Good Fences Make Good Neighbors: Values of Digital Objects in FarmVille2

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ABSTRACT
This paper describes the findings of a textual and structural analysis of the free-to-play social networking game FarmVille 2 (FV2) with a focus on the values (social, economic, etc.) available to players for digital objects within the game. FV2 is purportedly a social game, which might suggest that findings regarding the social values of objects from the study of material culture could play out in the game, as they have been shown to do in other games. However, the author's experience suggested that people who were not playing within an already existing network of friends might not show the kinds of digital virtual consumption patterns that previous research has found in social gaming. Instead, this paper suggests the possibility that a strong community may be necessary for the attribution of symbolic value to virtual goods, and that FV2 as played on alternate Facebook accounts may provide an example of a negative case for this basic tenet of the study of material culture.

Keywords
casual gaming, social gaming, digital virtual consumption, material culture, digital objects

INTRODUCTION
In this paper, I explore the topic of the various kinds of value assigned to digital objects within the context of digital virtual consumption in the casual social networking game (SNG) *FarmVille 2* (FV2) (Zynga, 2012). FV2 is a free-to-play game, meaning that the game itself does not initially cost money, but the player can purchase digital objects within the game. The free-to-play model has become quite common in social gaming, and games of this type have millions of players worldwide.[1] FV2 is the follow-up to the popular social online farm simulation game FarmVille. FV2 is accessed via the Facebook interface, and players must be logged in to Facebook to access the game.

The rise of the free-to-play model may have implications for how players of these games relate to and think about digital objects. The case of virtual goods[2] (as a subset of digital objects) is particularly notable because these objects represent a relatively new way that humans are interacting with and experiencing digital objects. What is new about the case

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of digital virtual consumption in browser-based free-to-play games is that not only are consumers paying for digital objects that are a relatively new kind of object, but also the physical aspects of these virtual objects are unavailable to their purchasers. When computer games are sold on some kind of digital storage medium, or consumers pay to download a game, the purchaser has ownership of the game as it exists on the storage medium. In many browser-based free-to-play games, however, the consumer pays for a digital object that is not then saved on any physical device belonging to them; instead that object is stored on a server belonging to the company that produced the object. The consumer is paying for access to the object, rather than possession.

Human interaction with digital objects as a class of objects (in contrast to objects that are typically referred to as 'physical') is a relatively understudied aspect of human-computer interaction. Although the role of digital objects in everyday life continues to increase, the ubiquity of these objects tends to hide their potential significance. This study contributes to an understanding of the various kinds of significance that gaming has in everyday life, as well as investigating how game structure can affect user perceptions of the significance of digital objects in games. In this paper, I examine how previous work has addressed the values of digital objects in everyday life and in digital games. Then I turn to a textual and structural analysis of FV2 itself, in which I focus on how the values of digital objects play out in the environment of FV2 and how the structure of the game affects those values.

LITERATURE REVIEW

Digital Objects in Everyday Life

The case of virtual goods suggests that a shift may be occurring in consumer behavior with regards to digital objects. Many types of online purchases are either real world objects that are purchased through a virtual interface, or digital objects that have some kind of closely related real world analog such as music, books, or movies. In the latter case, these digital objects can be interacted with in similar ways as their real world analogs. Songs stored as mp3 files on a hard drive can be listened to, as songs stored on vinyl records can be listened to. Books can be read, movies can be watched; the same essential characteristics of the object are available. Although there are certainly worthwhile debates about how the different affordances of these objects in physical and virtual form change the user's experience of the object in important ways,[3] the use value of these objects is the same or very similar whether it is in virtual or physical form.

The digital objects in the game of FV2 do not have analogs in the real world in the same way as virtual books and music do. The animals in FV2 cannot be smelled and their fur cannot be touched. They are representations of real world animals, but do not have the same use value as those animals, as Martin points out about virtual goods in Second Life (2008). Virtual goods have only a distant relationship to their real world analogs, and offer a completely different experiential interaction. These kinds of digital objects, virtual goods within browser-based free-to-play games, are objects that are more divided from their physical aspects than any other type of digital object in the experience of the user. In FV2, game files are stored on a machine belonging to the game's parent company rather than the player's computer.[4] In these cases the player has no control over or access to the physical media on which the objects they purchase are stored. These objects may therefore be an ideal case for investigating user interaction with digital objects as objects that aren't experienced as material. The fact that consumers treat these objects as valuable suggests that our relationships to digital objects might be undergoing a major change.

A variety of related factors hide the physical existence of digital objects from users and contribute to the idea that digital objects are ephemeral and 'not real.' First, the virtual aspect of the digital object is the one that we see and interact with most often. The storage media on which digital objects are physically inscribed are almost always encased in housing that hides them from the user. Second, the virtual aspect of the object exists many layers of abstraction away from the physical aspect. Indeed, the design of the computer may encourage the interpretation of digital objects as ephemeral (Blanchette 2011, Kirschenbaum 2008). And third, the physical inscriptions that compose a digital object may seem unreal because they aren't readable by human eyes. That does not, however, make them any less necessary for the existence of the object. These related factors combine to enable, and even encourage, users to ignore all but the virtual aspect of a digital object in their daily interactions with these objects.

The claim that many users consider digital objects to be ephemeral is supported by recent work in human-computer interaction in which researchers have comparatively investigated human interactions with digital and physical objects. In a study on how people perceive digital possessions that are in Cloud storage, Odom et al. found that "people's feelings about digital ownership are better described as either uncertainty or uneasiness" and that "possession becomes a difficult concept when the thing possessed has no geographic locale" in the experience of the user (2012a). In a study on the comparative cherishability of digital and physical objects, Golsteijn et al. found that their participants had trouble thinking about digital objects as objects. "From the start they are not objects… Even though most things are ephemeral, these are even more... I mean there's no solid' (P8)" (2012).These sentiments reflect the perceived immateriality of digital records that has been discussed in many studies (e.g., Magaudda, 2011; Odom, et al., 2012b).

Materiality in Digital Virtual Consumption (DVC)

Scholars in many fields have engaged with the materiality of digital objects from different perspectives, and many acknowledge the complexity of those objects. Writing about digital virtual consumption, Lehdonvirta argues against those who he sees as espousing "digital post-materialism." He states that "beliefs and practices" surrounding digital architectures "cannot be described as non-material culture, because they involve assigning cultural meanings to tangible features of digital architecture" (Lehdonvirta, 2010, 885-86). Shields, in his sociological examination of the concept of the virtual, argues that it "is clearly in a dependent relation to the actual (in the case of virtual reality, this would be exemplified by its reliance on telecommunications infrastructure, technology and living bodies)" (2003, 29). Konzack takes a technical perspective on the materiality of games. He insists that not only the virtual layers of gameplay and functionality must be examined, but the hardware and program code layers should also be considered (Konzack 2002).[5] Aarseth, also in game studies, characterizes games as "consist[ing] of non-ephemeral, artistic content (stored words, sounds, and images)…" (2003). It is not often that the virtual aspects of games are characterized as non-ephemeral; Aarseth seems to come down clearly on the side of materiality.

That said, the technological basis of the existence of virtual goods does sometimes get short shrift particularly in the DVC literature. While it is to be expected that authors in this area would focus on the social and economic aspects of the activities that they are examining, a lack of acknowledgement of the underlying technology can be detrimental to analysis of behaviors that occur in virtual environments. Magaudda in particular is very willing to treat the storage technologies where digital objects exist as black boxes,

claiming that these objects are somehow de- and re-materialized (2012, 2011). This perspective has the effect of mystifying digital objects instead of allowing insight into their existence as complex, layered objects with both tangible and intangible aspects. While de- and re-materialization may be the way that participants in his study (Magaudda 2011), conceived of these objects, characterizing the existence of digital objects in this way reinforces the designed opaqueness of the technology.

Values of Virtual Goods

The DVC community has thoroughly investigated different types of economic values as they play out in virtual environments. Martin (2008) redraws the debates around Marxist ideas of use-value and exchange-value as they relate to virtual goods. "In Marx's account of the valuation of goods, use-value is positioned as the ability of a good to fulfill a material but not necessarily a social need" (Martin, 2008). But Martin expands on this view to include Baudrillard's notion of sign value, noting that commodities that have use or exchange value may also have other kinds of value: "through their symbolic application commodities can meet less immediately material but equally important needs such as belonging and identity" (2008). In this way, Martin argues, exchange-value supplants use-value in Second Life. Her perspective on the issue is directly related to the affordances of Second Life. Martin says that in Second Life, "exchange-value has subsumed a use-value that never was, not only because virtual goods are incapable of meeting physical needs, but also because virtual bodies in Second Life are not programmed to have them" (2008). She argues that exchange value is therefore based entirely on sign value in that context.

Sign Value and Community

Online virtual environments are realms in which important aspects of individual identity can be explored and developed (Gray 2009; Thiel 2005; Turkle 1995). The study of material culture also shows that identity construction can be closely tied to consumption and material objects, and sign value has been central to these considerations. "One of the most important ways in which we relate to each other and ourselves is through material objects" (Lehdonvirta, 2010).

Other scholars show how this behavior has manifested with regards to digital objects in general (Odom, Zimmerman, et al. 2012; Kaye et al. 2006), and it has also been shown to extend into the realm of virtual environments (Boellstorff, 2010; Denegri-Knott et al., 2012; Lehdonvirta et al., 2009; Martin, 2008). According to Lehdonvirta, "people consume virtual goods for much the same reasons they consume material goods: to establish social status and live up to the expectations of their peer groups, to build and express identity…" (Lehdonvirta, 2010). Martin argues that virtual goods "sell at an impressive rate for reasons that have… everything to do with meaning, and especially with meaning that producers are able to position in terms of status, belonging, and individuality" (2008).

While socializing is perhaps the main purpose of many virtual worlds (such as Second Life), it is important in other types of games as well. In many hardcore massively-multi-player online role-playing games (MMORPGs), being part of a community is extremely helpful or even required in order to progress in the game. As Ducheneaut et al. state, "most MMORPGs are structured so that players are forced to interact," and quests can often be too difficult for a single player to complete alone (2004). This is not necessarily the case for many casual games, and Juul's work suggests in some ways that it is less likely. One of the advantages of casual games cited by Juul's participants was that they

could easily pick up and put down the games. "…Casual game design can reach new players by allowing them to play in short bursts, to interrupt a game and put it on hold… This is the *interruptibility* found in casual game design, giving casual games flexibility in the time investment they ask from players" (Juul, 2010, 36). One of Juul's participants tells a story about being unable to do this in a hardcore game. "…He was going through a busy spell in his life with little time to play, and his character had consequently fallen behind those of his friends. For that reason his friends refused to play with him anymore– he had become a liability" (Juul, 2010, 127). It is possible that the interruptible structure of casual social games like FV2 makes the formation and maintenance of close social bonds less likely.

The potential lack of close social bonds would be important to the values of virtual goods because "goods are endowed with value by the agreement of fellow consumers" (Douglas and Isherwood 1979). Players always decide to purchase or not to purchase virtual goods in a game within their social context for the game. Castronova reiterates this point for virtual worlds, saying that "value is a social construct" (2005, 146) and because people treat virtual goods as valuable, they come to be valuable. The virtual is part of the real because people behave as if it is. The following analysis of FV2 will explore how the structure of a game can encourage (or discourage) people to treat virtual goods as valuable.

ANALYSIS OF FARMVILLE 2

Methods

I examine the game FarmVille 2 through textual and structural analysis with these issues in mind. Aarseth (2003), Carr (2009), and Consalvo & Dutton (2006), provide guidelines for these types of analysis. As Aarseth points out, "the elements we choose to examine are always predetermined by our motivation for analysis" (2003). Therefore I focus on the digital virtual consumption aspects of the game and their implications for how players might understand virtual goods within the game. Consalvo & Dutton offer useful questions for analyzing in-game objects.

> What role or importance do objects have in the game? Is the player encouraged to collect 'stuff' for the sake of having it, or is there utility in most objects? What can be inferred about the economic structure of the game from the pricing of objects, their relative scarcity or abundance? (Consalvo and Dutton 2006)

Carr points out that the method that many scholars in games studies have called textual analysis actually includes elements of structural analysis as well. He distinguishes the two as such: "structural analysis relates to game design and form, while textual analysis relates to signification and to the game as actualized in play" (Carr 2009). All three works emphasize the necessity of playing the game for the purposes of analysis. Carr particularly notes that "play is a situated practice," and that "culturally situated association is part of analysis" (2009). This is an excellent reminder that the player exists in a cultural context outside of the game and that each player experiences the game differently. In a related point, Newman observes that the player interacts with the game as a whole and suggests that although most games "present a central character with which one might imagine the player identifies," the player's relationship to the game "is more complicated and based on engagement at the level of simulation, rules, and systems rather than with a specific or identifiable character"(2009). While I am looking at the entire

game as a system with which the player interacts, I also focus on how the game's interface affects the cultural context in which those objects exist for the player.

I played FV2 daily on an alternate (to my primary account) Facebook account for just over two months, from October to December of 2012. In that time, I built a network of over fifty FV2 neighbors by adding people as Facebook friends who posted on FV2 forums requesting friends, and by accepting friend requests from mutual friends. I did not personally know any of my FV2 neighbors. I also kept a journal of my game-playing experience, which I used as a reference during analysis.

In FV2, the player has a farm where they can raise animals, and plant crops and trees. These produce goods such as eggs, wheat, and apples that can be sold for coins at the 'market stand.' These goods can also be combined in a 'crafting kitchen' to create new goods that can be sold for higher profits. Crops and trees must be watered in order to produce goods, and animals require feed, which is produced from crops or trees. The player gains experience points (XP) from feeding animals, and from growing crops and trees. Completing quests also produces XP. As the player gains more XP, they will level up, allowing them access to land expansions, and to more profitable crops, trees, and animals. The player's level is visible to their FV2 neighbors. There are two types of money in FV2: coins and bucks. Coins come from selling items at the market stand within the game, but bucks must be bought with real world money. There is no overarching narrative to the game besides that of continued land expansion and wealth acquisition.

Progression within FV2 is very structured. It consists primarily of leveling up, which unlocks more options for animals, trees, crops, and land. Quests are offered to the player based on level progression and depending on the time of year.[6] There are no particular consequences for not participating in quests (other than slower game progression), because quests are not tied to any overarching narrative. Low consequences for inefficient play or failure is not uncommon in casual games, according to Juul, but he also points out that players tend to get bored with games that are impossible to lose (2010). There is no losing the game in FV2; the only negative consequence of playing poorly is that leveling up will take more time.

Object Values

Virtual goods in FV2 do have use value in game (unlike in Martin's description of Second Life), even if they do not have use value outside of the game context. In FV2, it is exchange value that is edited out of the game (at least in terms of player control), because there is no direct trade between players. Since the game designers set all of the exchange values in the game, the player's only choice is whether or not to purchase an item. This choice, however, does have implications for the presumed sign value of the item as perceived by players. Lehdonvirta et al. introduce the concept of sign value as "the use of goods for building social bonds or distinctions," noting that in this view, "consumers are seen as communicators who use symbolic meanings embedded in commodities to express status, class, group membership, difference or self-identity" (2009). If the only possible value for an item is sign value, the decision to purchase the item connotes that it is seen as having positive sign value.

There are two main methods for progression in FV2. Either the player can spend money, or they can ask for help from friends (referred to as 'neighbors' in FV2). Without doing either of these things, game progression would eventually halt. There are many situations

in game where this option between spending monetary capital or social capital is made explicit. See, for example, Fig. 1, in which a dialog box is shown that offers two different ways to acquire sugar for a recipe that the player can complete and sell. The user can either click the Ask button (and send a message to friends requesting sugar), or they can click the money button (and spend two FV2 bucks in order to get the sugar). The repeated choice between asking neighbors for help and spending money that the game requires of players makes it clear why critics like Bogost say, "In social games, friends aren't really friends; they are mere resources" (2010). The phenomenon of players treating social actions in games as instrumental more than social is not limited to the kind of games that Bogost was criticizing with that statement, however. Ducheneaut et al. found that many players of the MMORPG Star Wars Galaxies had an "instrumental orientation to the game" (2004).

Figure 1: Candy Apple crafting screen.

Presumably there is an option of asking friends for special items that are required for progression because the game will be more profitable if there are more players. A related reason for this option might be that if players are forced to pay for items in order to progress, they may feel taken advantage of and quit the game. In a game where there are potential profits as long as players keep playing, player attrition is much worse for the parent company than it is in a more traditional model where the profit comes entirely from the sale of the game itself. Another effect of this model is that it is preferable to the parent company for players to invite *new* players to the game, rather than adding friends who are already playing FV2.

Items that players have to acquire by asking friends or spending money have value because they are not available through regular gameplay, which makes them somewhat rare. These semi-rare items generally also have in-game use value. For instance, these types of items can be used in recipes in the crafting kitchen, they can be used to turn a baby animal into an adult animal (desirable because babies do not produce food items that have in-game use value), or they can be necessary to complete a quest. Other, more rare items can only be acquired by purchase using bucks (which, as mentioned above, must be purchased with real money). These items are often either decorative, or are a special version of another type of item that can be acquired without spending bucks. See Figure 2 below, which shows a screen for purchasing animals where some of the babies can be purchased for coins, which are available through selling objects that can be created in the

game. Figure 3 shows a purchasing screen for animals that are only available for a limited time and must be paid for with dollars. Martin notes that "by only releasing single units or limited edition runs of a particular item, developers have tried to ensure that their goods retain their status and value in Second Life" (2008). Presumably, the designers of FV2 were trying to create the same situation.

Figure 2: Animal purchase screens.

These special animals do produce goods within the game and therefore have in-game use value in addition to sign value. Everything that they produce, however, can also be acquired from other animals as well (animals that can be purchased with coins). It is never necessary to purchase a special animal rather than a regular animal in order to obtain a particular item. There are also many decorative items in FV2 that can be purchased with bucks. These items are often seasonal, which adds to their rarity, but they do not have any use value within the game. Their only purpose would seem to be to allow players to express their individuality and impress visitors to their farm. In other words, the only kind of value they have is sign value.

Community and Sign Value

Identity construction relies, in a very broad sense, on social interaction and community. In order for digital objects to perform identity-related functions, they must be available in community contexts. This is where the role of digital objects in FV2 does not quite play out in the ways other authors have discovered in other games. In FV2, player interaction and community formation is stilted by the game's structure.

Alternate Accounts

One of the most interesting phenomena I encountered while playing FV2 was how players integrated the game into their Facebook use. Many players seemed to be playing the game through alternate Facebook accounts instead of their primary personal accounts, developing a second Facebook network specifically for the game. These players would often use screenshots from FV2 as their Facebook profile picture, and make their Facebook name game related (calling themselves "Farmer Fran" or "Fran Ville," for instance). I also saw several Facebook status updates of statements to the effect of "This is the account I use for playing FarmVille 2, if you don't play this game you should delete me." These players tended not to have personal information available in their

Facebook profiles or post items unrelated to social gaming on their Facebook walls. Not all players I encountered appeared to be using alternate accounts for FV2, but many of them did.

One reason for creating a secondary account could be to avoid overwhelming non-FV2 playing friends with FV2-related posts. Wohn et al. noted that two non-players of social games in their study expressed annoyance with the onslaught of game-related activity posted to their Facebook pages by friends, and another participant spoke of a game-playing friend "polluting" her page (2011). Boellstorff also found that some Second Life players used alternate accounts in order to complete instrumental, non-social tasks (2008, Ch. 5).

The decision to use an alternate account for playing FV2 could also be related to social stigma. Juul described the stereotype of the casual gamer as someone who "has a preference for positive and playful fictions, has played few video games, is willing to commit little time and few resources toward playing video games, and dislikes difficult games" (8). Bogost characterized games like FarmVille as, "challenge-free games [that] demand little more than clicking on farms and restaurants and cities and things at regular intervals" (2010). However, without talking to players directly, there is no reason to assume that they are aware of these kinds of characterizations.

By using alternate accounts, FV2 players could develop networks of other players who they could rely on to help them in the game and avoid irritating their real world friends on their primary profiles. Using an alternate account does not necessarily preclude playing the game socially, but that appeared to be how some players were using these accounts.

Game Structure, Identity, and Community

Player interaction within the game is very limited. There are no public spaces within the game environment. The only spaces within the game are the player's farm and farms belonging to other players, which can be visited once one player accepts another as a neighbor through the game interface. There is no way within the interface for players to talk to each other directly, although the fact that the game is embedded within Facebook makes communication between players possible. Player communication is limited to sending gifts, aiding in quests, and visiting other players' farms and performing helpful actions there. This last possibility is essential for the importance of decorative digital objects in FV2 because when visiting another player's farm, the visitor can observe how the visitee has organized their farm and if they have any decorative or rare objects out on display. Lehdonvirta et al. argue "contemporary consumer culture also entails the creative mixing of consumption styles in a project that resemble artistic expression" (2009). There is potential for this kind of expression through a player's arrangement of their farm in FV2. This makes aesthetic choices about farm arrangement and item display the primary mode of self-expression within the game. Theoretically, the lack of textual communication could make the sign value of objects more important as one of the few means of communication. But it does not work out that way because sign value depends on shared cultural values, and those are not necessarily in place for players in FV2 who are not already playing as part of a community.

Therefore despite the ostensibly social nature of FV2, the game structure does not promote initiating new relationships that are anything more than instrumental relationships. Surface social behaviors, such as giving gifts that cost the user nothing, are promoted. Since players are actually prevented from communicating with one another

through the game interface, neighbors become tools that the player can use to beat the system instead of being friends. A good neighbor, in FV2, is willing to click on a button to help, provided that they are helped in return. Talking to one's neighbors is not necessarily 'good neighbor' behavior, and could actually be viewed negatively as not in keeping with the instrumental nature of 'friendship' in this context. If there is no real community being formed, then there is very little incentive to impress one's neighbors. If there is no reason to try to impress neighbors, there is no reason to buy digital objects because there are no established sign values for those objects. In fact, there might be distinct reasons *not* to buy those kinds of objects because of the game's structure.

These reasons can be partially explained by Lessig's discussion of types of economies. FV2 is what Lessig would call a hybrid economy (2008). The player's relationship to Zynga is a commercial one. Although it's possible to play the game without spending money, the interface makes clear to the player that their primary relationship to Zynga is that of consumer to producer. In relationship to other players, however, the player is part of a sharing economy. There is no possibility, in-game, of exchanging money with another player, or even exchanging goods in such a way that the player has anything to lose. The FV2 sharing economy is clearly "thin sharing economy" in Lessig's terms, as it is primarily based on self-regarding motivations (Lessig 2008). There is no reason to give anyone help within the game if you do not believe they are going to return the favor. As the candy apple scenario demonstrated, the game pits the commercial part of its economy against the sharing part. One of Lessig's observations about hybrid economies points out the pitfall for Zynga in this scenario:

> That link [between the sharing and commercial economy] is sustained, however, only if the distinction between the two economies is preserved. If those within the sharing economy begin to think of themselves as tools of a commercial economy, they will be less willing to play (Lessig 2008).

Lessig is not specifically talking about games in this quote, but his argument applies in the case of FV2. The structure of the game pits all of the players against the game designers and the company producing the game. However, it is possible that instead of discouraging players from playing at all (as Lessig expects), this state of affairs might encourage them to play in a different way. It becomes a part of the gameplay to beat the company. Players may do that by avoiding spending money in the game–by not participating in the commercial economy. The player views the game as a system (Newman 2009), and the way to beat the system is by progressing without spending money. For players who are viewing the game in this way, virtual goods in FV2 that cost real world money have negative sign value instead of positive.[7]

AVENUES FOR FUTURE RESEARCH

These findings raise questions about the places of digital objects in the lives of their users and how the social contexts of these objects may affect their values in the eyes of their creators. In games, are players less likely to view digital objects as valuable if the context is unimportant to the player as a social environment? Are digital objects belonging to players seen as more valuable in heavily social contexts?

Because the design of this research (as a textual and structural analysis done by a single researcher) is not generalizable, there are many avenues in which the findings of the paper could be pursued. Studying the experiences of more FV2 players directly is a clear next step. One way to investigate the questions that arose from this study would be to

compare gameplay experiences between one group of players who played with people who they knew personally before playing the game, and another group of players who did not. A study of this kind could potentially confirm or undermine my argument that the closeness of ties within a social network may have an effect on how players in that network assign value to virtual goods. Another fruitful path might be to explore the connections between social context and the values of virtual goods in other virtual environments.

CONCLUSIONS

The inclusion in FV2 of objects that have no in-game use value and are valuable solely for their rarity and potential to help the player construct their identity in the eyes of other players implies that the objects have the capacity to be significant for players as objects in themselves. However, in my gameplaying experience, this potential was undermined by the game's structure and interface, and the lack of a community context. It is important to reiterate that this lack of community context stemmed from the fact that I was playing the game on an alternate account, not within a pre-existing community, and the experience of someone playing within a pre-existing community could have been quite different.

The materiality of the virtual goods in the game–their relationship to and reliance on the physical storage media on which they are inscribed–is hidden from the player by the structure of the game and its media storage defaults. The FV2 interface does not have a 'save' option. Games are automatically saved to Zynga's cloud storage, but the player is not able to choose when that occurs. This emphasizes the lack of control that the player has over the game, and their distance from the physical existence of objects that they collect and purchase within the game. This supports my expectation that virtual goods in SNGs are some of the 'most virtual' of digital objects. Shields's observation that "the details and material conditions by which the virtual has been brought into everyday life are concealed" (2003, 151) is especially true in the case of virtual goods.

This analysis has established that there is a possibility for players to consider this most virtual kind of object as a 'real' object, but further exploration is needed in order to investigate how players actually conceive of and interact with objects in FV2 and other free-to-play games. Although further empirical research that directly engages players on the subject of DVC in SNGs is needed, I suggest that there is a possibility of a kind of negative outcome for theories of material culture in situations where no meaningful social network exists. The possible outcome that virtual digital possessions in games are less important to players when there is no meaningful social network would tell us a great deal about digital virtual consumption, and pave the way for comparisons with digital possessions outside of gaming. Because of the widespread popularity of SNGs like FV2, these investigations have broad implications for how many computer users conceive of and interact with digital objects in these contexts.

ENDNOTES

[1] FV2 alone had over 59 million players as of November 2012, according to Facebook's App Center page. However, it is not clear how many of these are active players.

[2] "Goods that exist only within a virtual environment and the computer servers on which they are housed" (Martin, 2008).

[3] See for instance Bonnie Mak's *How the Page Matters*, particularly Chapter 5 on "The Digital Page."

[4] In some SNS games, the player is given an option to store some game data on their computer (perhaps to free up storage space for the parent company), but I was never presented with this option in FV2. Additionally, a colleague, Julia Bullard, pointed out that this also has the positive effect of improving loading/latency times (personal communication, May 2013).

[5] Aarseth's response to this approach was that in general, not all of the layers Konzack implicates are equally interesting or important, and that "few [games] present us with real innovations in more than one or two [layers]" (Aarseth, 2003).

[6] Since FV2 is a real-time game, quests are often related to holidays (generally Western holidays such as Thanksgiving and Christmas).

[7] This is not to say that I believe this is necessarily the view of the game that all players have. It is, however, a view of the game that is possible and even encouraged by the structures of the game's economy and interface.

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