

Virtual World Governance: Digital Item Trade and its Consequences in Korea

Ian MacInnes, YJ Park, Sang-Min Whang

Abstract

This paper explains how transactions in virtual worlds (VWs) are influencing law and Internet governance in Korea. It builds on a new stream of research from MacInnes (2004) and Whang (2004) about transactions arising from virtual world items. Korea leads the world in both broadband access and online game usage. Findings from the case study reveal that property rights over digital items are not yet determined. Game developers for the most part want to control their own content but players want to have the freedom to conduct transactions and be able to enter and exit games freely at any level they choose. They also want to obtain items more rapidly and on some occasions earn money. There is currently a small group of players acting as arbitrageurs in virtual world economies. This enables less involved players to develop an understanding of exchange rates and prices in virtual economies. Some players engage in transactions involving thousands of dollars.

Developers differ in their views about whether or not to allow transaction of digital items. The larger and more established companies are against item trade while smaller developers consider this activity to be crucial for their business models. Users appear to agree to most terms of end user license agreements (EULAs) but, for the most part, are in favor of digital item transactions. Hundreds of item trade companies have been established to serve as intermediaries including ItemBay, the largest.

Even though the number of transactions is still small they have led to a significant increase in teen crime. The Korean government is currently simply applying general criminal laws that may not be adequate for the digital realm specifically when many of these transactions may soon be international.

This research shows that most players do not engage in item trade but nonetheless approve of the idea. Very few want to make profits or a living through item trade but they serve a large market that simply wants to buy items conveniently and sell what they no longer need. In other words this is a normal marketplace. It has many users and very few arbitrageurs. As in any marketplace rules will need to be established and enforced to ensure appropriate behaviour.

Introduction

This paper provides a case study of item trade in Korean virtual worlds. Item trade has only recently gained attention in academic circles, mainly in the discipline of law. There are, however, many fascinating questions from this new phenomenon and many of the potential answers might be found in Korea, the country with the highest level of adoption of broadband and where virtual worlds have become a mainstream phenomenon. Virtual worlds may seem trivial to some but as technology and creativity are applied they will no doubt join the mainstream in most other developed countries.

Virtual communities are having an increasing impact in both the real world economy and society. Companies such as McDonald's have already started to put advertisements in the Sims Online virtual world (CNET April, 23, 2003). Previous research has shown that some players spend more time in a virtual environment than in their real communities. There they make friends, talk to family members, engage in economic and political activities, and strive to achieve higher social status. In a virtual world one way of attaining a higher social status is by acquiring items that give an avatar greater capabilities. This is what has led to the trade of digital items in virtual worlds.

A digital item is a digital image that belongs in a virtual world. While players in traditional PC games or video games are competing against computers, players in virtual worlds compete against other players. In a virtual world economy there are scarce and oversupplied items just as in any other economy. To reach a higher level in an online game, players need to acquire more highly valued items than their opponents. This has prompted individuals who were supposed to trade items only within the virtual world's economic system to extend their item trade activities to exchanges in the real world.

Digital item transactions on the Internet have increased dramatically in the past two years in Korea but similar increases have been noted in the U.S and other highly networked countries (Whang, 2004). Earlier in 2004 Julian Dibbell, a US game journalist, showed that economic activities in a MMRPOG can be recognized as serious work (Dibbell, 2003). He showed through an experiment that he could earn \$47,000 U.S. annually solely through trading digital items in Ultima Online. This income is higher than the average earnings for secondary school teachers (\$46,000), museum curators (\$40,000) and firefighters (\$38,000).

The emergence of profitable economic activities in these virtual worlds has attracted attention of scholars and policy makers. They have engaged in public debates regarding Internet governance. This is not the first time that unexpected activities emerge in unusual settings. When eBay first emerged it was thought to be simply a place to sell people's used items. Today there are small companies that take advantage of the eBay platform to run businesses. Similarly many small vendors are now able to use the Amazon platform to sell their products. Regulation of economic activities in virtual worlds is likely to evolve in a similar way and government will once more faced complex governance issues. Previous experiences such as the administration of domain names remain under debate and even a decade after the emergence of the World Wide Web, a governance paradigm has not yet been established.

The purpose of this study is to determine how Korea has coped with the increased economic activity that takes place in virtual worlds and the challenging issues regarding property rights over digital items as well as the disputes and fraud that have emerged with the trade of these items. Governance issues in virtual worlds can be divided into regulation of the virtual world itself and regulation of digital item transactions. This paper focuses on the regulation of digital item transactions, particularly those in real currency, rather than the regulation of virtual world itself.

Theoretical background

Transactions involving digital items in virtual communities are a recent phenomenon. There are thus many unresolved issues. It is not clear, for example, who

owns the digital items that are created within games. Many developers are still uncertain about how to treat item transactions. There is uncertainty about whether they should be the clearinghouse or allow users to take advantage of other platforms for transactions and payment such as eBay and PayPal. Liability issues remain a primary concern.

Scholarly work regarding the development of property rights, and rules for transactions is a major theme in the literature on New Institutional Economics. Much has been written about communities that are able to develop their own rules for the preservation and exploitation of potentially depleting natural resources. This is the background research of greatest relevance for this study.

Activities that take place on the Internet are not clearly within the jurisdiction of a single country. Content, conversations, political actions, and economic transactions have participants from many parts of the world. According to Lessig (1999): “[t]he space promised a kind of society that real space could never allow—freedom without anarchy, control without government, consensus without power” (p. 4). The Internet is nonetheless not one single entity: “no single architecture defines the nature of the Net. The possible architectures of something that we would call “the Net” are many, and the character of life within those different architectures is diverse” (p. 25).

Research about virtual communities has begun to provide some understanding about the type of activities that take place in these forums. For example Hagel & Armstrong (1996) identified four categories of online communities: communities of transactions, communities of interest, communities of fantasy, and communities of relationship. Virtual worlds are clearly a community of fantasy but have also evolved to include the other three aspects of community. Item trade, for example enables a community of transaction. Klang and Olsson (1999) classify communities in for-profit and not-for-profit for both individuals and organizations. This transition from non-commercial to commercial communities has resulted in exciting new developments.

It is likely that virtual world participants who engage in economic and social activities will develop their own governing mechanisms. Because of the many levels of governance and opportunities for communities to form within the international network that composes the Internet, it is possible that rules will emerge within these smaller groups of individuals that share similar interests and over time they may even know each other on a more personal level.

In this paper we focus on governance issues related to economic transactions of digital items in virtual worlds. Virtual worlds are unique settings because they have potentially both a centralized and a decentralized governing structure. The developer of the virtual world can exert full control over the activities of the users but it can also share with them some governance responsibilities.

Doubt about virtual world transactions can be reduced if it is possible to determine who owns digital items developed by the users, whether the developer should allow individuals to use its platform or other third parties’ to conduct electronic transactions, the mechanisms to be used in the payment of these items, and the methods to solve disputes and the parties in charge of determining sanctions.

Property Rights

Protection of intellectual property rights has been subject to numerous debates. These have increased because the technical and distributional capabilities Internet have made it easier for individuals to violate these rights. The focus of the debate has been on the protection of a well-defined ownership. In virtual worlds, ownership over digital items is not yet clearly established (Lastowka & Hunter, 2004). People with computer skills are creating virtual items that would normally be used within the context of a game. Property rights need to be clarified because people are engaging in digital item transactions.

Because digital items are similar to art we assume that a copyright regime will be applied. In this context, are these works individual creations that deserve to be protected as works of authorship?¹ Or should they be protected as works for hire from which the developer pays for the creation of these items? Because property rights over items have not yet been determined developers have multiple possibilities. They could recognize John Locke's premise that advocates the labor theory of ownership (Haddad, 2003) and give property rights to those individuals that take time to create digital items for the game and for transactions. They could also request that these authors give up their rights in exchange for cash prizes from the developer (Abramowicz, 2003). They could also prevent altogether the creation of these items by the use of technology or code as Lessig defines it (Lessig, 1999).

Alternatively developers could determine that users will have a bundle of rights where people are allowed to create a certain number of items during a certain period of time. This type of condition may be set in place in case the developer wants to maintain control over the type of virtual community it wants to create. These are common practices among companies that have businesses on the Internet. These bundles of rights and responsibilities are often called terms of service or acceptable use policies (Braman & Roberts, 2003). A more liberal developer could potentially be more interested in allowing users to create as many items as they want in an effort to create diversity and greater choice for other users without having to engage in the development of the items themselves. One problem with this approach is that players could flood the market with items that could negatively affect the game. Under these circumstances developers could, for example, limit the number of items that players are allowed to create and reproduce in the same way that individuals in other areas are given quotas (Bernal, Oliva, Aliaga, & Morales, 1999).

It is well known to content industries that control over the content produced is important. In the motion picture industry, for example, companies have carefully controlled when a movie is released because they know that management of release dates can have a substantial impact on revenues (Elberse & Eliashberg, 2003) (Kridler & Weinberg, 1998). In the same manner that studios want to control the characters and

¹ Under Section 102(a) of the United States Copyright Act works or authorships include but are not limited to (1) literary works; (2) musical works, including any accompanying words; (3) dramatic works, including any accompanying music; (4) pantomimes and choreographic works; (5) pictorial, graphic and sculptural works; (6) motion picture and other audio-visual works; and (7) sound recordings. (Nimmer, Marcus, A., & Nimmer, 1991) p. 45 footnote 2.

release timing of a movie, game developers may want to control the development of items that are used in a game.

This is not the first time that property rights disputes have emerged in the digital domain. They have also been a contested area in the context of domain names. The debate has mainly unfolded between domain name holders and trademark holders when they discover that others have registered domain names incorporating their trademarks, even where there was no plausible likelihood of consumer confusion (Litman, 2000 p1).

According to the Principles for the Delegation and Administration of Country Code Top Level Domains established by the Governmental Advisory Committee (GAC) “no private intellectual or other property rights should inhere in the ccTLD itself, nor accrue to the delegee as the result of delegation or to any entity as a result of the management, administration or marketing of the ccTLD” {, 2000 #621}. This means that country level top level domains should remain in the public domain. This is nonetheless unsettled as many governments consider ccTLD a sovereignty issue more than a property rights one. GAC, nonetheless, recognizes property rights of domain names below the ccTLD. In this respect it specifies “[t]radable goods and services may arise in the performance of other management and administrative functions attached to the ccTLD.” {, 2000 #621}. Public debates over property rights of domain names are ongoing. As of today, nobody owns domain names. Those who register domain names lease them for certain period by paying for annual registration fees. Considering that ownership over digital property such as a domain name is a new development, it is likely to take years before an appropriate framework is developed.

Trade of Digital Items

A digital item is an image created by a developer and tracked through a database that can be transformed and exchanged among users. Its value is decided through rarity, utility, and resulting demand. The rapid growth in digital item trade has caused debate. Who owns digital items? Most game developers insist that property rights for digital items belong to them. Many users believe that they have property rights over digital items because they have added value to them through their labour.

There are several reasons of why a game developer may not want to have its users trade digital items. First companies may themselves want to generate revenues from the sale of digital items or be intermediaries that charge a fee for every transaction. Companies can build an infrastructure for tracking digital items at the design stage. Game developers may feel reluctant to allow these transactions because of the potential negative reputation that the game could develop if they led to fraud. Increasing commercial activity on the Internet has increased commercial fraud (Albert, 2002).

Many games are developed with checks and balances. Some items to be used in the game have greater “powers” or “abilities” than others. Generally as players become more adept at playing these games they gradually acquire these capabilities. If people were able to buy these items that gives them greater capabilities it would give an advantage to wealthier players.

The revenue model of these companies is based on the number of players that play the game in a given time period. If the sale of digital items allows people to gain items that make them more powerful, it could alienate those that cannot afford to buy

these items and eventually lead to an exodus of people that cannot play because they cannot compete with those that have items with greater capabilities. As well the leveling mechanism used in many of these games obliges users who want to become more powerful than others to spend many months honing their skills. If they can simply buy high level skills, equipment, and virtual wealth they may spend fewer months playing the game than they otherwise would, thus reducing revenue to the operator.

Allowing transactions of digital items is not a simple matter. It can have both strategic implications for the company and could lead to government intervention if these transactions become problematic (MacInnes, 2004). Even with these difficulties we believe that an institutional arrangement that allows trade of digital items would be a positive development.

Companies can determine what users can or cannot do through boilerplate terms (Hillman & Rachlinski, 2002). As in eBay people could potentially use the game platform to set up businesses selling multiple types of digital property in the same manner that entrepreneurs in the physical world exploit opportunities. (Choi & Shepherd, 2004).

Dispute Resolution Mechanisms

The international nature of the Internet can cause conflicts with national regulatory regimes, which may not be effective in resolving disputes. Lessig summarizing the views that other people have written in this respect. “[t]he claim now was that government *could not* regulate cyberspace, that cyberspace was essentially, and unavoidably, free. Governments could threaten, but behavior could not be controlled; laws could be passed, but they would be meaningless (Lessig, 1999) p. 4.” Some governments have attempted to put formal regulatory controls on the activities that take place on the Internet but they have not been very effective (Lacharite, 2002).

Because of the difficulty that governments are likely to experience in formulating legal mechanisms for resolving disputes there has been a movement towards self-regulation. The European Union, for example, has adopted a mixed mode of governance that entails both self-regulation and policy (Halpin & Simpson, 2002). Scholars have thus recommended public-private sector collaboration (Kobrin, 2001).

Even though national regulation has a limited applicability there are also dissenting views, such as scholars who believe that self-regulation of activities on the Internet cannot work (Netanel, 2000) (Rogerson & Thomas, 1998). Even on high level Internet issues such as disputes regarding domain names there have been more formal dispute mechanisms (Chung, 2003). This debate has thus called for the participation of both formal and self regulation mechanisms that could govern activities on the Internet (Lastowka & Hunter, 2004) (Knill & Lehmkuhl, 2002).

An alternative governance structure for the Internet is reliant entirely on the private sector. Who, given control over the many communities and entities that exist on the Internet, could potentially determine the rules of behavior and exert control over membership to expel anyone who does not conform with the rules. Related to the issue of dispute resolution, companies can simply take the problem in their own hands and prevent individuals that are causing problems from participating in the virtual world. Hunter argues, nonetheless, that allowing the private sector to take control will lead to the problem of the anti-commons (Hunter, 2003).

Sony, the developer of Everquest, has taken a private sector approach where they become the dispute resolution entity. On their web page they have a series of questions regarding undesirable behavior on the part of players. It is assumed that people can complain to the company (*Customer Support Contact FAQ*, 2004).

There are also third party sites that specialize in dispute resolution related to electronic transactions. iCourthouse, for example, handles both disputes related and unrelated to the internet (*iCourthouse*, 2004). Square Trade is eBay's dispute resolution arm (*Building Trust in Transactions*, 2004) In general, lawyers are looking for alternative dispute mechanisms to the national laws (Villafania, 2004). Scholars have also proposed automated dispute resolution solutions that take advantage of the ICT technologies (Gabuthy & Marchand, 2004) (Nadler, 2001).

In the early days of ICANN, when there were no formal mechanisms to settle disputes, companies that were in charge of ICANN relies on a tool that was developed by the private sector (Mueller, 2001). Later, Network Solutions Inc. developed a dispute resolution policy and it was applied to domain name disputes until UDRP was in place in 1999. In early domain name ownership controversies, trademark holders won over individuals and small/medium sized businesses. The accumulated UDRP rulings proved this.

Some companies, who were frustrated with the constant problems of bad behavior and the anonymity of users, have tried to make carriers (e.g. ISPs) responsible for the actions of their users (Hamdani, 2002). In a similar vein game developers could be considered responsible for problems such as fraud that traders face in conducting transactions of digital items. Because a legal framework to solve disputes for virtual worlds did not yet exist, people are developing skills to cope with online disputes (Larson, 2003). It is thus possible that members of the community alone are able to resolve disputes without a formal or informal third party.

It is also possible that mechanisms will evolve outside of the formal legal structures of countries to solve disputes that are likely to emerge in these settings. This is because the economic transactions are usually relatively low in value. The resolution of disputes using traditional legal frameworks are likely to entail greater transaction costs than the claim is worth (Bakos & Dellarocas, 2002).

Research Methodology

This is a case study that uses multiple data collection techniques to understand the way Korea is coping with governance issues related to the trade of digital items. We selected this country due to its high broadband penetration and the emphasis that the government has put on the software game industry. The high levels of connectivity in the country result in a large number of people who participate in virtual worlds. Their participants engage in commercial transactions of digital items, of which some have resulted in disputes for which some form of government intervention is appropriate.

The data collection thus consisted of secondary data from Internet sites, trade magazines and journals that have looked at the issue of virtual worlds in Korea. We also conducted interviews with players in Korea, ItemBay, the Korea Game Development & Promotion Institute (KGDI), and NCSOFT. We worked in cooperation with the Research Institute for Human Behavior (RIHB) at Yonsei University's Department of Psychology.

Leo Sang-Min Whang, director of RIHB, has also coordinated online surveys on Lineage with Tokyo University in 2004. This paper used some questions from an item transaction related survey conducted by RIHB in 2004.

Case study of virtual worlds in Korea

Statistics from the National Internet Development Agency of Korea (NIDA) indicate that 68.8% of all Korean households have Internet access at home. Among all Internet users, 75.0% access the Internet from home; 18.7% access it at their workplaces; 3.0% have access at school, and 2.4% use Internet cafés (PC/Internet rooms). Of all homes with Internet access 83.5% are connected to the Internet through xDSL followed by cable modems (12.4%), telephone modems (2.1%) and ISDN (1.0%).

Primary reasons for accessing the Internet are to search for data and information (72.8%), to play games (52.5%) and to use e-mail (51.3%). Internet shoppers have made an average of 1.9 transactions per month with an average monthly purchase amount of \$60.00 US. Of all Internet users aged 12 or older 39.9% have purchased goods or services on the Internet and have shopped at least once in the past 6 months; 45.7% of female users have shopped through the Internet compared to 35.1% of males users.

Internet usage among junior and senior high school and college students are as high as about 98%, and 93.5% among students in elementary schools. According to KGDPI, more than 95% of those aged 10 to 20 answered that they have game experience (Korea White Paper on Games, 2004, p. 272).

According to the Korean Amusement Machines Manufacturers Association (KAMMA), of all the companies registered with KAMMA there are 2,980 or 69.1%, game companies, 2,059 are game developers and 921 are software distribution companies (Korea White Paper on Game, 2004 p. 272).

In the following sections we present the developments that have taken place in Korea about the way companies and government are dealing with the issues of property rights, trade, and disputes of digital items from virtual worlds.

Property Rights: Who Owns Digital Items?

In June 15, 2004 the Korean Institute of Technology and the Law (KITAL) hosted its 11th annual international symposium on law and policy issues in the online game industry. Online game-related government's bodies such as the Ministry of Information & Communication (MIC), the Ministry of Culture & Tourism (MCT) and the Korea Software Promotion Institute (KSPI) supported this symposium. In this conference one of the most debated issues was that of ownership over digital items.

The controversy over digital items ownership is between players who believe they own digital items and online game developers who believe they have copyrights over the digital items they created as developers. Kyeong-Han Sohn, an attorney at the Aram Law Firm, placed strong emphasis on gamers' role in online games as community creators. Players are not simply users of the game but creators of the community. Hae-Sang Cheong from Wideok Univ also drew attentions to gamers' rights to trade items. Therefore, current EULAs that prohibit item transactions are controversial for the following reasons. First, transaction of items is unavoidable because game developers

intentionally design items as scarce resources to make the game more interesting and fun. Second, it is considered a dual standard to prohibit item transactions in real currency but allow item transaction within the game without real currency (Digital Contents, July 2004 p. 86-87).

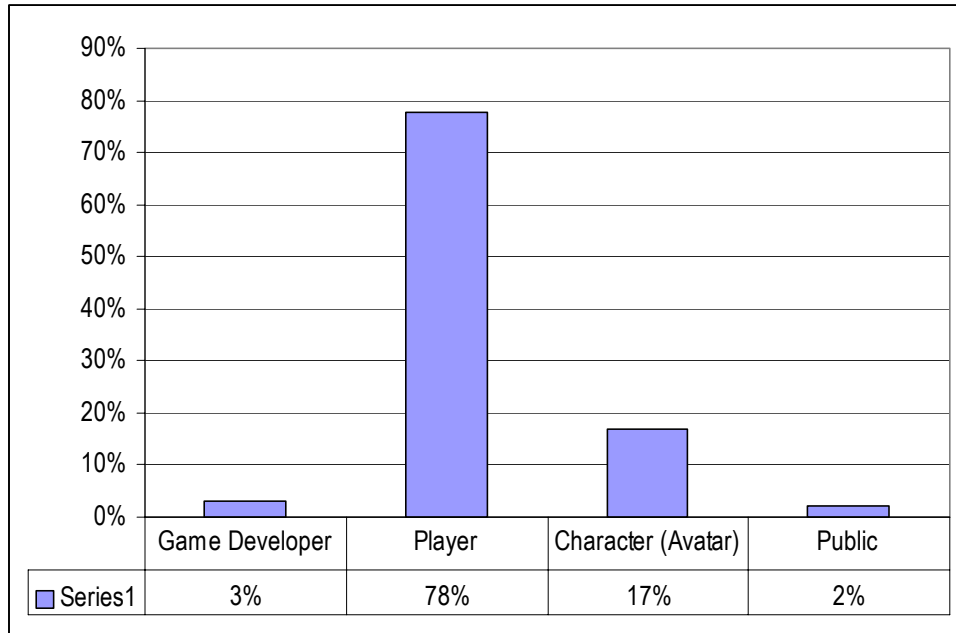
Most game developers believe that they should own the digital items they created. Mainstream game developers such as NCSoft, the developer of the virtual world Lineage, and WEBZEN nonetheless believe that digital items belong to them and have prohibited real currency transactions of these items. Joo-Young Kim from NCSoft believes that companies should apply the concept of “lease” regarding the ownership of digital items. Gamers can lease items for a certain period of time but players cannot own them. Dong-Hee Hong, CEO of a small game development company, Makkoya, commented about item transaction at Y&K, a game publisher magazine: {, #622}

“Some game developers seem to apply extensive copyrights over items and believe that items from the game belong to the developers. They even think they have the power to stop item trade. Any effort to apply such logic or to implement it is very difficult and dangerous. If game users want to reach higher social status or freedom connected to higher social status, it should be possible for them to engage in item trade.”

In March of 2003 the KGDI conducted a survey with 260 game companies, of those, 86 companies responded to the digital item transaction survey (Korea White Paper on Games, 2004). Regarding item ownership and EULAs, 55.8% of the companies specified that digital items belong to the developer.

A survey conducted for this research indicates that players strongly believe that items belong to them. Figure 1 shows that of the 1,247 individuals that answered the question 78% believe they own the items. 17% said the items belonged to the avatar, an interesting perception of ownership, as avatars are fictional beings representing players. Only 3% accepted that developers owned Lineage items.

Figure 1
Q: Who do you think has a right to own "items" earned while playing Lineage?



Early experiences regarding ownership of digital items, namely domain names, were handled simply by registration of the name on a first-come-first-served basis by anybody. This method led to controversies over domain name ownership when the domain name holder was not the same as the trademark holder. Domain name holders who registered based on first-come-first-served insisted that domain names belong to them and not to powerful multinational trademark holders. The public debate on who owns domain names continued even after Uniform Dispute Resolution Policy (UDRP) was presented by World Intellectual Property Organization (WIPO) and adopted by Internet Corporation for Assigned Name and Numbers (ICANN) in 1999.

Trade of Digital Items: Who, Where, What and Why?

One of the first item auction agencies, ItemBay, was set up in Korea in 2001 to facilitate transactions of digital items used in virtual worlds. Item auction agencies are now as big as the game developers in terms of market size. The early success of this trading business has prompted further entry and the number of item trade companies is known to exceed 300 in Korea alone. Table 1 provides some information about ItemBay, the largest item transactions company.

Table 1
Item Transaction Record of ItemBay

	2002	2003	2004
Amount of Transaction	14.2 billion won (Nov-Dec)	180 billion won	151 billion won (Jan - July)
Average Amount of Monthly Transaction	7.1 billion won	14.9 billion won	21.6 billion won
Total Market Size		450-500 billion won estimated	700 - 800 billion won estimated
Transactions through Third Party Company		250-300 billion won estimated	400-500 billion won estimated
Transactions at Black Market		200 billion won estimated	300 billion won estimated
Market share of ItemBay in Korea		70%	60%
Revenue		9 billion won	18 billion won expected
Membership	300,000	920,000	1,500,000

Source: ItemBay, August, 2004. \$1 = 1,157 won

Even in Korea, which is facing governance issues regarding digital property before any other country, the issue is not yet settled. According to Hye-Jin Han of ItemBay, game developers have differing positions on this issue. Large game developers such as NCSOFT strongly object to item transactions. Small game developers, on the other hand, believe that the existence of third-party item trade agencies such as ItemBay attract more players to their games. This results in greater flexibility as people are able to trade items of one game for items from another game, thus facilitating entry into smaller virtual worlds. The company ItemBay has pursued strategic relationships with small game developers.

Dong-Hee Hong from Makkoya, a small game development company stated about item trade: {, #622}

If game developers don't want any kind of item trade, they can delete the items from the system and stop the transaction of items at any time. But game developers make every effort to make their game successful and one of the factors that contributes to that success is to encourage item trade. Even after the great success of item trade, some established online game developers insist that item trade in online games is unsound. Item trade is a natural product of an online game. More negative issues will follow if artificial efforts to stop this activity are successful. If third party item agencies' websites are closed and item trade goes back to the black market as it was three years ago, will it contribute to the progress of the online game industry in Korea? Mainstream game developers have owed their success to item trade. If they insist on item trade closure, they are acting contrary to their own interests.

In the 2003 survey by KGDI, 18.7% of companies stated that item transactions should be banned and regulated as illegal activity; 29.7% believed that item transaction should be accepted but regulation of transactions should be reinforced; 19.8% said that item transaction is desirable and should be encouraged but should have a transaction limit; 27.5% said that transaction of items is a transaction between individuals based on their free will and it should not be regulated; 2.2% said that item transaction should be legally accepted and encouraged.

While companies are divided on the issue of digital item trade, players are consistent in their view that items belong to them. As part of this research a short pilot survey was conducted among players that have established a membership with the company ItemBay. 1248 individuals answered the survey regarding their views about digital item trade.

Figure 2 shows that most players have not engaged in any transactions. Only 20% of those surveyed indicated that they had engaged in any transactions in the past month. Probably only a small minority of players engages in this activity to date. The trend nonetheless is upwards and even given the small number of transactions taking place, government agencies have been concerned about the increase in fraud that has occurred.

Figure 2
Number of transactions conducted by each player in the last month

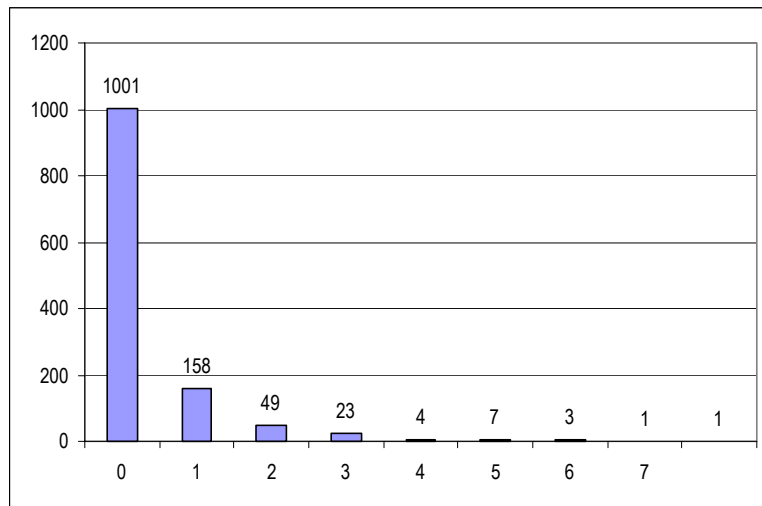
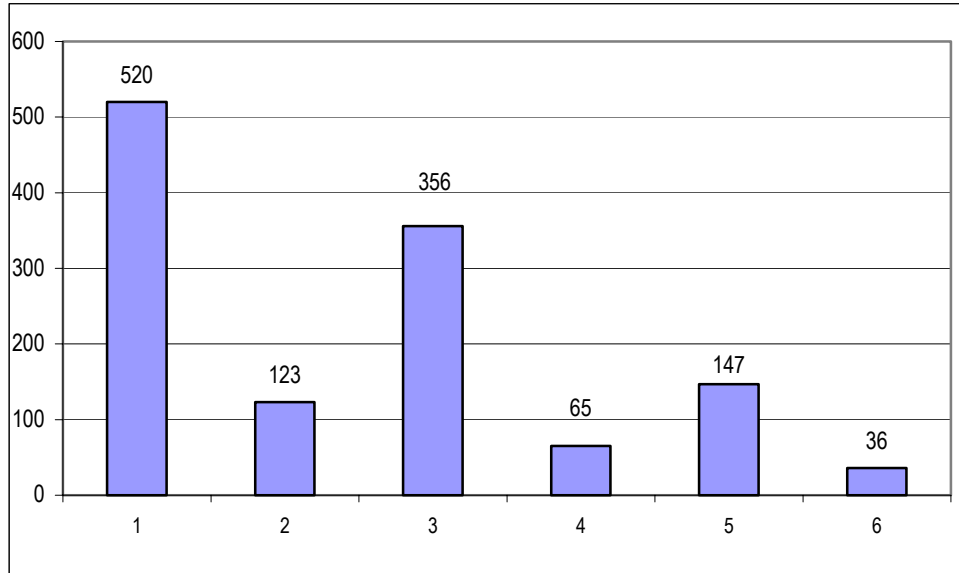


Figure 3 shows that most players who engage in digital item trade sell the items that they collected in the game. As mentioned before, there are some individuals who engage in the trade of these items not as part of their game experience but as a way of making money from the sale. Also, there are numerous players who have sold items that they have purchased from others. In such instances it is likely that they purchased the item to play in the game.

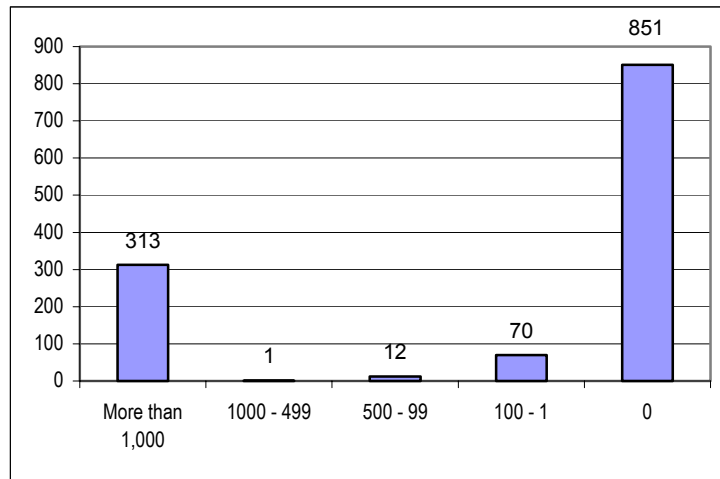
Figure 3
What kind of transaction do you conduct the most?



NOTE: 1. I sell the items hunted or collected by myself.
 2. I sell the items processed after I had hunted and collected.
 3. I sell the items I bought from somebody else.
 4. I sell items made by myself of materials bought from others.
 5. I sell items as a profession
 6. I sell my capability to play magic

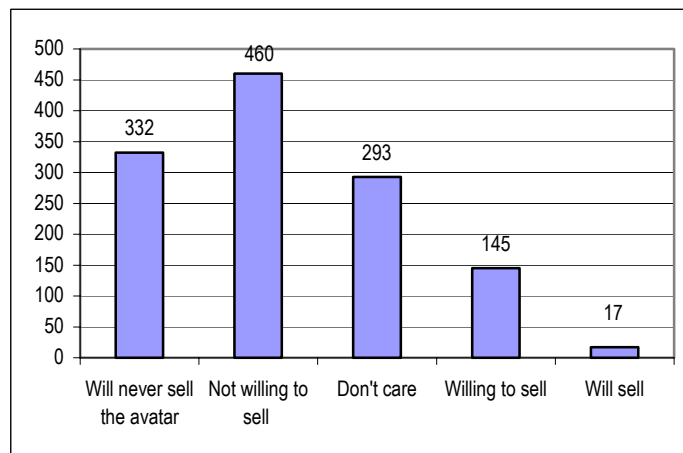
Figure 4 shows the amount of money that individuals have spent buying digital items in the previous year. Consistent with the Figure 2, most players have not spent any money. About a quarter of players, however, can be considered hard-core players/traders who have spent a considerable amount of money buying digital items. Of the 1247 individuals who answered the survey three of them reported to have spent more than \$10,000 buying items and one reported spending equal to \$86,764. There are also people who engage in small transactions. This shows that the success of digital item trade agencies is for the most part due to committed players that spend considerable amount of money conducting transactions.

Figure 4
Amount of money spend on item trade in the previous year



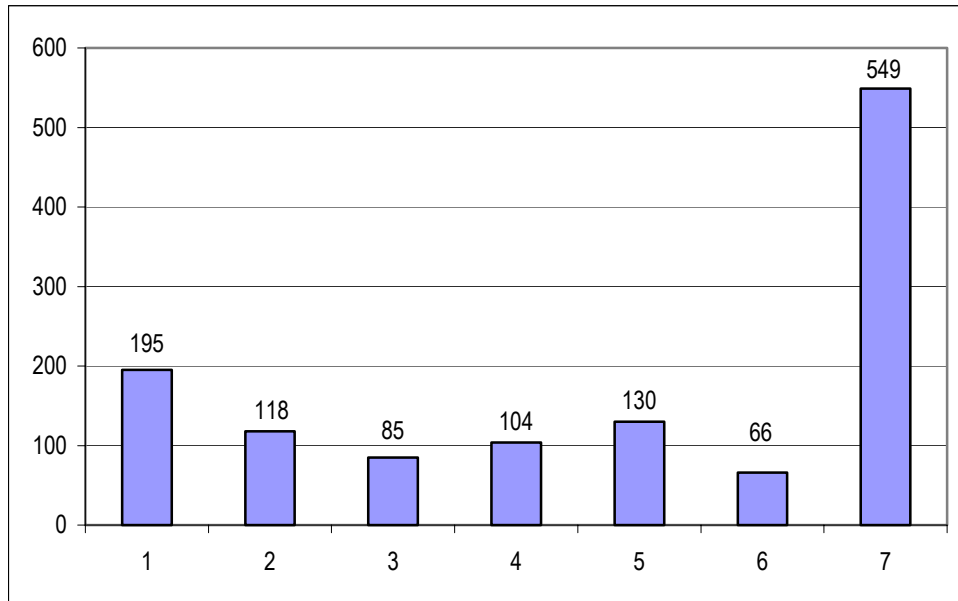
In order to determine whether people are engaging in digital item trade for the sake of the game or for the sake of profit the researchers asked if they would be willing to sell their digital personas, also known as avatars. The assumption is that if they are willing to sell then they are more likely to be in the game to make profit in addition to playing the game. It is clear from the results shown in Figure 5 that most people are not willing to sell their avatars and only a small minority will sell or have the intention to sell. This suggests that most people participate in virtual worlds simply for the fun of it.

Figure 5
Would you be willing to sell your own avatar for real currency to somebody you don't know?



In addition, players were asked about the reasons for wanting to engage in a digital item transaction. Figure 6 illustrates the answers of participants. Most do not engage in real currency item trade. Those who buy and sell items do it because they want to get a special item (16%), when they want to quit the game (10%) or when they want to reorganize their items (9%). Once again these results indicate that most people play the game for fun and not to make money.

Figure 6
Q: When do you engage in digital item transactions

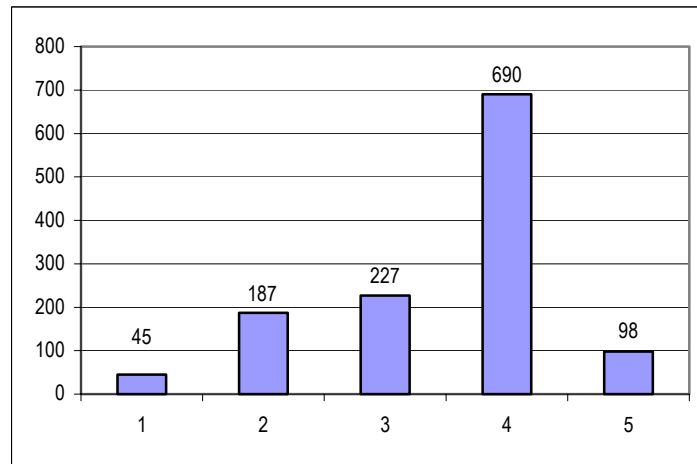


NOTE: 1. When there is a special item I want to buy.
 2. When I want to reorganize collected adena or items
 3. When I move to a new server
 4. When I start a new game
 5. When I decide to quit Lineage
 6. When I want to make money
 7. I don't conduct real-currency item trade.

Players were also asked their opinion about the EULAs and specifically about game developers' efforts to prohibit transactions of digital items. Figure 7 below presents the responses from the survey. They show that some players are willing to comply with the rules of the EULAs. The vast majority of them believe that if trade is not legally prohibited then it should be possible for them to engage in transactions. A small number of players challenge the EULAs and believe that because items are their property they should be able to trade if they want to.

Figure 7

Q: Game developers' EULAs prohibit item trade. What do you think of this prohibition?



- Note: 1. Items belong to game developers and therefore it should not be traded by individuals
 2. Since item trade is prohibited by the EULA, players should not be engaged with item trade
 3. If it is not legally prohibited, item trade should not be considered a problem
 4. Since an item reflects the player's efforts, players should freely sell or buy their items without restriction
 5. There is no meaning in Lineage if there is no item trade

This is perhaps the first time that the world has experience trade of digital items. In the domain name realm there has not been transactions of these addresses. In general when an individual or a company registers a name they keep it for as long as they can. In the early days of the Internet a few individuals registered early names that they perceived to be valuable and then sold them for a profit to corporations that wanted them. This practice was known as domain squatters and with the enforcement of trademarks this type of activities happen much more rarely.

Dispute Resolution Mechanism: Cyber Crime in Digital Item Transactions

Most of the disputes related to transactions of digital items relate to fraud. Fraud takes place under the following circumstances. An agreement is made between those who want to sell items or virtual money (A) and buying players who want to attain higher levels inside virtual community (B). B pays real currency for items or virtual currency to A. A might take money or real currency from B but does not provide the item or A might transfer different items to B. Hacking can also occur to obtain other players' items or virtual money. Hackers may try to gain access to the game's servers with other players' ID and password and take their items and virtual currency. Hackers also try to gain access to servers of game developers and copy virtual money or high-priced items. They could also develop programs to create virtual money through exploiting a bug.

It is difficult to determine how many item transactions are conducted in a black market without established intermediaries. As of 2003, it was estimated that around 43% of item transactions were direct. According to ItemBay, the black market mechanism leads to cyber crime. If direct transactions can be diverted to a third party business like ItemBay, this could reduce cyber crime. ItemBay also emphasizes that its cyber crime rate is only 0.01% of its transactions.

Munwha Ilbo, a major news agency in Korea, published statistics from the cyber terror response center (CTRC) in April of 2004. According to the CTRC, 70% of crimes committed by teens are related to item trade fraud, which has increased significantly in the last few years. In 2000 there were only 675 cases; in 2001 there were 2,193; in 2002 the number increased to 8,250 and in 2003 the total number of cyber crimes was 10,187. This rapid increase in cyber crime has generated public debate about who should be responsible for this situation. It has forced parents, academics, government officials, game developers, and game item transaction companies to determine the type of actions that should be taken to correct this situation.

ItemBay exercises the following practices to secure a safe item transaction environment and to avoid item trade fraud. It has set up a member monitoring system. This system allows ItemBay members to regulate those who attempt fraud while conducting an item trade through developing a blacklist that then is used to filter members. It has a system to verify its members' credit records and it has established a fraud compensation system to encourage transactions. If a fraud case emerges and the member is able to prove that he followed the rules then ItemBay compensates the member for any fraud damage according to pre-established criteria.

The Korean government has not yet found an appropriate solution to the problem of item trade fraud. Due to the lack of flexibility of existing laws to accommodate the emerging cyber economy in online game communities, many youths are charged as criminals.

Joo-Young Kim from NCSOFT confirmed that on March 12, 2004, the company asked the Ministry of Culture & Tourism (MCT) to legislate item transactions in real currency. It requested that MCT to modify current laws governing music, video, games, and item leases. NCSOFT also asked the Information Communication Ethics Committee to prepare a draft regulatory scheme to limit item transaction in real currency. NCSOFT explained that these efforts are necessary to ward off cyber crimes and to protect copyrights of game developers' and other legitimate copyright holders.

Kim explained why NCSOFT decided to take this action. Online game communities can be negatively affected by fraudulent item transactions. This in turn will lead to the politics and economics of these communities to develop differently from the game developer's intention or plans. For example, Lineage is designed to be updated every six months but such a plan cannot be applied due to unexpected item transaction activities.

The crime rate in virtual communities is increasing, which in turn affects social stability in the real world. Jeong-Woong Park, a game user, stated that online game developers already have strong influence upon society and they also have to be responsible for it. As Park highlighted, game developers are expected to consider the public interest as well as their profits both in the virtual world and real world.

Because of the increasing problem of cyber crime, the private sector is also taking precautions of their own to limit the number of disputes or fraud that happen in the exchange of digital property. ItemBay, one of the pioneer companies in the digital item trade business has stringent security measures. To conduct an item auction, registration is mandatory and it requires authentication of its members' identity. The company requests the real name, cell phone number, address and other contact information such as company or school as well as the residential registration number. The residential registration number (RRN) in Korea is similar to the social security number in the United

States. Any attempt to abuse others' RRN is regarded as illegal behavior. If an ItemBay member provides inaccurate contact details it can lead to an item trade failure and membership suspension. ItemBay has obtained the cooperation of the Korea Information Service in order to confirm registration information. They expect that this measure will reduce the number of disputes and fraud that occurs in these settings.

Implications and Conclusions

Korea faces unpredictable challenges by becoming one of the most advanced networked countries in the world. Property rights over digital items are not yet determined. Game developers for the most part want to control the content of their sites, but players want to have the freedom of conducting transactions to be able to enter and exit the game, obtain items more rapidly, and, on some occasions, earn money. Unlike previous disputes over domain names, ownership of digital property does not need to be controversial or even illegal. In the domain name context domain name ownership was settled by means of trademarks. This means that companies that own a trademark believe they have the right to the domain name as well. In the context of games, digital property does not have this problem. Players can build items and this in itself can entitle them to own them.

Regarding transactions of digital items, there is still a small number of players that engage in digital item transactions. It is now the most dedicated players that engage in numerous but also expensive transactions. Here again the debate is not settled. Game developers differ in their views about whether or not to allow transaction of digital items. The larger and more established companies are against item trade while smaller developers consider this activity to be crucial for their business. Most users appear to comply with the EULAs but, for the most part, are in favor of digital item transactions.

Previous experience with digital property includes domain names. These attracted companies that were eager to get into the lucrative domain name registration business. But unlike digital game items, domain names are not resold once a company has registered them. In the domain name context the main focus of the Internet governance debate has been over the control of the allocation of these names. These provide little guidance for the emerging item trade business.

There has been a substantial increase in teen crime that has resulted from item trade. The government is currently simply applying general criminal laws that may not be adequate to the digital realm. For example, many of these transactions may soon be international. Lack of previous experience related to economic transactions of digital property has baffled policy makers in Korea. They cannot understand why users engage in digital item transaction in real currency. Because of the lack of laws that address the problem, intermediary companies have established mechanisms to minimize the amount of crime that happens in the transaction of digital items. Specifically they have strict membership policies that help identify potential violations. In general the experiences of ICANN have limited application to the context of digital items. Once again governments around the world will face a cyber policy challenge.

References

- 2003 Information Index Report, Internet Statistics Information Systems, National Internet Development Agency of Korea, 2004
http://isis.nida.or.kr/sub04/sub04_index.html?sub=0AV&id=588
- Abramowicz, M. (2003). Perfecting patent prizes. *Vanderbilt Law Review*, 56(1), 115-+.
- Albert, Miriam. (2002). E-Buyer Beware: Why Online Auction Fraud Should be Regulated. *American Business Law Journal*, 39(4), 575-643.
- Analysis on Online Game's Influence in Society; Korea and Japan Lineage Users' Behavioral Mode and Community Activity Pattern Analysis Korea Game (Korean) Development & Promotion Institute, 2004
- Ayres, R. U., & Williams, E. (2004). The digital economy: Where do we stand? *Technological Forecasting and Social Change*, 71(4), 315-339.
- Bakos, Yannis, & Dellarocas, Chris. (2002, December 15-18). *Cooperation without Enforcement? A Comparative Analysis of Litigation and Online Reputation as Quality Assurance Mechanisms*. Paper presented at the 23rd International Conference on Information Systems (ICIS), Barcelona, Spain.
- Bernal, P. A., Oliva, D., Aliaga, B., & Morales, C. (1999). New regulations in Chilean fisheries and Aquaculture: ITQ's and Territorial Users Rights. *Ocean & Coastal Management*, 42(2-4), 119-142.
- Braman, S., & Roberts, S. (2003). Advantage ISP: terms of service as media law. *New Media & Society*, 5(3), 422-448.
- Building Trust in Transactions* (2004). Square Trade. Retrieved August 29, 2004, from the World Wide Web: <http://www.squaretrade.com/cnt/jsp/index.jsp>
- Choi, Y. R., & Shepherd, D. A. (2004). Entrepreneurs' decisions to exploit opportunities. *Journal of Management*, 30(3), 377-395.
- Chung, C. M. (2003). Governing Internet in Korea: NEIS and domain names, *Electronic Government, Proceedings* (Vol. 2739, pp. 480-483).
- Customer Support Contact FAQ* (2004). SONY/EverQuest. Retrieved August 29, 2004, from the World Wide Web:
http://eqlive.station.sony.com/library/faqs/faq_cs_contact.jsp
- Cyber Crime Kangwon Police Station http://youth.gwpolice.go.kr/sub02_02.asp (Korean)
- Cyber Crime Rate <http://ctrc.go.kr/statistics/index.jsp> (Korean)
- Dibbell, Julian. (2003, January). The Unreal Estate Boom. *Wired*, 11, 1-5.
- Elberse, A., & Eliashberg, J. (2003). Demand and supply dynamics for sequentially released products in international markets: The case of motion pictures. *Marketing Science*, 22(3), 329-354.

- Gabuthy, Yannick, & Marchand, Nadege. (2004). Does Resorting to Online Dispute Resolution Promote Agreements? Experimental Evidence. Unpublished manuscript.
- Haddad, B. M. (2003). Property rights, ecosystem management, and John Locke's labor theory of ownership. *Ecological Economics*, 46(1), 19-31.
- Hagel, J., & Armstrong, A.G. (1996). The Real Value of On-Line Communities. *Harvard Business Review*, May-June, 134-141.
- Halpin, E. F., & Simpson, S. (2002). Between self-regulation and intervention in the networked economy: the European Union and Internet policy. *Journal of Information Science*, 28(4), 285-296.
- Hamdani, A. (2002). Who's liable for cyberwrongs? *Cornell Law Review*, 87(4), 901-957.
- Hillman, R. A., & Rachlinski, J. J. (2002). Standard-form contracting in the electronic age. *New York University Law Review*, 77(2), 429-495.
- Hunter, D. (2003). Cyberspace as place and the tragedy of the digital anticommons. *California Law Review*, 91(2), 439-519.
- iCourthouse (2004). iCourthouse. Retrieved August 29, 2004, from the World Wide Web: <http://www.i-courthouse.com/main.taf?&redir=0>
- Klang, Mathias, & Olsson, Stefan. (1999, September 29 - October 1). *Building Communities Online*. Paper presented at the Computer Supported Cooperative Work in Design, Compiègne, France.
- Knill, C., & Lehmkuhl, D. (2002). Private actors and the state: Internationalization and changing patterns of governance. *Governance-an International Journal of Policy and Administration*, 15(1), 41-63.
- Kobrin, S. J. (2001). Territoriality and the governance of cyberspace. *Journal of International Business Studies*, 32(4), 687-704.
- Krider, R. E., & Weinberg, C. B. (1998). Competitive dynamics and the introduction of new products: The motion picture timing game. *Journal of Marketing Research*, 35(1), 1-15.
- Lacharite, J. (2002). Electronic decentralisation in China: A critical analysis of Internet filtering policies in the People's Republic of China. *Australian Journal of Political Science*, 37(2), 333-346.
- Larson, D. A. (2003). Online dispute resolution: Do you know where your children are? *Negotiation Journal-on the Process of Dispute Settlement*, 19(3), 199-205.
- Lastowka, F. G., & Hunter, D. (2004). The laws of the virtual worlds. *California Law Review*, 92(1), 1-73.
- Lessig, Lawrence. (1999). *Code and Other Laws of Cyberspace* (First ed.). New York, NY: Basic Books.
- Litman, Jessica 'DNS Wars: Trademarks and the Internet Domain Name System' 4J. Small & Emerging Bus. L. 149 (2000)

- MacInnes, Ian. (2004, August 6-8). *The Implications of Property Rights in Virtual World Business Models*. Paper presented at the Americas Conference of Information Systems, New York, NY.
- Mueller, M. (2001). Rough justice: A statistical assessment of ICANN's uniform dispute resolution policy. *Information Society*, 17(3), 151-163.
- Nadler, J. (2001). Electronically-mediated dispute resolution and e-commerce. *Negotiation Journal-on the Process of Dispute Settlement*, 17(4), 333-347.
- Netanel, N. W. (2000). Cyberspace self-governance: A skeptical view from liberal democratic theory. *California Law Review*, 88(2), 395-498.
- Nimmer, Melville B., Marcus, Paul, A., Myers David, & Nimmer, David. (1991). *Cases and Materials on Copyright* (1177 ed.). St. Paul, MN: West Publishing Co.
- Principles For The Delegation And Administration Of Country Code Top Level Domains, Governmental Advisory Committee
<http://194.78.218.67/web/docs/cctld/cctld.txt>
- Rogerson, K. S., & Thomas, G. D. (1998). Internet regulation process model: The effect of societies, communities, and governments. *Political Communication*, 15(4), 427-444.
- Villafania, Alexander F. (2004, February 29). Internet lawyers to pursue online dispute resolution. *inQ7.net*.
- Whang, Sang-Min and Chang, Geun-Young 'Online Game Space and Analysis on Users' Psychology' HCI 2002 Proceedings (Korean)
- Whang, Sang-Min and Chang, Geun-Young 'Koreans' Life Style and Game Behavior' HCI 2003 Proceedings (Korean)
- Whang, Sang-Min, Lee, Hae-Rin and Park, Y.J. 'The Emergence of Digital Image Value Property Rights Created by Interactivity between Users and Items in Online Games' AMCIS 2004.