

Journal of
• Virtual Worlds Research

jvwresearch.org ISSN: 1941-8477

Virtual Economies, Virtual Goods
and Service Delivery in Virtual Worlds

Volume 2, Number 4



Volume 2, Number 4

Virtual Economies, Virtual Goods and Service Delivery in Virtual Worlds

February 2010

Editor-in-Chief

Jeremiah Spence

Guest Editors

Mandy Salomon
Serge Soudoplatoff

Reviewers

Robert Bloomfield
Ian Burnett
Ted Castronova
Michelle Jean-Baptiste
Aaron Lowen
Christof Safferling
Yesha Sivan
Robin Teigland
Melissa De Zwart

Technical Staff

Andrea Munoz

The Journal of Virtual Worlds Research
is owned and published by the
Virtual Worlds Institute, Inc.
Austin, Texas, USA.



The JVWR is an academic journal. As such, it is dedicated to the open exchange of information. For this reason, JVWR is freely available to individuals and institutions. Copies of this journal or articles in this journal may be distributed for research or educational purposes only free of charge and without permission. However, the JVWR does not grant permission for use of any content in advertisements or advertising supplements or in any manner that would imply an endorsement of any product or service. All uses beyond research or educational purposes require the written permission of the JVWR.

Authors who publish in the Journal of Virtual Worlds Research will release their articles under the Creative Commons Attribution No Derivative Works 3.0 United States (cc-by-nd) license.

The Journal of Virtual Worlds Research is funded by its sponsors and contributions from readers. If this material is useful to you, please consider making a contribution. To make a contribution online, visit: <http://jvwresearch.org/donate.html>

Journal of Virtual Worlds Research

jvwresearch.org ISSN: 1941-8477

Volume 2, Number 4 Virtual Economies, Virtual Goods and Service Delivery in Virtual Worlds February 2010

Why Virtual-World Economies Matter

Mandy Salomon, Smart Services CRC, Australia
Serge Soudoplatoff, ESCP-EAP / Hetic, France

In this special edition on virtual-world goods and trade, we are pleased to present articles from a global cohort of contributors covering a wide range of issues. Some of our writers, such as Edward Castronova, Julian Dibbell or KZero's Nic Mitham will be well known to you as distinguished leaders in the field, but it is equally our pleasure to introduce exciting new voices. Here you will find pieces written by academics, practitioners, journalists, a documentary filmmaker and perhaps the youngest contributor to JVWR yet, Eli Kosminksy, who attends high school in upstate New York. We would also point out that this issue extends its format to include Anthony Gilmore's pictorial story, Julian Dibbell's audio interview, and Lori Landay's machinima. In real life, most contributors live in the US, the UK and Europe, and we, the editors, are based in Australia and France. We express warm thanks to the team at Texas University, especially to Jeremiah Spence, our editor-in-chief for his guidance throughout this process.

We begin with our own thought piece, which is designed to contextualise the deeper contents herein by way of plotting the virtual goods path and placing some historical sign posts along the way.

Mandy and Serge

Keywords: virtual worlds; economy; virtual goods.

This work is copyrighted under the Creative Commons Attribution-No Derivative Works 3.0 United States License by the Journal of Virtual Worlds Research.

Why Virtual-World Economies Matter

Mandy Salomon, Smart Services CRC, Australia
Serge Soudoplatoff, ESCP-EAP / Hetic, France

Virtual economy: new rules, old rules

The word “Economy” has complex roots. It comes from the Greek “oikonomos”, made of oikos—the home—and nomos—the rules, the usage, the law. Nomos originally means “administration”, and Oikos itself had deeper origins, initially denoting “a clan”. From an etymological point of view, when we talk about economy, we are talking about community management.

Economics is then the study of community management—and although it as ancient as the word itself, economics is arguably as elusive as it has ever been. In spite of a plethora of experts, books and even Nobel Prizes awarded to Economists, the complexity of the discipline means that no treasury department, financial analyst, self-made billionaire or academic theorist ever quite has its measure. Let the current Global Financial Crisis be a testament to this. Yet each of us runs our lives believing that we have some control over it—at least at the micro level. Economies have scales of their own, so-to-speak, and from the householder opening a wallet at the checkout, to the secretary of the International Monetary Fund loaning money, through to start-ups chasing Venture Capital, we all wrestle with the same issue: dealing with a virtual entity (money) to transform it into realities which, hopefully, makes us live better, or at least helps us face the continuous disruptions of our environment.

It is therefore surprising that so little research has been done on virtual economies, in particular on the comparison between virtual and real economies and the points at which they connect. Virtual goods and trades are not on mainstream economists’ radars. Virtual worlds are considered to be something of a novelty—this in spite of some 650 million-plus registrations for massively-multiplayer and virtual reality environments, and perhaps four or more billion dollars USD in virtual goods traded across worlds and social networks (KZERO 2009).

Perhaps the explosion of the Internet bubble in 2000 distracted economists from the Internet field. Certainly, they have been slow to return, preferring to analyze the global financial crisis and associated Ponzi schemes than to track the fast-moving virtual economy that propagates on the Internet, and the increasing importance of virtual goods in people’s lives—an importance that, in turn, has an impact on traditional economies.

Businesses and governments are also slow to acknowledge the shifting sands. Notwithstanding the work of academic thinkers including Michel Bauwens, Yochai Benkler, Lawrence Lessig and Pierre Levy, many businesses fail to recognize that the Internet is creating new modes of production. It is transforming the economy in terms of human activities, processes, jobs, expertise and business models. Furthermore, Internet markets have lead to real disruption, in the micro-economic sense (new rules, or rather the return of old rules: peer-to-peer negotiations, village market place, barter); in the usage sense (the explosion of digital goods);

and in the macro-economic sense (privately owned parallel currency, such as those in virtual worlds such as Entropia Universe's PEDS, Linden Dollars, and the Chinese QQ Coins). Virtual worlds are not the only places where virtual currencies are used: airlines' mileage plans for example, are another form of virtual currency. The more we go digital, the more gifting and trading—about as elemental as we social beings get—will be expressed in the virtual realm.

So what are the main characteristics of a virtual economy? How does it differ from a traditional one? Is it a recent phenomenon? What is its relationship with its traditional counterpart? Many interesting issues are emerging—and they are far from being fully understood.

Let us start with a little story, which originates in the medieval age, and which, surprisingly, is told in many countries including Turkey, China, Afghanistan, Korea, Scotland and Brittany:

A tramp passes by a restaurant, but does not enter, as he has too little money. The cook is furious to see a tramp in front of his place, rushes him, starts fighting with him, and eventually asks him for some money. The case is brought to a judge, who listens to each side. The tramp insists, "I have eaten nothing, therefore I should not pay", to which the cook retorts, "He has not eaten, but he has smelled the flavor. This smell is the result of my expertise, and I should also be rewarded for this!"

By analyzing this interaction, we can see that the tramp's perspective belongs to the *tangible* economy, where people pay for a product, food in this case. The cook's perspective, on the other hand, belongs to the *intangible* economy, where people pay for the result of an expertise, cooking in this case, in which the experience goes beyond the consumption of the actual product.

How is the tension between the cook and tramp resolved?

The judge asks the tramp for a coin, taps it on the table, tells the cook "you have heard the noise, so now you are paid", and gives the coin back to the tramp.

The anecdote is more than just a cute story. Firstly it demonstrates that there is nothing new about the intangible economy, and secondly, that the tangible and the intangible can co-exist. The clever judge solves the conflict by putting value in an intangible object: the sound of a coin; this is a preliminary form of a MP3 digital good.

However, although the story demonstrates that both tangible and intangible goods share the attribute of *perceived* value, a fundamentally different rule applies to each: sharing tangible goods means dividing it; while sharing an intangible good means multiplying it.

When four people eat a pizza, each one has a portion of it.

When four people share a MP3 file, each one has an entire version of it.

The rules that govern tangible products are rules based on scarcity, while the rules for intangible products are governed by abundance.

But scarcity and abundance are not the same as supply and demand – and this is why virtual goods and trade is at the core of virtual community platform creators’ business models; they realize that they can create markets and leverage brands inside their worlds, and further, that in managing the economics favorably to themselves, virtual goods will become central to their revenue stream.

Virtual goods are abundant in so much as the ontological behavior of digital content means it can be copied and forwarded without destroying the original. This is far more difficult for a hard product - it can be done, but certainly not with the same ease or speed; a rice seed can, fortunately for mankind, multiply to much more rice, but at a slower pace than MP3 files can be transmitted over the Internet.

Virtual goods however can be scarce, whether the scarcity is artificially imposed or not. Electricity is an example: though almost totally intangibleⁱ, it is considered as a scarce resource, and is priced accordingly. The continuous effort of the audio industry to create DRM, then to threaten to put people in jail is a dogged adherence to the economy of scarcity, the only one in which they can maintain their large portion of the pie. The converse is also true : some physical goods are positioned in a economy of abundance, by the simple fact that they can be exchanged or resold, thus generating extra revenue for each good - Trading Card Games (TGC) for example. Even though scarcity is introduced by the distributors, (the so-called ‘rare’ cards), the secondary market follows the rules of abundance. A cursory look at eBay shows over 462,000 listings in the ‘trading cards’ category. In this case, transferability compensates for the absence of replication.

Is it, as Julian Dibbell points out, an issue with copy-ability, or is it a matter of rivalrousnessⁱⁱ? Somehow, rivalrousness is attached to the idea of scarcity. If you have a unique object, which no other can have, then the value of it is higher. Brands know this, especially luxury ones, and it is a position they must absolutely maintain if they are to survive. They must ward off any penetration into the market of abundance for, in any rights-managed-world, they have words for it piracy and counterfeiting.

“I just don’t understand it. Has anyone here purchased a virtual gift? If so, why? ”

Blog comment, TechCrunch 2008 ⁱⁱⁱ

A question often raised is why people pay for digital goods, which are, in the eyes of many, totally worthless. In an industrial economy, the price determination rule is “price is cost plus margin”. In a post-industrial economy, the rule is different, price being attached to the value of the usage in a given context. Shakespeare beautifully describes it when King Richard III says: “A horse! A horse! My kingdom for a horse!” The cost of fabricating a kingdom is not comparable to the cost of fabricating a horse, but given the context, the king would trade one for another.

In our time, people buy digital goods for the same reasons they buy products in real world^{iv}; and the low production cost of a digital good makes obvious that the price paid is based on its perceived or contextual value.

Craig Sherman, the CEO of the virtual hangout Gaia Online, tells the story of a teen subscriber who visited the Gaia stand at a trade fair and found a replica cap of one that he had seen in the virtual setting but that he had not been allowed to buy. The virtual cap cost \$2.50; the physical version cost \$19.95. The boy was thrilled that his mother permitted him to purchase the replica cap, and he commented, "It's so cool I can finally buy this. I couldn't get the real one but at least I can get the copy" ^v.



The momentum for online virtual goods is linked historically to the advent of multi-user dungeons (MUDS) of the late 1970's and the 1980's. Gamers acquired treasures that were at that time, entered as text chat. But despite the lack of 'embodiment', the intention was the same ^{vi}. In 1999, Korea's *Cyworld* introduced 'acorns', the icons that customers buy with real world money to furnish their virtual rooms. Habbo coins are now so mainstream that they are available at retail outlets such as *7Eleven* and *Target*, where they can be bought as pre-paid cards, on Visa, Mastercard and via the mobile phone. *Facebook* enables users to gift tokens to one another, and the practice is now integral to its business model, with Silicon Valley pundits putting the revenue figure as high as 60M USD ^{vii}. According to '*Inside Facebook*', a blog for developers, FB is exploring the exchange of dollars for credits, payment to developers in virtual credits, user-to-user transactions as a reward for a good post or set of photographs, and virtual branding on gifts ^{viii}.

Arguably, virtual goods transactions via social networks rather than virtual worlds, is presenting greatest disruption to existing monetization systems is taking place (although a growing convergence between the two somewhat neutralises the distinction). Facebook alone has a subscriber base of 370 million ^{ix}. In population terms this is the size of the USA and France combined. Add to this the hundreds of millions of registered users from the combined SocNets of *Bebo*, *Mixi*, *Cyworld*, *Black Planet*, *Habbo*, *Classmates*, *Hi5* et al, and it is a recipe for a tidal shift in spending habits and mechanisms. The prospect for a shared online currency that enables users to transact across platforms should be cause for regulators of traditional monetary systems to wake up in a sweat, if they have not already.

Parallel currencies used to buy digital goods in virtual worlds have the potential to destabilize national monetary markets. Indeed, China experienced this first hand with QQ coins. Issued by the Internet Company *Tencent* in 2002, the tokens seeped out into the wider market of

commodities. Originally used as play-money for virtual flowers, chat room buddies, or cell-phone ringtones, QQ's began being traded in games, and were then traded out of the game environment altogether. QQ's were used to purchase real products and for illicit gambling and laundering ventures^x. So widespread was the exchange that alarm bells rang at China's Central Bank and, in June 2007, the Department of Commerce barred the practice, worried that the exponential growth of such activities could significantly impact on the value of the renminbi. The only permissible trade, it decreed, would be for "virtual goods and services provided by its issuer, not real goods and services"^{xi}.

In China's case, users' were frustrated by the nations' banking infrastructure, in particular, the lack of credit card facilities^{xii}. QQ coins filled a gap. The errant behavior of the Chinese shopkeepers and currency traders who traded the QQ's at a favorable rate highlighted the smoke and mirrors of currency itself: that official or not, coinage is always virtual, symbolic of the value placed on goods and services. Where the change in status occurs is in the systems that create and support it.

Wherever there is trade, there is taxation and the virtual world is not exempt. In recognition of the profits to be made in the virtual environment, many countries now consider a taxation event occurs when virtual currency is converted to real money, known as real money trade (RMT). In China's case, the authority's 2008 decision to tax profits of virtual goods from between 3 and 20%, will do little to discourage its millions of online gamers from curtailing their 'under the table' trading habits, particularly when the Wall Street Journal reports that filing full documentation attracts the higher tax rate, and incomplete documentation, the lower^{xiii}.

In the US, taxation of digital goods (in the sense of a file which is downloaded on your computer) varies from one state to the other^{xiv}. However, it is unclear whether a digital object bought in a virtual world answers this traditional definition, and the IRS issued in December 2009 a specific statement about this situation^{xv}, aligning revenues from a virtual world to "bartering, gambling, business and hobby income".

In a broader sense, financial institutions will need to come to terms with the serious virtual economic game that is being played, and which can be measured not just in terms of transactions, but also for the clues it may give to new transaction behaviors. Already suites of financial services have been configured for digital trade, metaphors which mirror the financial constructs of the atomic world. They include in-world credit cards (*MetaCard*), virtual money exchanges, banks, currency speculators, in-world ATM's and in *Entropia Universe*'s case, an arrangement where real world ATMs from which its currency, 'Peds' can be cashed out. More recently, the first cross-platform virtual currency exchange (*Currency Connect*) opened, linking *IMVU* to *My Yearbook*. Any takers on how long it might be before Paypal constructs a currency for its millions of users?

It is a lost opportunity if users who lead the shift are penalized for their ingenuity, financial institutions overlook what insights might be gleaned, and fail to innovate their processes accordingly.

Virtual worlds and virtual economies: worthy of serious study

Whilst virtual economy statistics are somewhat rubbery, (some figures refer to money brought *into* worlds by gamers and online communities whilst other figures refer to virtual currency traded *out* of online worlds, that is, real money trade), it is safe to identify the number of people participating in virtual worlds in the hundreds of millions, and the money spent on virtual assets numbering multi-billion US dollars per year^{xvi}.

With such vast numbers of users gravitating to online virtual environments for social and recreational interaction, their value as test beds for economic theory and consumer behavior should not be overlooked.

Firstly, the demographics are significant, as more than 300 million teenagers^{xvii} are performing economic tasks in virtual worlds such as *Neopets*, *Habbo*, *Barbie Girl*, etc. Not only are virtual worlds places where teenagers learn financial management, economic rules, and consumer practices, but when they become adults, their approach to real world economic practice is going to be influenced by their usage of virtual worlds, and they may be eager to import their practices into real life.

Secondly, virtual worlds lend themselves to simulation, training, modeling and knowledge acquisition, with substantial projects currently being undertaken in various fields such as medicine, the military, team building, education. They are effective data-gathering environments, as actions and responses are readily measured by inworld tracking and analytics (metrics). As social spaces, places of transaction and data nets, virtual worlds are tools for new economic theories and rules.

A third factor has to do with re-distribution of government and business expenditure. Remote service delivery via virtual worlds may mean considerable savings; IBM reports a saving of USD250,000 dollars in one single internal event by using the virtual world instead of a physical meeting^{xviii}. Feedback from IBM's experience showed that not only was the quality of the interaction preserved, but more people than otherwise were able to attend.

Whilst the disruptive impact of virtual worlds on the real economy is yet to be felt, global conditions in the past year - including the challenge of the economic crisis, concern over carbon footprint and health issues such as Swine Flu – suggest a framework for virtual worlds' future. In 2009, they found a niche in the conference and tradeshow sector. *Unisfair*, a virtual world platform for corporate 'engagement', reportedly attracted 25 new conference clients in Q1, 2009, largely from the high-tech, pharmaceuticals/biotech and business services sectors with a combined attendance 100,000^{xix}. As the technology underpinning virtual worlds matures, business may well opt for digital get-togethers in place of real-world trains, planes, hotels and function centers. If this happens, the airline, hotel and tourism industries will also be affected.

IP, Copyright and the End User License agreement (EULA)

As far as copyright is concerned, authorities are playing catch-up in their response to user-driven virtual trading practices. They follow the well-trodden path of regulators determined to apply old policy to a new environment, the battle to contain music downloads via peer-to-peer file sharing being the shining example.

Traditionally, games were built on a business model of monthly fees: subscribers paying to be part of the game, and the game company owning all objects created. User-to-user transactions were limited, and fast tracking the game play by purchasing the necessary assets, 'gold farming', was prohibited. In this hierarchical system, money flowed vertically, from users to the game owner.

When a significant numbers of gamers chose not to respect the copyright, and instead hacked the system, or bought and sold digital assets on the black market, publishers moved to ban offenders, freeze accounts and in some cases, prosecute^{xx}. Such unregulated practices were somewhat curtailed in 2007 when games publishers successfully lobbied eBay to ban the exchange of proprietary virtual goods on its auction site. (The exception was content from Second Life®, built on the premise that its subscribers own their content and IP). Has it stopped trade in secondary or black market? No. IGE, the company which presents itself as the legitimate face of virtual trading posts believe that the secondary market may even overcome the primary market within the next few years and suggests expenditure may reach the \$7 billion in the years to come^{xxi}.

Thus, there is a growing realization amongst publishers that the old model is no longer sustainable. Perhaps taking their cues from Linden Lab, which largely gives Second Life users the ability to resell their creation, either as unique piece or a replicable item, games publishers are shifting to an alternate business model, where access is free, and selling virtual goods is the revenue. Electronic Arts, Atari and Xbox have begun the shift and according to the 'Inside Social Games' blog, Activision-Blizzard, the *World of Warcraft* publishers, is considering similar strategic moves^{xxii}.

Watch This Space

The metaverse is expanding. Analyst kZero asserts that that virtual worlds numbers are set to double every year^{xxiii}. This means increased diversity, fresh ideas; the innovation net is enlarged.

Contrast for example, the different approaches to banking in *Second Life* and *Entropia Universe*. At the same time Linden Lab closed down its privately run in-world banks (citing to a lack of operator transparency), Entropia Universe's creators, MindArk, made a call for tender, allowing several virtual banks to enter the Game. The big difference is that Entropia Universe manages real dollars, while Linden Lab offers its own currency, the Linden Dollar, which is , according to their Terms of Service, not really money:

"1.4 Second Life® "currency" is a limited license right available for purchase or free distribution at Linden Lab's discretion, and is not redeemable for monetary value from Linden Lab."^{xxiv}

This wording, and explicitly the non-redeemable characteristic of the Linden dollar, makes it closer to a prepaid card than real money.

With its different orientation, MindArk's The Mind Bank, which serves as a central bank for all of the different virtual worlds within the Entropia Universe, has been granted official status by the Swedish Financial Supervisory Authority (Finansinspektionen) It will operate alongside Europe's major financial institutions, and will need to meet the strict regulatory demands of the EU Banking system^{xxv}.

MindArk's decision to work with real currency created the conditions for a merged economy and *Entropia Universe* will become an important indicator as to how real and virtual world economies connect. It is one to watch – but equally, there is much more from many others, still to come.

About this issue

The time to better understand the way people and organizations are redesigning the how, what and why of goods and services in virtual worlds has arrived. This edition of the Journal of Virtual Worlds Research gives air to those who recognize the paradigm shift is upon us and are equipped to analyze it.

We encourage the reader to watch **Lory Landay's** machinima "**Rethinking Virtual Commodification, or The Virtual Kitchen**", which addresses in an artistic manner the often asked question of "why do people buy useless things?"

Edward Castronova advances the conundrum of real versus non-real money in his provocation, '*On money and magic*'. He asks the question: are the place markers of dollars and renminbi any more tangible than virtual world currency and further, are the dreams which the 'real' world of money and finance spin so very different to the dreams of attainment in the virtual world?

This edition features **an audio interview Julian Dibbell**, amongst the first to bring the notion of making money in virtual worlds to the attention of the public sphere, recorded shortly after his panel session at the inter-disciplinary 2009 *State of Play Conference*, held in June at NYU. Here, Dibbell shares his observations on the evolution of virtual world economies in the six years since the first State of Play Conference. He makes an important distinction between virtual world objects and other digitally distributed goods: while both share the attribute of abundance, one gains its value from being widely circulated (for example music) whilst the other's value lies in its limited supply (for example, a WOW sword).

Virtual goods, like their real world counterparts, are being acquired through the efforts of hired help, from a country where labor costs are low and there is no shortage of workers. To be more explicit, China's gold farmers service the needs of the West's time-poor gamers by providing them with powerful objects that help the players to advance their status or place in the game. It's a case of good old fashioned outsourcing. **Anthony Gilmore's photo-journalistic study of gold farming** takes us to the coal face of this virtual trade industry: a Chinese village, a hut, routers and a lot of cables. This exclusive excerpt from Gilmore's screen documentary *Play Money*, (the title acknowledges Julian Dibbell's 2006 book of the same name^{xxvi}) will surprise readers who come to the story with preconceived notions of sweat shops and exploited workers.

Nic Mitham, CEO of analytics company kZero, has written up his latest thoughts on growing business opportunities in virtual worlds, particularly around branded virtual items. His particular focus is B2B (*Virtual Goods : Good for Business*).

Continuing the line of business analysis, **Maura Welch**, the Director of Virtual Goods and Content from *Wee Worlds* has contributed "*Teens & Virtual Goods - The fun, useful and affordable luxuries that are driving the virtual economy*". She provides some bullish statistics that suggest that platforms that embrace the economy of virtual goods are well placed to make profits.

The hacker ethos is examined by **Stefano de Paoli and Aphra Kerr**, in their paper "*We Will Always Be One Step Ahead of Them*" - A Case Study on the Economy of Cheating in MMORPGs". Like their computer programmers counterparts, games cheats are on the innovation edge with their use of 'bots'.

Another challenge to MMOs, at least from game designers point of view, is Gold Farming. **Richard Heeks** in his paper "*Understanding Gold Farming and Real-Money Trading as the Intersection of Real and Virtual Economies*", demonstrates that the difference between the real and virtual economy is not that great, and that the model for gold farming closely reflects production trends in developing economies.

Entrepreneurship is addressed in two papers, **Stéphane Kieger's**, "*An Exploration of Entrepreneurship in Massively Multiplayer Online Role-Playing Games: Second Life® and Entropia Universe®*" and **Robin Teigland's** "*Born Virtuals and Avapreneurship: A case study of achieving successful outcomes in Peace Train – a Second Life organization*". Kieger looks at the initiative skills of MMO's strong players. Both authors show the statistical correlation between entrepreneurs in real life (called 'avapreneurs' by Robin Teigland) and entrepreneurs in the virtual world. This reinforces the idea that virtual world is a type of "terra incognita".

Following in this vein, contributing anthropologist from the University of Helsinki, **Minna Ruckenstein**, explains that the parallels between online and offline economies are due to shared cultural factors which drive economies in general. Further, in her 'think piece', "*Currencies and Capitalism on the Internet*", Ruckenstein advances the case for virtual worlds as 'an important laboratory for future trends of capitalist production', identifying the user-as-co-creator as the protagonist.

In his paper "*World of Warcraft: The Viability of Massively Multiplayer Online Role-Playing Games as Platforms for Modeling and Evaluating Perfect Competition*", **Eli Kosminsky** uses a mathematical methodology to correlate economic behavior of free markets and server usages in WOW. Therefore, he argues, virtual world platforms should be considered as reliable simulation tools.

Why restrict the supply of a branded virtual cap for an avatar when multiple copies can be reproduced at no extra cost? Again, real world values apply. The value of brand, the status of the item and consumers' relationship to brands in virtual worlds is discussed in **Sueng Jin's** paper, "*Virtual Commerce (V-Commerce) in Second Life: The Roles of Physical Presence and Brand-Self Connection*".

Games companies and virtual worlds service providers put their faith in the End User License Agreements (EULA) to maintain what Ted Castronova calls 'the magic circle', the protective shield which separates them from the outside world^{xxvii}, (with diminishing degrees of success if the strength of the black market economy is any indicator). However as online worlds and their use cases mature, a new complexity has arisen: content makers now face the prospect of their content migrating from one world to the next. Open standards across worlds are expanding, and the numerous worlds based on Open Sim are leading the charge. How is copyright in this situation to be protected and controlled? **Shenlei Winkler**, herself a skilled content creator, is at the leading edge of this discussion and in her paper "*Licensing considerations for Open-Sim based worlds*" she argues the case for a standardized agreement on

the licensing and transfer of content. Winkler's arrangement with Intel in its *ScienceSim* is used as a test case. She also argues for recognition of content creators as a professional entity.

Winkler's paper should stimulate thinking about another problem, highlighted by the December 2009 shutdown of the virtual world *Metaplace*^{xxviii}: what protection is there for content makers and residents who see their labor and investments disappear when a world collapses?

Bibliography

KZERO. (2009). *2010 Virtual Worlds and Beyond: Key Market Trends and Developments*. Retrieved December 31, 2009 from the KZERO website at <http://www.kzero.co.uk>

ⁱ Electricity is intangible, but needs a physical, tangible support to be delivered.

ⁱⁱ http://en.wikipedia.org/wiki/Rivalry_%28economics%29 Retrieved December 31st 2009

ⁱⁱⁱ Schonfeld, E, "hi5 hopes to make real coin with virtual gifts" TechCrunch, December 10th, 2008. Retrieved Dec 12, 2009

^{iv} Jeremy Liu, 2009, "Why do people buy digital goods", Wall Street Journal, <http://online.wsj.com/article/SB123395867963658435.html> Retrieved January 2nd 2010

^v Sherman, Craig (2007) 'Why Virtual Goods Matter: What's Driving Adoption' Virtual Goods Summit, Stanford University (Panel Discussion). <http://www.vgsummit.com/program.php> Retrieved 22 June 2007

^{vi} Wisner B, *A Brief History of Muds*, June 30th 1990. Google Groups http://groups.google.com/group/alt.mud/browse_thread/thread/9b68f2e6d058f4ba/a0c1c5d5c4a66eba?#a0c1c5d5c4a66eba Retrieved January 12, 2010

^{vii} Liew J 2008 *Facebook's digital goods revenue \$50-60m* <http://lsvp.wordpress.com/2008/11/12/facebooks-digital-goods-revenue-50-60m-sources-say/> Retrieved Jan 6th 2010

^{viii} Smith, Justin 'A Running Summary of Facebook's Virtual Currency' tests' <http://www.insidefacebook.com/2009/08/26/a-running-summary-of-facebooks-virtual-currency-tests/> Retrieved 14th December, 2009

^{ix} Zuckerberg M, 2009 *An Open Letter from Facebook Founder Mark Zuckerberg*. <http://blog.facebook.com/blog.php?post=190423927130> Retrieved December 30th 2009

^x Ministry of Commerce the People's Republic of China 2009 'China bars use of virtual money for trading in real goods' (press release) June 29. <http://english.mofcom.gov.cn/aarticle/newsrelease/commonnews/200906/20090606364208.html> Retrieved December 14th 2009

^{xi} Barboza D, 2009 'China Limits Use On Gamers' Online Currency' New York Times http://www.nytimes.com/2009/07/01/technology/internet/01yuan.html?_r=2&ref=technology Retrieved 14th Dec, 2009

^{xii} Fowler G, Qin, J, 2007 Wall Street Journal http://online.wsj.com/public/article_print/SB117519670114653518-FR_svDHxRtxkvNmGwwpouq_hl2g_20080329.html Retrieved December 4th 2009

^{xiii} Ye J, 2008 'Real Taxes for Real money made by online game players' Wall Street Journal <http://blogs.wsj.com/chinarealtime/2008/10/31/real-taxes-for-real-money-made-by-online-game-players/> Retrieved 14th December, 2009

^{xiv} http://en.wikipedia.org/wiki/Taxation_of_Digital_Goods Retrieved January 3rd, 2010

-
- ^{xv} <http://www.irs.gov/businesses/small/article/0,,id=215593,00.html> Retrieved January 5th, 2010
- ^{xvi} <http://www.kzero.co.uk/>; <http://www.insidevirtualgoods.com/>;
<http://www.ibisworld.com.au/industry/default.aspx?indid=1906>; <http://en-us.nielsen.com/tab/industries/media>;
<http://www.gartner.com/>
- ^{xvii} <http://kzero.co.uk/universe.php> Retrieved January 20th 2010
- ^{xviii} <http://work.secondlife.com/en-US/successstories/case/ibm/> Retrieved December 24th 2009
- ^{xix} Virtual World News, 2009 ‘*Q1 brings Unisfair 25 new customers, 100,000K visitors, new CEO*’
<http://www.virtualworldsnews.com/2009/05/q1-brings-unisfair-25-new-customers-100k-visitors-new-ceo.html>
Retrieved Jan 6th, 2009
- ^{xx} Terdiman D, 2009 “*Microsoft bans 1 million X-box Live players*”
<http://www.cnn.com/2009/TECH/11/12/cnet.xbox.live.ban/index.html> Retrieved January 14th 2009
Choo E, Kaixin L “*Sale of illegal virtual currencies cause game accounts to be frozen*”
<http://www.channelnewsasia.com/stories/singaporelocalnews/view/1013838/1.html> Retrieved January 14th 2009
- ^{xxi} IGE 2009 <http://www.ige.com/about.html> Retrieved 12 January, 2010
- ^{xxii} Mack C, 2009 ‘Mainstream Games buying more virtual goods’
<http://www.insidesocialgames.com/2009/09/21/mainstream-games-companies-buying-more-virtual-goods/>
- ^{xxiii} Kzero 2009 ‘*Virtual Worlds:2010 and beyond. Key trends and market developments*’ <http://www.kzero.co.uk/>
Retrieved December 13th 2009
- ^{xxiv} <http://secondlife.com/corporate/tos.php> Retrieved January 2nd 2010
- ^{xxv} Takahashi D, 2009, ‘*MindArk’s Entropia Universe now has a legally sanctioned virtual central bank*’ Games Beat <http://games.venturebeat.com/2009/03/18/mindarks-entropia-universe-now-has-a-legally-sanctioned-central-bank/> Retrieved January 2nd 2010
- ^{xxvi} Dibbell J, 2006. *Play Money: Or, How I Quit My Day Job and Made Millions Trading Virtual Loot*. New York: Basic Books.
- ^{xxvii} Castronova E, 2005 *Synthetic Worlds: The Business and Culture of Online Games* Chicago, The University of Chicago Press, 147.
- ^{xxviii} Koster R, 2009 ‘*Metaplace.com is closing*’
<http://www.raphkoster.com/2009/12/21/metaplace-com-closing/> Retrieved 21st December, 2009