

# Understanding the Curation Activities of Creating Personal and Social Meanings for Virtual Possessions

Jin-min Seok\*, Da-jung Kim\*, Youn-kyung Lim\*, Tek-jin Nam\*, Moon-hwan Lee\*, Yeoreum Lee\*,  
Yea-kyung Row\*, Bokyung Sohn\*, John Zimmerman\*\*, Jodi Forlizzi\*\*, William Odom\*\*,  
Ana López Higuera\*\*\*, Mauro Marchitto\*\*\*, José Cañas\*\*\*, Heather A. Moore\*\*\*\*

\* Department of Industrial Design, KAIST, Daejeon, South Korea, yes\_iamjm@kaist.ac.kr

\*\* HCI Institute, Carnegie Mellon University, Pittsburgh, PA, USA, johnz@cs.cmu.edu

\*\*\* Cognitive Ergonomics Group, University of Granada, Granada, Spain, delagado@ugr.es

\*\*\*\* Research and Development, Vodafone Group Services, Dusseldorf, Germany, heather.moore@vodafone.com

**Abstract:** As we can interact with other people through various social applications, we have acquired increasing amounts of virtual possessions that have both personal and social meanings. Unlike material possessions that usually have a clear ownership to a person, the emerging virtual possessions are often created by and shared with multiple people. Thus, the values of such virtual possessions are not only personally, but also socially constructed and cherished. As it becomes important to understand and support the interpersonal contexts where people encounter and acquire various virtual possessions, the present study investigated how people attach personal and social meanings to their virtual possessions. In this paper, we introduce such meaning-making activities with two foci: i) *curation activities of creating social meanings of personal virtual possessions*, ii) *curation activities of creating personal meanings of social virtual possessions*. The results of this study will be helpful to consciously think and design the ways to enrich meaningful experiences with digital things.

**Keywords:** *Curation Activity, Virtual Possessions, Personal and Social Meanings, Design*

## 1. Introduction

Recently, we are acquiring increasing amount of *virtual possessions*. These new possessions have two origins [8]: i) material things that have lost their material characteristics (e.g., digital books, digital photos, digital music, digital tickets, etc.) and ii) new things that have never had a material form (e.g. streams of SNS updates, game avatars, and personal behavioral logs). One of the big changes in this materiality transition is that there can be an increased digital capacity that one's possessions can be situated and interacted in interpersonal contexts. Virtual possessions are often created by and shared with multiple people. For example, if people posted status updates on SNS, then others can add comments on it or people can share own digital photo collections with friends. Thus, the meanings that people attach to such virtual possessions can be both personally and socially meaningful in the digital environment where personal activities and dynamic social interactions co-exist.

We can observe the potentials that one's own virtual possessions can be socially meaningful or even shared virtual possessions can be personally meaningful. For example, if a person's digital photos that are posted on social networking sites get lots of 'Like's from his friends, then the meanings can be extended from a personal photo collection to the things that evoke emotional connections with other people. Or, shared digital photos can be

retouched for the personal purposes. Despite these potentials, various systems and services nowadays are widely adopting social platforms with a limited understanding of how they can support people to add different aspects of meanings, i.e. personal or social meaning, to their own or shared virtual possessions.

As people can encounter various chances to acquire virtual possessions within the interpersonal contexts, it will be continuously important to understand how value curation activities can contribute to create personal or social meanings of virtual possessions. In this context, the understanding of meaning-making processes would be helpful to be concrete and even creative in designing the ways to support people's value constructions experience with digital things. And this will also contribute to extend the benefits to the users that have not been considered in the current designed systems. For this reason, in this paper, we aim to explore how people create personal or social meanings of virtual possessions and how such activities can be enriched by digital technologies. In what follows, we will review the background and related works of this research. Then, we will describe the method and the results of our investigation of people's value curation activities. Finally, the implications for design community will be discussed.

## 2. Background and Related Works

Over several decades, there have been extensive studies on people's attachments to their material possessions. Those works demonstrated how the value of material possessions can be constructed in the personal as well as social contexts. People develop an attachment to some material possession through use and reflection on how this impacts their sense of self and their performance of self [1]. Also, people gain attachment to material things that help them feel a sense of autonomy or to things that give them a feeling of affiliation with a group they wish to be affiliated with [5].

As people interact in the digital world these days, critical changes have been made in the things they possess and the environment where they interact with those things; the things in the digital world are *intangible*, *easy-to-duplicate*, and *placeless* [8] in its characteristics. Also, people are always *connected* [3] with others and they share the experience of creating and using the virtual things with them. These characteristics differentiate virtual possessions from the material possessions that provide more personal experiences and have tangible physicality, clear originality, and unique aging. In this context, many research have emerged to investigate how the ways people value their material possessions resonate with the ways they value virtual possessions. Recent ethnographic studies have shown that virtual things have a general lack in the feeling of possession and thus people hardly perceive the value of virtual possessions compared to material possessions [7, 11, 13]. However, similar to material things, people still cherish virtual things which remind them of personal or family memories [4, 11, 13]. Also, people attach value to their virtual possessions through which they can construct and perform the sense of self [8, 9].

One important thing to note in the value construction practices is that what most contribute to make something valuable is not just *having* the meaningful things, but people's *curation activities* bound up with the things situated in the personal or social contexts. Finch and Mason [2] distinguished "keepsakes" from "heirlooms"; heirlooms are inherited objects that people passively keep, while those heirlooms can be keepsakes when people are actively involved in cherishing and incorporating them into family life within the context of their relationships. In addition, Kirk et al [4]'s investigations of home archiving practices showed how people strategically deploy the ways of

storage depending on the personal or family value of objects that they want to honor; e.g., family mementos were *displayed* in the family's social spaces and a mother's personal collections were *deeply stored* in a box at attic and revisited only when she wants to personally reminisce her old days.

Recent works in HCI attempted to support such curation activities by designing artifacts that facilitate meaningful interactions with cherished digital possessions. For example, Petrelli et al. [12] presented a FM radio that enables family reminiscence by supporting the creation and the retrieval of sonic mementos during family events. O'Hara et al. [6] explored how a device that presents personal photos in a public setting, i.e. shared mealtime, affects social conversations among different types of relationships such as strangers, old friends, and parents with children. Also, Peesapati et al. [10] developed Pensieve which reminds people to reminisce randomly selected digital possessions from their collections.

Although these artifacts are inspiring examples, little is known about systematic and detailed curation activities and how they add value for their virtual possessions. Since such curation activities can be varied depending on the meaning people cherish, it is important to understand how value curation activities can contribute to create personal or social meanings of virtual possessions. As people can encounter various chances to acquire virtual possessions within the interpersonal contexts, its importance will be continuously increased. To address this issue, we conducted a field study. In what follows, we describe the detailed setup and the results of the study and we discuss its implications for design.

### **3. Fieldwork Method**

The study aimed to understand the ways of constructing personal and social meanings of virtual possessions that are created and used in the interpersonal contexts. We conducted in-home, semi-structured interviews with eight singles (half are males and the other half females) and four couples. Specifically, we recruited young adult participants who are aged from 25 to 35. This was because that this age group is actively acquiring digital possessions from various social relationships by experiencing being independent from their parents and being a member of new social groups. As possessions reflect one's identity [1], we expected that young adults would actively creating personal and social meanings through their virtual possessions to reframe their sense of self in their transitional life stage.

We conducted semi-structured interviews in participants' homes that lasted between 1.5 to 2 hours. We first asked participants to describe precious material and virtual possessions with triggering questions. E.g., "If your house was burning down and you could grab five material possessions you couldn't live without, what would they be?", "If the all data in your computers were going to be deleted within a minute, what virtual possessions do you want to backup?" For each selected possession, we asked the reason for cherishing it and the stories related to the possession. Next, we investigated the activities around those precious possessions by probing how and where they stored them. All the single participants and husband and wife participants of the couples individually conducted this procedure. For the couples, we further asked them to describe precious material and virtual things they possess together. We also investigated why they cherish and how they store those co-owned possessions.

All interviews were video recorded, producing 35+ hours of content and the recordings were transcribed. We reviewed the entire items participant referred, focusing on the activities that people do for creating personal or social meanings of them. Through affinity diagramming of such activities, we found six patterns of curation

activities, namely, *connecting*, *sharing*, and *giving* for creating social meanings, and *retaining*, *keeping*, and *crafting* for creating personal meanings. In what follows, we present several examples taken from the field observations that help illustrate the details of each activity pattern. We refer to each participant by her or his relationship status, gender, and participant number. (e.g., M1 stands for single male participant 1 and CF3 stands for a female participant in couple 3).

#### **4. Curation Activities of Creating Personal and Social Meanings for Virtual Possessions**

As the result of observing both material and virtual things in terms of personal and social possessions, this study found that, unlike material possessions that usually have a clear ownership to a person, the perceived ownership of emerging virtual possessions is not clear. The unclear and complicated ownership of virtual possessions is caused by various activities of using digital things while interacting with multiple people. In the digital environment, people increasingly use their possessions with other people, and participate in using the possessions created by others. For example, people create and share their own digital possessions on various social network services, e.g., Facebook or Twitter, then other people are allowed to participate in using and re-creating it. Thus, it became easy to have both personal and social meanings on a virtual possession.

Because of the equivocal ownership of virtual things, i.e. having both personal and social aspects, the concept of *possession* is getting weaker in the digital environment. People do not clearly perceive that they *possess* a thing in the digital world. Rather than, people think that they do *use* it, or are *engaged* with using it. Our participants had a struggle with thinking and describing the lists of their digital possessions, while they clearly perceived the concept of possession on their material things. For example, M1 and CM3 described that they felt unnatural when they asked to list up their digital possessions because they do not actually think that they possess a digital thing. Their lists and descriptions of digital possessions were poorer than that of material possessions. However, when they asked to describe their ordinary usages of virtual things, they provided rich descriptions and easily thought of the cherished virtual things and the reasons.

The weaker concept of a virtual possession is influenced on the ways of creating the personal and social meanings on a virtual possession. Being a possession is not the only source of creating the personal or social meaning of a thing in the digital world. Not only a *possession itself* but also the *curation activities of a possession* have influenced how people create the personal and social meanings of a digital thing. For example, a post on a SNS has the potential to acquire both the personally and socially meaningful aspects, depending on how people curate it. If a person curates the post on SNS for the social gathering by expanding the range of people who can participate in it, the socially meaningful aspect of the post can be increased. If a person curates the same post on SNS by capturing and storing in a private space, the post can acquire personally meaningful aspects. This study focused on this newly emerging area where the various curation activities and the traditional concept of a possession are entwined in terms of producing its personal or social meanings.

The curation activities of acquiring meaningful personal or social aspects of virtual possessions were discovered based on the two transitions of producing personal or social meanings for a digital possession: i) *curation activities of creating social meanings of personal virtual possessions*, ii) *curation activities of creating personal meanings of social virtual possessions*. There are the potentials that a personal virtual possession can gain socially meaningful aspects by interpersonal curation activities and a social virtual possession can acquire

personally meaningful aspects by personal curation activities. Following are the ways of acquiring the personal or social meanings of a virtual possession resulting from the curation activities and the supportive examples observed in the fieldwork study.

#### 4.1 Curation Activities of Creating Social Meanings for Personal Virtual Possessions

The acquisition of socially meaningful aspects on personal virtual possessions is generally about expanding the boundary of the usage and ownership of personal virtual possessions by various interaction activities with other people. It is affected by the capacity of digital technology, which enables higher level of connectedness, duplicability, and editability. These characteristics of the digital world help increase interactions among people when using virtual possessions. Fundamentally, constructing social meanings in the digital world is not that different from the material world. However, there are unique characteristics of achieving social meanings in the digital world, due to the perpetuity and intangibility of the digital technology, which the material world does not have. Based on the findings, this study could extract the three representative activities of acquiring the socially meaningful experiences on a personal virtual possession: 1) connecting to others, 2) sharing with others, and 3) giving to others.

##### 4.1.1 Connecting to Others

People create the socially meaningful aspects of personal virtual possessions by being connected to other people and their experiences. From the analysis, the three methods of constructing social meanings of personal virtual possessions regarding how people are connected to each other in using such possessions were discovered.

The first method is *making a connecting point*. Having the mediums for connection enables people to gain a socially meaningful aspect of a personal virtual possession. For example, M4 cherished his accounts of SNSs among his virtual possessions, because they enable him to be connected to other digital things and people. The accounts of SNSs are his personal possession, but he valued them because of its aspect of enabling potential co-experience. CM3 and F4 valued their contact lists of mobile phone and the histories of phone calling (Figure 1), because they are the channels of connecting and interacting with other people. The digital contact list and the histories of phone callings are their personal virtual possessions, however, they valued them because they have the meaningful social aspects as the connecting points for potential interpersonal experiences.



Figure 1. Contact lists as a connection point

The second method is *creating social gathering spots*. In addition to the connection points, connected experiences are what enable them to create the socially meaningful aspects of a personal virtual possession. To increase attachment, people make social gatherings around their personal virtual possessions in various ways. A personal virtual possession can function as the inducing agent for social gatherings. It is easier to make people gather in the digital world than the physical world, because there are fewer barriers on time and space in the

digital world. People can easily encourage social gatherings and such gatherings increase attachment on their personal virtual possession by gaining social meaning on it. To encourage social gatherings, people create events or make unique gathering spots around their personal virtual possessions. For example, F2 built the SNS page of her pet as the social gathering spot (Figure 2). She uploaded her digital photos and shared the stories related to her pet with her friends. Her friends were gathered around her personal virtual possessions of the pet and produced co-experiences, e.g., having conversations by adding comments and likes. F2 valued the SNS page of her pet, because it functioned as the special social gathering spot and induced social experiences.



Figure 2. Special SNS page for social gathering

The third method is *creating potential co-experience*. People are interested in both of the current and the future experiences in terms of using their personal virtual possessions. People take efforts for future co-experiences and have higher attachment on their personal virtual possession related to potential co-experience. Curating future gifts is the most representative method of creating potential co-experience. For example, M3 has continuously made the digital photo collection of his nephew into a future gift (Figure 3). He cherished his own digital photo collection because it has the meaning as a gift that will enable future interpersonal experience like reminiscing the old days together with his nephew. His own digital photo collection acquired meaningful social aspects by creating potential co-experience.

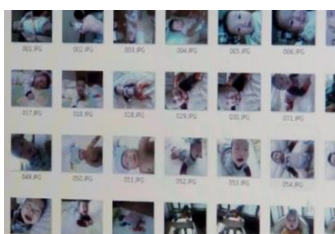


Figure 3. Digital photo collection as a future gift

#### 4.1.2 Sharing with Others

Once people are connected, they create the social meaning of personal virtual possessions by sharing them with other people. Due to the characteristics of duplicability and accessibility of digital technology, people can easily share their possessions with others in the digital world and can gain socially meaningful aspects of their personal possessions. The four methods that people create social meanings with their personal virtual possessions by sharing various kinds of their own virtual things with others were found like followings.

The first method is *sharing stories*. People create the social meaning of personal virtual possessions by sharing their own stories embedded in their personal virtual possessions. The practice of sharing stories enables them to have the opportunity to gain a socially meaningful aspect on personal virtual possessions. It usually appears in close relationships. For example, CF2 uploaded her digital photos of the cooking done by her husband on her blog and shared them among her acquaintances. She valued them because they enabled her to share her stories with close people.

The second method is *sharing information*. People create the social meanings of a personal virtual possession by providing useful information to other people. The useful information owned by a person has a potential of acquiring the socially meaningful aspect by delivering to others. In the digital world, sharing information can affect to the broad range of people. The shared information can be valued by letting a person have a feeling of helping others. For example, CF2 uploaded and shared useful information related to the wedding, restaurants, and traveling on her blog (Figure 4). She specially valued the information posted on her blog because it can help lots of known and unknown people. Her personal virtual possessions gained meaningful social aspects by being shared among the broad range of people and as well as having possibilities to help them.



Figure.4 Blog with useful information

The third method is *sharing the creation activity*. The method of co-creation is the most active way of acquiring socially meaningful aspects on the personal virtual possessions. People construct the social meaning of a personal virtual possession by participating in the phase of creation or re-creation of virtual possessions. People can easily participate in various creation activities because of the characteristics of flexibility and editability of the digital technology. Shared creation activities have a potential to build a strong interpersonal bonds among people participating in such activities and to increase social meaning of created or re-created virtual possessions. Co-retouching is one of the most representative examples of sharing the creativity activity. For example, CM1 and CF1 valued their digital photos from traveling, which they ranked together (Figure 5). Co-ranking experience enabled them to discuss about their digital photos and remind their past experiences related to the photos. Co-ranking as a shared creation activity, increased the socially meaningful aspect of their virtual possessions.



Figure.5 Co-ranked digital photos

The fourth method is *sharing access channels*. People create the social meaning of a personal virtual possession by sharing the access channels with regards to keeping and using a virtual possession. By allowing other people to access and use their own virtual possessions, people increase the socially meaningful aspects of a personal possession. For example, M2 acquired the social meaning on his own digital photos by letting his friends access the cloud storage of them. He valued his shared cloud storage because it functioned as the access channels for his sharable virtual possessions and enable his digital photos to be socially meaningful things. CM3 and CF3 constructed the socially meaningful aspect on their personal accounts of the music streaming service by sharing them between each other. They valued their co-owned accounts, because they enabled them to share their music files and the experiences regarding listening to music.

### 4.1.3 Giving to Others

People create the socially meaningful aspects of a personal virtual possession by giving it to others. Giving a thing is one of the typical methods increasing the social meanings of a possession that has been widely using in the material world. The method of giving a thing to others also works in digital environment. This study found the two representative ways of giving a virtual possession to others, 1) gifting and 2) passing down. In the physical world, people usually give both a possession and the ownership of it to other people. Unlike in the material world, a giver does not have to give up his ownership, when he gives a digital thing to other people. Multiple people can own a possession at the same time, even if it was given to them. The characteristic of duplicability of digital technology made for a different style of giving activity in the two worlds. Following are two ways of giving virtual possessions to others and examples.

The first method is *gifting*. Giving a gift is a traditional way of increasing the socially meaningful aspect of a possession, originally done in the physical world. Digital gifting also enables one to create the social meaning of a possession, in the same way of the material world does. A digital gift increases the social meaning of a virtual possession by taking an effort in preparing it, and connecting people with a special virtual possession. However, a gifted digital thing can be duplicated, so that it can be stored and used by both of a giver and a receiver. For example, M4 valued his digital music files received from his senior as a gift (Figure 6). His special music files acquired the socially meaningful aspect by using as a gift. Unlike, the material gift, they were cherished and used by both his senior and him.



Figure.6 Special music files as a gift

The second method is *passing down*. The social meaning of a personal virtual possession can be accumulated as time goes by. One of the representative ways is passing it down. A virtual possession can acquire social meaning by the bequeathing procedure among people. Traditionally, the activity of passing a possession down usually happens in limited special relationships, e.g., family members with very unique objects, e.g., heirlooms. However, the range of people engaging in the transcending activity tends to be broader and the kinds of objects involved are more varied in the digital world. In the digital world, a transcending possession has the high level of practical aspect, because it does not wear out even if time passes. The perpetuity is one of the characteristics of digital technology. For example, M3 archived the special sources of programing programs and passed them down to the special junior programmer. He and his junior programmer both owned the programming sources as their personal virtual possessions and used them for their job, while valuing them as socially meaningful possessions.

## 4.2 Curation Activities of Creating Personal Meanings for Social Virtual Possessions

Creating personally meaningful aspects of social virtual possessions is one of the ways of increasing the attachment to virtual possessions. The curation activities of acquiring personal meaning with social virtual possessions are generally about making clear sense of a possession from the shared status of a virtual thing.



Unlikely the digital things, material things naturally gain personal meanings, due to the capacity of tangibility, concreteness, and originality of the material world. Making clear sense of a virtual possession can be enabled by adding the characteristic that material things originally have. This study could extract three representative methods of creating personal meanings with social virtual possessions, 1) retaining personal storage, 2) keeping authenticity, and 3) crafting representatives.

#### 4.2.1 Retaining Personal Storage

The curation activity of retaining personal storage is about acquiring personal meaning by making the blurry boundary of the virtual possession storage clear. By achieving the concrete boundary of keeping virtual possessions, people can create the personally meaningful aspects of shared virtual possessions. From the analysis, the two representative ways in retaining personal storage, 1) safely storing, and 2) keeping or using as a gift were discovered. Followings are the methods for retaining personal storage and the examples.

The first method is *safely storing*. People create the personal meaning of a social virtual possession by safely storing it. Constructing the concrete personal place for safely storing a shared virtual possession can let people to have the sense of ownership and increase the personally meaningful aspects of a social virtual possession. The clear sense of a possession can be acquired by reducing the ambiguity of the keeping place. People tend to find unique ways and places to store shared virtual possessions. For example, CF4 additionally stored the lists of favorite sites and links of the notebook that she shared with her husband. She stored them in the other hard disk, a safe place that can be used privately. The shared environment is not safe to keep valuable virtual possessions, because other people who participate in co-experience might change the status of virtual possessions. It is easy to edit virtual possessions in the digital world, because of its flexible nature. CF4 valued the personally stored lists, because she could safely keep them by protecting them from the flexible co-sharing context.

The second method is *keeping or using a gift*. People create personal meaning for social virtual possessions by keeping or using a gifted thing. A gift is a social possession, which connects the giver and receiver. However, from the moment that the receiver starts to use in his own way, a possession gains personal meaning. People acquire the personally meaningful aspect by keeping and using the received virtual things in their personal way and value them as their own virtual possessions, which have both personal and social meanings in it. The digital world supports curation activities of keeping and using a virtual gift in a personal manner by its capacity for flexibility and editability. For example, M4 received the digital photo of his girl friend from her as a gift and curated it as the background image of his mobile phone (Figure 7). He increased the personal meaning of this digital gift from his girlfriend by using it in his own way. The personally curated background image made of a digital gift was valued because of having both social and personal meanings. His personal curation activity enabled a couple's social possession to acquire personal meaning as one of the most frequently used personal virtual possessions.

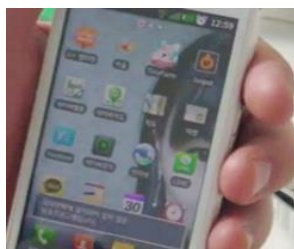


Figure.7 Personally curated digital gift

### 4.2.2 Keeping Authenticity

People create the personal meaning of a social virtual possession by keeping its originality. Unlike material things, digital things have flexibility as its natural characteristic. The curation activity of providing a virtual possession not to be changed requires personal curation activities. By keeping the original status when a virtual possession was socially used, people can increase the personally meaningful aspects of a social virtual possession. For example, M2 kept the original status of his e-mail account that contained his cherished old e-mail by freezing and not using his e-mail account for other purposes (Figure 8). He created personally meaningful aspects of his e-mail account by keeping the authenticity as it was once socially used. By the personal curation activity of keeping authenticity, he could turn his valuable social virtual possession as into a permanent possession that will not change even if time passes.



Figure.8 Keeping authenticity of the letter-like old e-mails

### 4.2.3 Crafting Representations

People create personal meaning for a social virtual possession by crafting and using representations. Crafting representatives is the most active way of increasing the personally meaningful aspects of social virtual possessions. Unlike material things, virtual things are low in scarcity. The method of making representations increases the uniqueness of a social virtual possession. The two representative methods of crafting representations, 1) using as reminder, and 2) cumulating mutual logs, were found.

The first method is *using as a reminder*. People acquire personal meaning of a social virtual possession by crafting and using it as a unique reminder. People want to remember special co-experiences in their ordinary lives. Therefore, people curate social possessions to make their own personal symbolic and unique possessions that can be used in their personal lives and evoke related co-experiences. People keep curated unique possessions close to themselves, so that the representatives can be easily used as a reminder of the shared experience. For example, M2 created personal meaning for a social possession by creating the background image of his desktop with digital photos that contains special co-experiences with his friends (Figure 9). The personal curation activity of making representations, he was able to increase the uniqueness of his social virtual possessions. By using the curated representatives as reminder, he could value such co-experience as the personally meaningful possession that he meets frequently in his daily life.



Figure.9 Self-made image as a reminder of co-experience

The second method is *cumulating mutual logs*. People created personal meaning of a social possession by curating cumulated mutual logs of shared activities. The logged records can be treated as symbolic and unique possessions of the mutual experiences. Not only the shared experience itself but also the logs of shared experience can increase the attachment of a virtual possession, because it helps to make the co-experience more tangible and concrete. The methods of cumulating logs can be strongly supported by digital technologies. For example, CF1 continuously kept storing her text messages with her husband on her mobile phone. It has been several years since she has personally curated the mutual logs of the text messages. By the curation activity of cumulating mutual logs, she created personal meaning as her representation of co-experience with her husband. The curated logs enabled her to cherish her text messages more, because of their tangible, concrete, and symbolic aspects.

## 5. Discussions and Conclusion

This paper investigated how people create personal and social meanings of virtual possessions, in the context where the boundary between personal ownership and shared ownership become blurry. This paper found that the curation activity and the concept of possession are entangled in terms of increasing the personally and socially meaningful aspects of a virtual possession. As a result, the methods of creating personal and social meanings of virtual possessions were discovered based on two patterns, i.e. the curation activities of creating social meaning for personal virtual possessions, and the curation activities of creating personal meanings for social virtual possessions. The discovered methods will help to deeply understand how people increase both of the personal and social meanings with their virtual possessions and help designers to make digital social services and applications by providing concrete curation methods.

This paper has the two implications on future developments related to personal and social virtual possessions. The first implication is about the balanced consideration on both social and personal aspects of virtual possessions. The development of digital technologies strengthens the social aspects of virtual possessions. However, as this study discovered, it is important to focus on the complex region where the personal and social meanings are entwined rather than merely focusing on the social aspects of virtual things. Chasing only socially meaningful aspects might make designers lose one of the important areas, i.e. the personally meaningful aspects, which should be considered in increasing attachment of virtual possessions and building durable digital social services and applications. The second implication is about understanding the capacity of the digital and material world as strategies for acquiring personal and social meaning for a virtual possession. From the analysis, this study found that the capacity of the digital and material world was used as tactics for curating activities in personal or social ways. While creating social meanings for personal virtual possession, the capacity of the digital world, i.e., connectedness, duplicability, flexibility, and perpetuality, enabled expansion of the social dimensions of a virtual possession. In contrast, the capacity of material world, i.e. tangibility, concreteness, originality, and uniqueness, made possible to increase the personally meaningful aspects of social virtual possessions by make clear sense of ownership. It is recommended to understand the capacity of the two worlds, and use it as a strategy for increasing the personal and social meanings of virtual possessions in the social digital applications.

There are the two issues to be discussed in further studies. First, the relationship between material and virtual things is recommended to be investigated in terms of creating personal and social meanings. This study mostly focused on the digital world and did not systematically compare the material and virtual things. However, this

study found that there might be insightful relationship between the two worlds. Social ways of curating a possession is limited in the physical world. But the material world has the strength of having a clear sense of ownership. The digital world extends and strengthens the social aspects. At the same time, the digital world is originally weak in building personal value. By producing systematic knowledge on comparing the material and virtual world, we will be able to have further understating on the personal and social meaning construction with possessions. Second, the further study can be extended to understand people worldwide. By investigating people worldwide, we will be able to gain a more proper general understanding of how people create personally and socially meaningful aspects for virtual possessions. Moreover, we will be able to include cultural issues and understand the cultural differences among people worldwide in the personal and social meaning construction of virtual things.

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