtual resources, but they go no further in laying out how this might be accomplished. Other articles arguing for the extension of property rights to virtual resources function similarly; they argue for extending the common law of property to virtual worlds and virtual resources, but they fail to provide a path for implementing their goal.[33]

A general lack of criticism for the idea of extending property rights to virtual resources also creates a need for grounded and practical attempts to outline how this might be accomplished and what its ramifications might be. Lack of criticism leaves preconceived notions unchallenged. Further, most articles criticizing virtual property rights focus on holes in the logic of those arguing for a property extension but provide limited examples themselves of what such an extension might actually mean.[34]

B. Why would we want to do this?

Three thematic reasons behind why property rights should extend to virtual resources have been advanced by legal commentators. The first is a

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[30] Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047, 1053 (2005).

[31] *Id.* at 1077-78.

[32] *Id.* at 1077-78.

[33] *See, e.g.*, Ryan Vacca, *Viewing Virtual Property Ownership Through the Lens of Innovation*, 76 TENN. L. REV. 33 (2008) (arguing for virtual property rights, but passing on defining them or providing a specific model of implementation); Theodore J. Westbrook, *Owned: Finding A Place For Virtual World Property Rights*, 2006 MICH. ST. L. REV. 779 (arguing for applying common law of property to virtual resources, but failing indicate what specific rights are created); Michael Meehan, *Virtual Property: Protecting Bits in Context*, 13 RIC. J.L. & TECH. 7 (2006), http://law.richmond.edu/jolt/v13i2/article7.pdf (arguing for a conceptualization of virtual property as 'bits in context,' but failing to articulate specific property rights to be applied to the 'bits').

[34] *See, e.g.*, Dan E. Lawrence, *It Really Is Just A Game: The Impracticability of Common Law Property Rights in Virtual Property*, 47 WASHBURN L. J. 505 (2008) (arguing against virtual property based upon flaws in the theories of virtual property advocates); John William Nelson, *Fiber Optics Foxes: Virtual Objects and Virtual Worlds Through the Lens of* Pierson v. Post *and the Law of Capture*, 14 J. TECH L. & POL'Y 5 (2009) (arguing that virtual objects lack the necessary qualities of property, and therefore property should not be used to regulate those objects).

labor theory justification for property rights based upon the idea that users should gain rights in the virtual resources they spend time, money, and effort developing. The second is a justification founded upon a desire to grant users theft protection and deterrence. The third is a justification based upon the idea that extending property rights to virtual resources will enable the creation of efficient markets for these resources, allowing for their most beneficial development.

1. A justification based upon the idea that users deserve a right in the things they labor upon

a. The labor theory justification

The idea behind the labor theory justification for extending property rights to virtual resources is simple. Users expend labor on these resources in the form of time, money, and skill. These resources gain value through the expense of this labor. For instance, characters that become more powerful because of the time their users spend on gaining levels and acquiring new weapons and armor are worth more on the gray market. Users, then, should have a right in this value they've created.

This is an idea based upon fairness. In the minds of this justification's advocates, it is only fair that the user have a means of benefiting from his labor upon a virtual resource. Property rights can provide that benefit to the user.

Labor theorists delve deeper than this, however. They point to John Locke's labor theory of property acquisition as support for their argument. Locke wrote: "[w]hatsoever [man] removes out of the state that nature hath provided and left it in, he hath mixed his labor with, and joined to it something that is his own, and thereby makes it his property."[35]

Users interact with virtual resources regularly. Relying upon Locke's above quote, this mixes the user's labor with these resources and, according to Locke, makes it something of the user's own property. This mixing might be a functional mixing through the game code — such as a user mining virtual ore and using that ore to create a weapon — or as an abstract layer on top of the game code — such as the creation of a background story or history for a user-made character, guild, or town.

Recognizing this mixing of labor with resource, *The Laws of Virtual Worlds* argues that Locke's labor theory leads to the logical extension of property rights in these virtual resources.[36] "The application of work and

[35] JOHN LOCKE, TWO TREATISES OF GOVERNMENT § 27, at 185 (The Lawbook Exchange, Ltd. 2006) (1698) (Book II, Chapter V).

[36] Lastowka, *supra* note 27, at 46-48.

the expenditure of effort, at least in the . . . [model] world that was Locke's . . . , justify the allocation of property interests."[37] Therefore, why can't work and effort justify the allocation of property rights in virtual resources to users of virtual worlds? The reason is that this ignores fundamental aspects of Locke's labor theory of acquisition as well as the current state of property law regarding labor and property acquisition.

b. Why a Lockean analysis is wrong

Locke's labor theory is concerned with the fountainhead of property — where property acquisition from nature first begins, and how concepts of human rights justify this acquisition from nature. This is why Locke focuses on labor that removes a resource "out of the state that nature hath provided."[38] Our chain of property must begin somewhere, and Locke reasons that it begins when humankind first mixes labor with an object existing in a state of nature.[39]

Virtual resources, however, do not exist in a state of nature. These resources have already been plucked from nature, labored upon by the game's developer, and offered to users for consumption. Therefore, even though Lastowka and Hunter are correct that "the assets in question emerge from the time and effort of the players,"[40] earlier time and effort on the part of the developers have already plucked those assets from the state of nature.

This can be illustrated using Lastowka and Hunter's own virtual forge analogy.[41] Applying Locke's labor theory to the real world, a blacksmith who unearths ore, transports it to his forge, smelts it and then produces a sword has removed that ore from nature and, therefore, deserves property rights in the ore and the resulting sword. Virtual worlds simulate this process by allowing users to mine ore, transport it back to a forge, and then craft a sword. Nevertheless, it was the labor of the game developer that created the graphics representing the ore, the code functions allowing the user to mine the ore, and the hardware that runs the code so that the user can access and interact with the ore.

This is comparable to a real-world situation where the blacksmith does not mine his own ore. Rather, imagine the blacksmith buying his ore from a miner. It is the miner who labored in order to remove the ore from

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[37] *Id.* at 46.

[38] LOCKE, *supra* note 35, § 27, at 185.

[39] *Id.* § 28, at 186 ("[w]e see in Commons, which remain so by Compact, that 'tis the taking of any part of what is common, and removing it out of the state Nature leaves it in, which begins the Property").

[40] Lastowka, *supra* note 27, at 46.

[41] *Id.* at 46-47.

the earth. Therefore, it is the miner who deserves a property right in the ore under Locke's labor theory.

The blacksmith, on the other hand, has no property right in the ore at this point. He gains a property right when he purchases the ore from the miner. Once purchased, the blacksmith transforms the ore into a sword. Does the blacksmith deserve property rights in the sword because of his labor upon the ore? No, the blacksmith deserves property rights in the sword because it was derived from the ore he owned by chain of title, not from the blacksmith's labor upon the ore.[42]

Under Locke's labor theory, labor only justifies the initial acquisition of property from the state of nature;[43] it does not justify a later acquisition of property rights in an object already removed from nature by another person.[44] In the latter case, the chain of title passes from the earth to the miner via Locke's labor theory, and from the miner to the blacksmith under the prevailing legal theory of property transfer.

c. Why this ignores current legal reasoning regarding labor theories and property acquisition

A labor theory justification for extending property rights to virtual resources is unpersuasive for another reason. Namely, courts in the United States have routinely rejected the labor theory of property acquisition. Attempts to assert property rights based upon the labor and effort put into a resource takes us back to that most celebrated of all property law cases: *Pierson v. Post*.[45]

Pierson overturned the trial court's ruling that Ludowick Post, the plaintiff, possessed a property right in a hunted fox.[46] The trial court's implied reasoning is that Post's right to the fox comes from his lengthy pursuit of it with a retinue of hounds and horses.[47] *Pierson* rejected this

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[42] LOCKE, *supra* note 35, § 34, at 190 "[h]e that had as good left for his Improvement, as was already taken up, needed not complain, ought not to meddle with that was already improved by another's Labour: If he did, 'tis plain he desired the benefit of another's Pains which he had no right to").

[43] *See id.* § 28, at 186 ("[w]e see in Commons, which remain so by Compact, that 'tis the taking of any part of what is common, and removing it out of the state Nature leaves it in, which begins the Property").

[44] *See id.* § 34, at 190 ("[h]e that had as good left for his Improvement, as was already taken up, needed not complain, ought not to meddle with that was already improved by another's Labour: If he did, 'tis plain he desired the benefit of another's Pains which he had no right to").

[45] Pierson v. Post, 3 Cai. R. 175 (N.Y. Sup. Ct. 1805).

[46] *Id.*

[47] *See id.*

idea, finding a property right exists only when there is actual possession or the mortal wounding of the fox.[48]

Copyright law, for a time, contained a doctrine similar to a labor theory of property acquisition. Known as the 'sweat of the brow' doctrine, early copyright looked as much at the labor put into a work as the originality it possessed.[49] Facts and other information residing in the public domain could be converted into intellectual property through an author's labor under this doctrine.[50]

The Supreme Court's decision in *Feist Publications v. Rural Telephone Service Company* put a decided end to this doctrine. Justice O'Connor, writing for the majority, stated that "'[s]weat of the brow' courts . . . eschew the most fundamental axiom of copyright law — that no one may copyright facts or ideas . . . ."[51] The Court ruled against a labor theory of intellectual property acquisition, instead relying on the fundamental copyright requirement of originality.[52]

These two cases outline the general hostility of United States law to a labor theory of property rights. Hard work and sincere effort are admirable, but these qualities alone do not create property interests in something. In each case, another step is required before property is gained. In *Pierson*, the next step was, at the least, the mortal wounding of the fox.[53] In *Feist*, the next step was an original expression of facts — and even this did not grant a property interest in the facts themselves, but only in that original expression.[54]

d. A summary of why labor theory fails as a justification for property rights in virtual resources

A labor theory justification for extending property rights to virtual resources does not work for two reasons. First, Locke's labor theory concerns the acquisition of property on an object in a state of nature. Virtual property does not exist within a state of nature, however, and therefore cannot be acquired via Locke's labor theory.

Second, United States law has routinely rejected the labor theory of property acquisition. *Pierson*[55] and *Feist*[56] both illustrate these rejections.

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[48] *Id.* at 178.
[49] Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc., 499 U.S. 340, 352-353 (1991).
[50] *See id.* at 353-354.
[51] *Id.* at 353.
[52] *See id.* at 363-364.
[53] *Pierson*, 3 Cai. R. at 178.
[54] *Feist Publ'ns, Inc.*, 499 U.S. at 363-364.
[55] *Pierson*, 3 Cai. R. at 178.
[56] *Feist Publ'ns, Inc.*, 499 U.S. at 363-364.

The fox in *Pierson* was acquired through capture, not through the effort and labor of the foxhunter in chasing it down.[57] Similarly, the application of labor in compiling facts held in the public domain did not grant creators of a phone book intellectual property rights in those facts.[58]

Therefore, adopting this labor theory approach requires fundamental changes to property theory and law. For these reasons, the labor theory justification is unsound and will be discarded.

2. A justification based upon the idea that users deserve theft protection and deterrence

Ledgerwood, in *Virtually Liable*, argues "[a] court's recognition of property rights makes users better off by increasing enforcement rights in virtual property."[59] Fairfield outlines the emergence of property in virtual items through cases involving theft in China,[60] Korea,[61] and Taiwan.[62] The implicit argument is that users need property rights in virtual resources in order to better protect against, punish, and deter theft from people who illegally gain access to virtual world accounts.

There is strength behind this argument. Law enforcement often refuses to investigate the theft of virtual items. This refusal rests on numerous grounds, but underlying them all is a lack of seriousness in law enforcement over the theft of intangible, 'imaginary' things. After all, drunk drivers, murderers, and car thieves have a more immediate and recognizable effect on communities.

Ledgerwood highlights one such incident in *Virtually Liable*.[63] A user of the virtual world *Final Fantasy XI* lost his account and its resources to a hacker[64] who either deleted or sold everything.[65] The estimated gray market

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[57] *Pierson*, 3 Cai. R. at 178.

[58] *Feist Publ'ns, Inc.*, 499 U.S. at 363-364.

[59] Garrett Ledgerwood, Note, *Virtually Liable*, 66 WASH. & LEE. L. REV. 811, 850 (2009).

[60] Fairfield, *supra* note 30, at 1084 (examining the Chinese case of Li Hongchen v. Beijing Arctic Ice Technology Development Co., a case involving a dispute arising out of a third party stealing Li Hongchen's account).

[61] *Id.* at 1088 (detailing the Korean system of dealing with the theft of virtual property).

[62] *Id.* at 1086 (highlighting the protection of electronic records in Taiwan under the law of theft).

[63] Ledgerwood, *supra* note 59, at 849 (citing John Brewer, *When A Virtual Crook Struck This Gamer, He Called Real Cops*, ST. PAUL PIONEER PRESS, Feb 1, 2008, at A1.).

[64] A hacker is "[a] person who 'breaks into' computers without authorization, either for malicious reasons or just to prove it can be done." DOUGLAS DOWNING, PH.D., *supra* note 13, at 223 (10th ed. 2009). They may also be known as 'crackers.' *Id.* at 118.

[65] John Brewer, *When A Virtual Crook Struck This Gamer, He Called Real Cops*, ST.

value of the items was $3,800.[66] The police, however, declined to investigate on the grounds that "points earned in games are devoid of monetary value."[67]

One goal of extending property rights to virtual resources, then, is to provide users the ability to punish and deter those who hack[68] accounts and steal from them. The thinking is that, backed by property rights, law enforcement and civil courts will have to take these intrusions into a user's account more seriously. Consequently, users will be provided remedies and abusers will be deterred from future illegal conduct.

3. A justification based upon the idea that virtual resources should be allowed to develop in an efficient manner

a. The Importance of Efficient Markets

Greater market efficiency leads to an increase in productivity. In turn, greater productivity leads to an increase in overall value. This greater value increases the welfare of everyone. This is the idea behind the famous phrase 'a rising tide lifts all boats.'[69] It is also an important consideration for economists.[70]

This goal is the idea of efficiency — increasing the size of the economic pie and, therefore, increasing the baseline size of everyone's slice from that pie.[71] In contrast, equity in economics is concerned with the size of everyone's pie relative to one another.[72] The argument that property rights should extend to virtual items tends to focus on efficiency interests, or the increase of the pie's size, rather than equity interests.

In economics, "efficiency dictates that resources should move into the hands of the highest valuing user."[73] The rationale behind this idea is that the highest valuing user will develop the resource in the most beneficial way.[74] In turn, this beneficial use will increase the overall productivity of

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PAUL PIONEER PRESS, Feb 1, 2008, at A1.

[66] *Id.*

[67] *Id.*

[68] Also known as 'hackers.' *See* DOWNING, *supra* note 64.

[69] *See* James R. Hines, Jr., et al, *Another Look at Whether a Rising Tide Lifts All Boats* 1-2 (NBER Working Paper No. W8412), *available at* http://www.nber.org/papers/w8412 (last visited Aug. 2, 2009).

[70] *See* A MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 7 (3d ed. 2003); THOMAS J. MICIELI, THE ECONOMICS OF PROPERTY LAW 127 (1997).

[71] POLINKSY, *supra* note 70, at 7.

[72] *Id.*

[73] MICIELI, *supra* note 70, at 127.

[74] *Id.*

the resource.[75] Therefore, in order for a resource to be used most productively, and most efficiently, it should be transferred into the hands of the person who values it the most.[76] Efficient markets facilitate this transfer.[77]

b. The Concern

Fairfield believes that new technology has opened new possibilities and created "new uses of resources."[78] Property law, he argues, is the best way for these new uses to be efficiently allocated and used.[79] Otherwise, Fairfield believes "[f]ailure to recognize virtual property raises both negotiation and search costs for third parties."[80]

These increased negotiation and search costs are increased transactional costs.[81] Transaction costs may become costly enough so that an efficient transaction does not occur.[82] The fear of law and economics devotees who advocate for property rights in virtual resources is that, without property rights, transaction costs will remain too high for beneficial transfers to occur.[83]

C. What do we mean by property protection?

Property protections mean nothing more than the enjoyment of those benefits that come with possessing property rights. Property rights, however, are slippery fish — easy to invoke but difficult to define. Without defining these rights as they may relate to virtual resources we are no better off than when this paper began.

There are three classic property use rights — acquisition, use, and disposal.[84] These rights are exercised through a fourth right — the right to exclude others from acquiring, using, or disposing of your property.[85]

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[75] *Id.*
[76] *Id.*
[77] *Id.*
[78] Fairfield, *supra* note 30, at 1065.
[79] *Id.* at 1090.
[80] *Id.*
[81] *See* Ronald Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1, 15 (1960) ("In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and one what terms, to conduct negotiations leading up to a bargain . . . , and so on."
[82] *Id.*
[83] *See* Fairfield, *supra* note 30, at 1090.
[84] Adam Mossof, *What is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 390-92 (2003).
[85] *Id.* at 393-97.

Extending property rights to virtual resources means those resources will be imbued with these four rights.

Whether one right is more important than another is not relevant — this paper cares not whether exclusion is the *sine qua non* of property.[86] Further, this paper eschews the economic view of property as an entitlement exercisable against another.[87] In other words, this paper cares not whether property is an *in personam* relationship between members of society[88] or a collection of core *in rem* rights.[89]

D. How can we attach these property protections to virtual resources?

Extending property rights to virtual resources means we are imbuing those resources with the four traditional property rights. Therefore, people will be able to acquire a virtual resource, use it, and then dispose of it. Further, that person will be able to exclude others from doing the same with that specific virtual resource.

Less clear is who should be given those rights. We can attach property rights to virtual resources in many ways, granting different people those four property rights. This paper will focus on two models: (1) a positive approach, and (2) a normative approach.

1. A positive model for extending property protection to virtual resources

The positive model grants property rights in virtual resources to the developer of a virtual world. These rights are derived from the underlying property rights of the developer in his hardware and intellectual property that make up the virtual world. The developer's property rights in virtual resources flows from those underlying rights and to the virtual resources.

While presented as a positive model, this does not necessarily reflect the current state of the law. Courts and legislatures have not carved virtual resources out of the underlying hardware and intellectual property upon which they depend. Therefore, courts do not currently view these resources as separate assets.

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[86] Thomas W. Merrill argues that exclusion is more than just one of a bundle of sticks, but is rather the *sine qua non* of property. Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998).

[87] *See supra* note 6.

[88] *See* J.E. Penner, *The "Bundle of Rights" Picture of Property*, 43 UCLA L. REV. 711, 712, 724-731 (1996) (analyzing Hohfield's view of property rights as social relations, not *in rem*).

[89] *See* Mossof, *supra* note 84, at 390-97 (arguing for an integrated approach that keeps the view of property rights being *in rem*).

The developer in this positive model possesses a property right to virtual resources. The developer may acquire, use, and dispose of the virtual resource as he sees fit. Disposal may be accomplished through transfer of the virtual resource, and its attendant property rights, to a user of the virtual world.

2. A normative model for extending property protection to virtual resources

The normative model grants property rights in virtual resources to the users of virtual worlds. These rights are derived from the two remaining justifications — the need to punish and deter theft, and the need to create efficient virtual resource markets. Therefore, in this normative model, users will possess the right to acquire, use, and dispose of virtual resources; and the user will be able to exclude others from exercising those same rights.

There are two ways in which the normative model may be applied. The first is a carte-blanche approach to property rights in virtual resources. The second is a qualified approach.

a. The carte-blanche approach

The carte-blanche approach extends unrestrained property rights to virtual resources. The user holds these rights as against the world, including the developer. Therefore, once a user acquires a virtual resources, he has the full right to use it and dispose of it as he will. Further, the user holds these rights against all others.

This may be best analogized as the wholesale application of the common law of property to these virtual resources. The user holds his rights to the exclusion of all others, including the developer, and can bring a legal action against those who interfere with these rights.

b. The qualified approach

The qualified approach leaves the user's right to his virtual resources subject to the rights of others. These others are the developer and other users. The user possesses a right to use and dispose of his virtual resource, but it is not an absolute right as in the carte-blanche approach above.

This is because the user's rights are subject to the underlying rights of the developer in his code and hardware. Further, the user's rights are limited by conditions and exceptions outlined by the underlying mechanics

of the virtual world (such as whether users can steal from each other) as well as the Terms of Use[90] and End User License Agreement.[91]

IV. WHAT HAPPENS WHEN WE APPLY THESE MODELS TO SCENARIOS INVOLVING VIRTUAL RESOURCES?

The next step is to apply these property protection models to scenarios involving virtual resources. This will be done by focusing on two different ways in which virtual resources may be transferred — theft and market transactions.

A. Theft

Theft scenarios are most relevant to the justification based upon a desire to grant users theft protection and deterrence. This section will examine three theft-based scenarios. First, theft based upon unauthorized access to a user's account. Second, theft based upon allowable in-game mechanics; essentially, the in-game pick-pocketing of a user by another user. Third, theft through the use of software bug exploits.

Conversion will be used as the legal remedy applied in each scenario. Trespass to chattel may also apply, but has "fall[en] more or less into disuse in the case of chattels" since the development of conversion through trover.[92] The Restatement (Second) of Torts defines conversion as "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."[93] This interference must be substantial in nature, and not result in mere alteration of the property.[94] Further, the plaintiff must have a property interest in the property.[95]

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[90] Sometimes called Terms of Service (ToS), this is the agreement between the user and software developer governing the user's access to the Massively Multiplayer Online service; it usually provides behavioral guidelines as well as other terms.

[91] Abbreviated as EULA, "the agreement that the user of a piece of software is required to accept when installing it" or prior to using it. DOUGLAS DOWNING, PH.D., *supra* note 13, at 176.

[92] W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS § 14 & 15 (5th ed. 1984).

[93] RESTATEMENT (SECOND) OF TORTS § 222A(1) (1965).

[94] *Id.* (citing Simmons v. Lillystone, (1853) 155 Eng. Rep. 1417 (U.K.)).

[95] 90 C.J.S. *Trover and Conversion* § 4 (2002). *See also*, In re Emery, 317 F.3d 1064, 1069 (9th Cir. 2003) (California law requires plaintiffs to own or have a right to possess the stolen property); In re PSI Industries, Inc., 306 B.R. 377, 387 (Bankr. S.D. Fla. 2003) (Florida requires plaintiffs to show a right to the stolen property).

1. Hacked Accounts

A thief steals a user's virtual property by gaining unauthorized access to the user's account. The property loss includes the user's character, all of his equipment, and his game currency. The gray market value of these lost virtual resources is roughly US$700 on the gray market. The user knows who the thief is and is therefore able to serve process and hale the thief into court.

a. The effect of the positive model

The positive model vests virtual resource property rights in the developer. Therefore, the ability of the user to bring a conversion lawsuit against the thief depends upon whether the developer transferred any property rights to the user. Most virtual worlds employ End User License Agreements that leave all property rights in the hands of the developer, granting the user only a revocable license to access the property.[96]

The user has no legal recourse in this situation. Conversion requires a plaintiff to possess a property interest in the object interfered with[97] — here, only the developer has that property interest. Accordingly, only the developer can bring a conversion suit against the thief.

Further, the thief has not met the elements of conversion as against the developer. The developer still retains control over the lost items if they remain in the virtual world. After all, the developer is the world's 'superuser'[98] — able to create and delete new objects at will.

b. The effect of the normative model

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[96] *See*, *e.g.*, World of Warcraft's North American-based End User License Agreement, http://www.worldofwarcraft.com/legal/eula.html (last visited Aug 1, 2009) (paragraph 4 reserves in Blizzard all rights to objects and characters in *World of Warcraft*); Everquest User Agreement and Software License, http://help.station.sony.com/cgi-bin/soe.cfg/php/enduser/std_adp.php?p_faqid=12248 (last visited Aug. 1, 2009) (paragraph 8 reserves in Sony all rights to objects and characters in *Everquest*); EVE Online End User License Agreement, http://www.eveonline.com/pnp/eula.asp (last visited Aug. 1, 2009) (paragraph 11 reserves in CCP all rights in objects and characters in *EVE Online*).

[97] *See* 90 C.J.S. *Trover and Conversion* § 4 (2002).

[98] Computer systems have regular and non-regular accounts; those non-regular accounts with greater access and powers than regular accounts are called 'superusers' For example, "[o]n a UNIX system, the superuser is a privileged account with unrestricted access to all files and commands." ÆLEEN FRISCH, ESSENTIAL SYSTEM ADMINISTRATION 5 (2d. Ed. 1995). Virtual world superusers may be able to add or delete accounts, items, monsters, and characters.

The normative model vests virtual resource property rights in the user. Therefore, the user may bring a conversion claim against the thief. The thief intentionally interfered with the user's virtual resources. Further, this interference is material and substantial since the resources have been transferred out of the user's control or deleted. The loss is a complete loss, not a minor interference. Accordingly, the thief is liable for conversion and will have to pay the user the US$700 value of the stolen resources.

This result is the same under both the carte-blanche and qualified approaches to the normative model. The carte-blanche approach grants the user property rights as against all other people, including the developer. The thief has clearly interfered with those rights in this scenario.

The qualified approach grants the user property rights subject to qualifications and limitations. The first major qualification is that the user's property rights are subject to the developer. The second qualification is that the user's property rights are subject to the virtual world's internal game mechanics. Neither the developer nor internal game mechanics allowed the thief to steal the user's virtual resources in this scenario, however.

Rather, the thief accessed the user's account without authorization. Therefore none of the qualifications to the user's property rights under the qualified approach are implicated. Instead, there is a clear interference with the user's property rights in the virtual resources.

2. In-game Theft

A thief steals a user's virtual property through game mechanics. *Ultima Online* allowed user characters to kill each other, loot each other's corpses, and pick each other's pockets.[99] Origins, the game's developer at the time, purposefully included these game mechanics.[100] Killing or stealing from other user characters was not against the rule, nor was it against the purpose and design of the developers.[101]

A thief in *Ultima Online* picks the pocket of another user, stealing a valuable sword and shield. The sword and shield are worth roughly US$150 on the gray market. As above, the user knows the thief and is therefore able to serve process and hale the thief into court.

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[99] *See*, Cindy Yans, *Ultima Online: Playing in the Garden of Eden*, COMPUTER GAMES STRATEGY PLUS, July, 1997, at 44, 47 ("[i]f you are alone, it is probable that bands of thieves or animals will loot your corpse . . ."); Cover Story, *Ultima Online*, GAMEPRO, October, 1996, at 100, 101 ("'If people want to be the 'bad guy,' more power to them. We're not going to *not* make them do that.'").

[100] *Id.*

[101] *Id.*

a. The effect of the positive model

As above, the developer possesses the stolen virtual resource's property rights unless they have been transferred to the user. The user will likely not have a property right in the sword and shield, but merely a revocable license, since most developers retain all property rights in virtual resources through their End User License Agreement.[102] Therefore, without property rights in the virtual resources, the user will have no conversion claim.[103]

b. The effect of the normative model

Recall that the carte-blanche approach to the normative model grants the user property rights exclusive to all others. Therefore, the carte-blanche approach allows the user to sue the thief in a real-world court for an in-world action allowable through the world's game mechanics.

The thief has interfered with the personal property of the user by pick-pocketing the sword and shield. This interference is material as the user completely lost both items to the thief. Accordingly, the thief is liable for conversion and must pay the user US$150 for the value of the items.

The carte-blanche approach works fine in the first scenario, but in this scenario it appears to go too far. The thief was acting within the allowable guidelines of the virtual world's game mechanics. Nevertheless, the thief is liable for conversion since the virtual resources he pick-pocketed are imbued with property rights. This result seems extreme, and only diehard virtual property advocates are likely to argue for it.

The qualified approach can overcome this flaw by making the user's property rights in his virtual resources subject to the internal game mechanics of the virtual world. The user assumes the risk of property loss by agreeing to enter and interact within the virtual world. This agreement may be formalized through the End User License Agreement.

The user will not have a conversion claim against the thief under the qualified approach. The thief intended to steal the user's sword and shield, but the user's property rights in the sword and shield are subject to the thief's ability, through game mechanics, to steal them. In this sense, the user's property rights in virtual resources are subject to the conditions of the virtual world.

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[102] *See supra* note 96.
[103] *See* 90 C.J.S. *Trover and Conversion* § 4 (2002).

3. Software bug exploits

A thief steals a user's virtual property through the use of a software bug. Software bugs are unintended game features.[104] For example, users in *Second Life* found a bug that allowed the unauthorized duplication of products.

Second Life grants its users the right to copyright their creations.[105] *Second Life* enforces these copyrights through code-based restrictions on item duplication. The bug, however, allowed users to circumvent *Second Life*'s code-based restrictions and duplicate copyright creations without authorization.[106]

Imagine a feature that allows users to open a trade window in order to transfer items between each other. Once the items to be traded are placed in the window, the users must accept the trade by clicking a button. Nevertheless, something in the code allows thieves to take a user's items without a reciprocating transfer occurring — all the thief needs to do is log off before the trade is completed.[107]

A thief uses this feature to take 5000 gold pieces from another user. The gray market value of 5000 gold pieces is roughly US$50. As above, the user knows the thief and is therefore able to serve process and hale the thief into court.

a. The effect of the positive model

As above, the user will not have a conversion claim if we assume the industry standard End User License Agreement that explicitly states the developer retains all property rights in virtual resources. Conversion requires the plaintiff to possess a property interest in the lost object,[108] and the user does not possess such an interest under the positive model unless

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[104] *See* DOUGLAS DOWNING, PH.D., *supra* note 13, at 68 ("an error in a computer program").

[105] Second Life's Terms of Service, http://secondlife.com/corporate/tos.php (last visited Aug. 1, 2009) (paragraph 3.2 grants users copyrights in their created content, subject to some mandatory licensing limitations).

[106] Benjamin Duranske, *Six Major Second Life Content Creators Sue Alleged Copyright Infringer in NY Federal District Court*, VIRTUALLY BLIND, http://virtuallyblind.com/2007/10/27/content-creators-sue-rase-kenzo/ (last visited Aug 2, 2009).

[107] This is based upon an actual World of Wacraft bug, although it only allowed someone to duplicate items – not steal them. *See* Funky Zealot, *World of Warcraft Impacted by Duping Bug*, GAMEPRO, http://www.gamepro.com/article/news/46851/world-of-warcraft-impacted-by-duping-bug/ (last visited Aug. 2, 2009).

[108] *See* 90 C.J.S. *Trover and Conversion* § 4 (2002).

the developer grants it to him. Therefore, the user cannot meet a required element of the tort of conversion.

b. The effect of the normative model

The thief's actions here are a hybrid of the first two scenarios. The thief acted within the internal game mechanics of the virtual world, but outside of the authorization of the developer and user. The software bug's feature allowing for the theft is an unintended result of developer error, not an intended and allowed method of playing the game as in the virtual pick-pocketing scenario.

The carte-blanche approach allows the user to bring a conversion claim against the thief. The thief intentionally interfered with the user's property rights in the 5000 gold pieces. This interference resulted in the complete loss of the virtual resource. Therefore, the thief is liable for the US$50 value of the 5000 gold pieces.

The carte-blanche approach creates additional liabilities, however. The user's loss was the result of the developer's error. Issues of negligence may find the developer liable for the user's loss alongside the thief. After all, premises liability extends negligence claims to property owners who fail to properly fix sidewalks[109] or provide enough nighttime lighting to deter muggers.[110]

Nevertheless, the developer may be able to absolve himself of liability through End User License Agreements. The agreement may serve as an express assumption of risk. This works in a way similar to the release you sign when you go whitewater rafting.[111]

This solution chips away at the extensive property rights granted to the user under the carte-blanche approach. In fact, this approach creates an exception to the user's property rights in his virtual resources in ways similar to the qualified approach.

Liability under the qualified approach is less clear. The unauthorized actions of the thief make it tempting to declare him liable for his intentional act. Still, this differs from the first scenario. The thief did not access the account of the user; rather, the thief exploited an unintentional feature — the software bug — in the mechanics of the virtual world.

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[109] *See* Breskin v. 535 Fifth Ave., 113 A.2d 316, 318 (Pa. 1955) (4 to 5-inch break in the sidewalk sufficient for liability to be determined by a jury).

[110] *See* Willie v. American Casualty Co., 547 So. 2d 1075, 1084 (La. Ct. App. 1989) (inadequate lighting cited as a factor as to the liability of premises owner).

[111] *See* Murphy v. North American River Runners, Inc., 412 S.E.2d 504 (W.Va. 1991) (outlining the limits and effects of an express assumption of risk through a waiver for whitewater rafting).

Where the line for the basis of liability is drawn makes the difference. The qualified approach draws this line at authorization, not intent. Therefore, the thief is liable since he did not have authorization from either the user or the developer to use the software bug to take the user's virtual resources.

Further, questions of developer liability for negligence are also resolved under the qualified approach. The user can't sue the developer for negligence since the user's property rights in his virtual resources are subject to the developer in the qualified approach. Explicit waivers are not needed in this approach to accomplish this.

4. Summary of the positive and normative models' effects on theft scenarios

Each scenario provides a different outcome under the normative model depending upon which approach is taken. In contrast, the positive model results in the same outcome — no possibility of a conversion claim unless the developer has transferred his property rights in the virtual resource to the user. Even if such a transfer did occur, however, there would still need to be a determination of whether a carte-blanche or qualified approach should be used.

The carte-blanche approach is the most simple, but it arrives at questionable outcomes in the second and third scenario. The qualified approach appears to balance the competing property interests of the developer, the user, and third parties, but this balance comes with increased complexity as its cost.

Nevertheless, qualified approaches to property are nothing new. Blackstone's image of a property owner having rights as against the entire world has never been entirely accurate.[112] Tort laws limit how we use our property, as do nuisance laws. Our property has always been subject to those around us.

The qualified approach goes further than this traditional property subjugation, however. My property right is not only subject to others around me, it is also inferior to that of the developer. The developer has priority over my property rights, effectively slicing my rights horizontally.

This horizontal slicing can be pictured through analogy. Imagine a row of buildings on a city street. My right in my building is separated vertically from my neighbor's through the vertical wall. Nevertheless, I have a landlord. My landlord has a right between me and the ground. This

[112] Even Blackstone knew this, stating in a less quoted phrase that property rights were not subject to "any control or diminution, *save only by the laws of the land*." 1 BLACKSTONE, COMMENTARIES * 138 (emphasis added).

is a horizontal slicing of the building's rights. My landlord's property rights separate me from the underlying right in the land and the building.

This is, of course, simplified. Courts and legislatures have acted in ways to protect the right of the lessee and limit the actions the underlying rights holder — the landlord — can take with his property.[113] Still, the analogy can help illustrate how virtual property will work under the qualified approach.

B. Virtual markets

Examining markets buying and selling virtual resources is most relevant to the efficient market justification for extending property rights to virtual resources. The idea behind this justification is that property rights will help reduce search and negotiation costs for the buyers and sellers in these markets. Reducing search and negotiation costs reduces transaction costs.

This section will examine three market transaction scenarios. First, transactions involving internal virtual resource transfers between two users. Second, transactions involving partially external virtual resource transfer – those transfers currently typified by gray markets. Third, transactions involving internal resource transfers between the developer and a user. Before these scenarios can be explored, however, the effect of code on transfer costs must be understood.

1. The effect of code on transaction costs

Code affects the transaction costs of virtual resources. Code allows users of *World of Warcraft* and *EVE Online* to post auctions for their virtual resources that other users can browse and bid on. This reduces the search costs of buyers seeking out specific items by creating a single location where they can be bought and sold.

Code affects transaction costs in virtual worlds on a more fundamental level. It dictates whether or not virtual resources may be traded amongst users of a virtual world. Further, the scope of a seller's right to an object, as well as the identification of what that object is able to do, is clearly outlined by the code. Either the seller can transfer the item to the buyer, or he can't. Either the item will heal a specific disease, or it won't.

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[113] For example, the federal Fair Housing Act makes it unlawful for a landlord to discriminate against tenants based on "race, color, religion, sex, familial status, or national origin." 42 U.S.C. § 3604.

Code affects transaction costs because all transactions involving virtual resources are regulated by code at some point. Purely internal transactions clearly rely upon the code regulating trade among users. Partially external transactions rely in part upon external regulation, but they all inevitably return to the virtual world and its code-based regulation to complete the transaction.

2. The transaction cost of an internal asset transfer

A buyer agrees to pay the seller 1000 gold pieces for a special sword. The gold pieces are exchanged for the sword through game mechanics. The question is whether extending property rights to the sword will have an effect on the transaction costs of this internal asset transfer.

The search costs of the buyer are dictated by the virtual world's code describing the sword and allowing its transfer. Extending property rights to the sword in either the positive or normative models will not change the internal code-based regulation of the transfer.

Search costs under the positive model will remain equal to the search costs imposed by the code-based regulation. This is because the code-based regulation functions as an implicit license from the developer on how the sword can be used. This implicit license through code-based regulation will not be altered under the positive model since it is imposed by the owner of the property rights. Therefore, the buyer's search costs will contain only those associated with the code-based regulation.

Code-based regulation of the sword's transfer may be altered under the normative model since the user, not the developer, will possess the sword's property rights. This is most likely in the carte-blanche approach. The buyer's search costs are increased in this circumstance, since the differences in the seller's scope of rights from the code-based regulation and rights from property law will need to be determined separately and potentially reconciled.

The buyer, for instance, may not be allowed to transfer the sword to another player after buying it from the seller. It may become bound to his character. Property law, however, limits the impact of terms in a transfer that restrict the alienability of property.[114] Therefore, the code-based regulation restricting future transfer may conflict with legal regulation encouraging property alienation.

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[114] *See* 6 AMERICAN LAW OF PROPERTY § 26.1 (1952) ("[s]ince an early date in the history of English common law it has been thought socially and economically desirable that the owner . . . of [an] . . . absolute interest in chattels . . . should have the power to transfer his interest").

The qualified approach will not run into this problem since the seller's and buyer's property rights in the sword are subject to the virtual world's game mechanics, or code-based regulation. Therefore, if code-based regulation restricts future transfers of the sword, the user's alienation rights (his disposal rights) are subject to that code-based restriction.

3. The transaction costs of a partially external virtual resource transfer

A buyer agrees to pay the seller US$100 for 5000 gold pieces from a virtual world. The real-money transaction occurs outside of the virtual world on the seller's trading website. The virtual world currency transaction occurs internally to the virtual world and is subject to any of the world's code-based regulations.

Like the internal transaction above, the buyer's search costs for this partially external transaction are dictated by the internal code-based regulations of the gold pieces and their transfer. The attributes of the gold pieces are dictated not through the law, nor through the efforts of the seller, but by the virtual world's code. Similarly, the ability to transfer those gold pieces depends upon how the code allows gold pieces to be transferred.

The positive model does not change the buyer's search costs in this scenario. The seller does not possess property rights in the gold pieces unless the developer has transferred his rights to the seller. Further, as above, the developer is unlikely to change code or legal rights so that they are not in line with each other.

The normative model presents the same issues as in the first scenario. The carte-blanche approach provides the seller with property rights in the gold, which can then be transferred to the buyer, but these rights may be different from those granted by the virtual world's code-based regulation. For example, users of the virtual world may not be allowed to transfer money to each other. This contradicts the seller's disposal rights in his virtual resources granted through the carte-blanche approach.

The qualified approach solves this problem. The seller's rights in the gold pieces could not exceed those granted by the virtual world's code in this approach. Nevertheless, this does nothing more than bring the transaction costs back to what they are in the positive model or under current law where there is no property protection.

4. Transaction costs in a real-world money transfer of virtual assets between the developer and a user

Second Life, *Entropia Universe*, and some other virtual worlds allow users to spend real-world money in order to purchase equipment and virtual

lands.[115] Imagine a user purchasing a new vehicle from the developer for US$500. Depending on how the developer designs his game, this transaction may occur internally within the game. Regardless, the transaction remains within the same internal network of systems owned and controlled by the developer.

The user possesses property rights in this new vehicle under both the positive and normative models. The question is how this effects the transaction costs for the transfer. The two approaches to property rights in virtual resources apply to both models here — the carte-blanche approach and the qualified approach.

The carte-blanche approach grants the user absolute rights over his new vehicle. Anything less changes the transaction from a transfer to a license to use the vehicle. The qualified approach subjects the vehicle to the underlying rights of the developer and the code-based regulations of the virtual world.

Search costs in this transaction are dictated once again by the code-based regulations of the virtual world. The carte-blanche approach ends with the same problem of having to reconcile the legal attributes of the vehicle, such as the unqualified right to use and dispose of it, with the code-based regulations of the vehicle. Code may limit how the vehicle is transferred or where and how it can be used. The user will need to expend more effort in his search to determine what these differences are and how they can be reconciled than he would under either the qualified approach or the current system where there are no property rights in virtual resources.

The qualified approach ends up working more like an implied license of the vehicle. The vehicle is subject to the developer's underlying rights in hardware and software, as well as any code-based regulations within the game. The user can't fully control how his vehicle is used, as the code may change where and when it can be accessed.

The search costs of the qualified approach, then, remain the same as if property rights were never extended to virtual resources to begin with. The rights are nothing more than a mirror of the virtual world's code-based regulations — or, in another sense, a mirror of the virtual world's laws.[116]

5. Summary of the effects on market transactions

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[115] *See* Second Life | Purchasing Land, http://secondlife.com/land/purchasing.php (last visited Aug. 3, 2009); Planet Calypso – Entropia Universe, http://www.planetcalypso.com/planet-calypso/entropia-universe (last visited Aug. 3, 2009).

[116] *See* LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 6 (1999) (discussing the concept of code as law; Lessig delves deeper into this concept throughout the entire book).

Each of the scenarios above end with no reduction in transaction costs when property rights are extended to virtual resources. Worse, the carte-blanche approach results in an increase in transaction costs. Ultimately, external legal regulations will conflict with internal code-based regulation, leaving the developer and legal authorities with the need to find a way to reconcile the two.

Similar to the increased regulation of home rental markets, virtual worlds may find legislatures and courts reaching into them in order to reconcile legal rights with code-based rights. This will necessarily limit what developers are allowed to do with their property, the virtual worlds themselves, and how those worlds may be developed. If this occurs, the real world will be invading the fantasy world, destroying the game conceit created by its developers.[117]

V. EXTENDING PROPERTY RIGHTS TO VIRTUAL RESOURCES DOES NOT MEET THE GOALS OF THOSE WHO JUSTIFY SUCH AN ACTION

A. Property rights in virtual resources provide limited theft protection and deterrence

Carte-blanche property rights in virtual resources go too far. Such rights allow users to sue other users who steal their virtual resources through in-game mechanics such as pick-pocketing. The virtual world allows those actions, but the carte-blanche approach disallows them. This puts legal rights in tension with the code-based rights of a user in a virtual world. Additionally, developers may be liable for virtual resource losses resulting from software bugs or other malfunctions in the virtual world.

On the other side of the coin, the positive model provides no theft protection or deterrence to users. The user cannot gain such protection in the positive model unless the developer transfers his rights to the user. This leaves us with the qualified approach to the normative model.

The qualified approach rests in the middle of the two extremes. Users gain some measure of protection from theft, but the negative effects of the carte-blanche approach are limited by this approach's qualifications. Nevertheless, this approach only protects against the unauthorized access of a user's virtual resources.

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[117] *See* Richard Bartle, *Virtual Worldliness: What the imaginary asks of the real*, 49 N.Y. LAW SCHOOL L. REV. 19, 33-43 (2004) (providing an in-depth analysis of how real-world legal institutions reaching into virtual worlds will destroy the world's conceit, or fantasy).

B. Virtual resource property rights will make virtual resource markets no more efficient, and possibly less efficient

Extending property rights to virtual resources does not make more efficient markets for those resources. The qualified approach to virtual resource property rights provides no reductions in the search costs of a buyer since the legal rights and attributes of those resources mirror those granted by the virtual world's code-based regulations. Worse, a carte-blanche approach will increase search costs by requiring a buyer to determine where the code-based rights and attributes of a resource deviate from its legal rights and attributes.

Therefore, the efficient market justifications for virtual resource property rights can not be satisfied under either the carte-blanche or qualified approach to virtual resource property rights. The only way this justification may be satisfied is if legislatures and courts reach into the virtual worlds and mandate what specific rights and attributes virtual resources can take.

C. Legal regulation of the internal workings of virtual worlds devalue those worlds

Virtual worlds gain value in the way they allow users to leave the real world behind for a world of fantasy.[118] Each virtual world has its own value because it is able to present itself differently. *World of Warcraft* is a sword and sorcery adventure game. *Second Life* is a community oriented, relationship-based world. *EVE Online* is a space-based adventure simulation.

The encroachment of legal regulations into these worlds chips away at this fantasy.[119] This is because each world will then have to abide by whatever regulation is imposed. Imagine a regulation that required all virtual assets to be alienable. Perhaps *Second Life* and *EVE Online* already allow this. *World of Warcraft*, however, has special weapons that bind to the player who first picks them up. This unique aspect of the game will be removed, leaving *World of Warcraft* the same in this respect as *Second Life* and *EVE Online*.

The level of encroachment required in order to bring greater efficiency to virtual resource markets will do more than chip away at the fantasy; such regulation will destroy the fantasy outright. Imagine again a

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[118] *See id.* at 22, 22 n.8 (describing a virtual world's power to do things, to bring freedom, and to make "imagination non-imaginary").

[119] *See id.* 33-43 (providing an in-depth analysis of how real-world legal institutions reaching into virtual worlds will destroy the world's conceit, or fantasy).

virtual world that uses a communal property approach. Regulations requiring developers to recognize property rights in the virtual assets of a virtual world's user may render such an experiment moot. Perhaps the virtual world's code will still allow a communal sharing, but users may now go to real-world courts to enforce their acquisition, usage, and disposal rights to the trees they plant and the houses they build – ending the world's communal approach.

This real-world intrusion into virtual worlds is necessary to implement property rights sufficient to increase market efficiency. Nevertheless, it breaks the fantasy of a virtual-world 'other,' wiping away the escapism and bringing us back to the real.[120] This destruction of the fantasy aspect of virtual worlds devalues the overall experience as well as all resources associated with it.

VI. CONCLUSION

Extending property law to cover virtual resources does not meet the goals of those who seek to protect the users, developers, and virtual resources of virtual worlds. The limited protections provided in scenarios involving theft may also be provided through remedies not dependent upon property law. For example, privacy laws protecting against intrusion into seclusion are designed to address the mental harm of such an intrusion.[121] Similarly, the intrusion of a hacker into one's accounts has a mental impact upon that person. In addition, the Computer Fraud and Abuse Act may be exercised in both criminal and civil actions against such a hacker.[122]

Moreover, virtual resources are not protected by an extension of property law. Virtual resource property rights will not create more efficient markets. Rather, these markets may become less efficient unless courts and legislatures invade the virtual world and impose constraints on how virtual resources can be designed and transferred. The value of virtual resources will be destroyed rather than protected by such an action.

Finally, developers of virtual worlds also suffer if virtual resources are provided property protections. Virtual worlds are molded from the creativity and imagination of the developer through years of sweat, toil and ingenuity. A developer's rights in his hardware and intellectual property are horizontally sliced if a new property form is carved out of them.

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[120] *See id.*

[121] Prosser believed the tort of intrusion into seclusion protected a primarily mental interest. William L. Prosser, *Privacy*, 48 CAL. L. REV. 383, 392 (1960).

[122] *See* Lawrence, *supra* note 34, at 532-40. (applying the Computer Fraud and Abuse Act to virtual worlds).

Anyway it is sliced, the developer is left with fewer rights over his creations.

Therefore, property rights should not be extended to virtual resources.