Using your friends: Social mechanics in social games

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ABSTRACT

This paper analyzes the social mechanics in top social games. It identifies several mechanisms by which social games encourage sociality: the friend bar, gifting, visiting, challenge/competition, and communication. Different implementations of these components result in varying gameplay experiences. However, no mechanics were found to offer very deep or sustained social interactions between players.

Categories and Subject Descriptors

Design, human factors

General Terms

Design, Human Factors

Keywords

Social games, game mechanics, Facebook, gameplay

1. INTRODUCTION

Social games have drawn millions of players to social network sites such as Facebook, where they can build virtual cities, slay evil darkspawn, bake cupcakes, and tend horses. And part of the draw of doing so is the opportunity to play alongside one's friends and family—either by helping one another to advance, or through engaging in friendly competition. Yet such games have drawn heavy criticism from both the game design community and many traditional game players. They point out, among other concerns, that the games feature no meaningful interactions between players, resulting in a mockery of sociality rather than a true expression of it.

This study set out to investigate those claims, not by surveying players as to their actual interactions through the games, but by studying the games and their mechanics. It began with a simple question: how social are social games? To answer that question more specifically, the research question this study sought to answer evolved into: how do contemporary social games implement sociality or social interactions into their gameplay?

2. PAST WORK

Social games are a relatively new development in the games industry, with academics similarly working quickly to understand players, central game mechanics, and the economics of this slice

of gaming activity. There is some related work done on casual games—Jesper Juul's book *A Casual Revolution* is the most notable [4]. He documents how the demographics for the game playing public are changing as more women, older people, and past game players have (re)started playing different types of games. He also points to how newer games offer players more positive fictions, a more forgiving play style, and the ability to play in shorter bursts of time than more recent mainstream games. Most of these components can also carry over to understanding social games. However, many of the games he detailed are single player games, while social games are multiplayer, albeit with single-player components.

Other academics studying social games more explicitly have found that players engage in different types of social activities based on the type of game they are playing: for example, Rossi found that when playing a collaborative game such as *Pet Society*, players are more likely to add new friends to their network due to their gameplay, while games that are competitive "seem to work better as tools to manage and communicate social status within your already existing social network" [7]. Additionally, Losh cautions that players come to social games with their own norms for interactions with friends, family and strangers, and that games must take account of how variable expectations for politeness and reciprocity (among other factors) might make gameplay challenging or problematic [5].

In game development, Aki Jarvinen, a game designer for social game company Digital Chocolate has begun articulating some design patterns for the creation of social games derived from prior research on (nongaming) online communities. His four major patterns are spontaneity, sociability, symbolic physicality, and narrativity [3]. Beyond Jarvinen, the majority of developer/publisher attention to social games has been non-academic work analyzing the analytics captured from such games and speculation and case studies about how best to monetize social games.

3. METHODS

To conduct this study, a game analysis was performed on 70 games, the majority from Facebook.[1] Rather than a random sample of games, however, purposive sampling was employed to identify as diverse a selection of games as possible. Top ranked games were identified via the site AppData.com, which ranks social games daily in terms of their Daily Average Users (DAU) and Monthly Average Users (MAU). Over the time period of October-early February 2011, the site was checked regularly to determine which games were in the top 10 for MAU, and those games were accessed and played. Additionally, listings on the site were scrutinized for a variety of game genres, to ensure that games with different sorts of mechanics and fictions were studied. The following genres were sampled to identify approximately 5-7 games from each: sports, music, puzzle/word, RPG, strategy, and

simulation. Game reviews at Gamezebo.com were monitored to identify additional games for analysis. Finally, word of mouth and recommendations from colleagues and friends for indie, unusual or beta games were followed up on to provide additional diversity for the sample.

3.1 Defining social

In the game development community, social games typically mean games produced to run via the Facebook social network site. However, social games are becoming quite varied, with traditional genres such as RTS, RPG and sports games mixing with the better known simulation and mafia-style genres to add to the complexity. Social games typically feature a single player component, coupled with basic forms of multiplayer interaction embedded in the design. Thus, a player could ostensibly enjoy a social game even if she had no friends playing it, but her progress would generally be difficult and her overall experience much less enjoyable than if friends and family were also playing along. Wohn et al [9] argue that due to their increasing diversity such games should instead be called *social network games*, to highlight their fundamental reliance on a technological platform (much like referring to console games) rather than making sweeping statements about sociality and its presumed lack in other types of games. For this paper, however, the term social games is retained to describe the object of study.

Games were coded for their platform, MAU (where available) and developer. A brief summary of each game was written after at least a week's gameplay, and a detailed discussion of the social options that game afforded players was recorded. Social options included all opportunities the game offered to players in order to interact with one another. This included the types of interactions offered, the quality of those interactions, opportunities given to communicate between players, if NPCs were also a source or option for communication, the importance of interactions to overall gameplay, to what degree cooperative or competitive gameplay influenced or led to interactions, and how the game facilitated interactions with both pre-existing "friends" as well as "strangers."

4. MAJOR SOCIAL INTERACTION MECHANICS

4.1 The Friend Bar's silent presence

The majority of social games analyzed displayed a player's friends as part of the game's interface, usually as a row of profile pictures at the bottom of the screen.

Figure 1: The friend bar from Dungeon Overlord
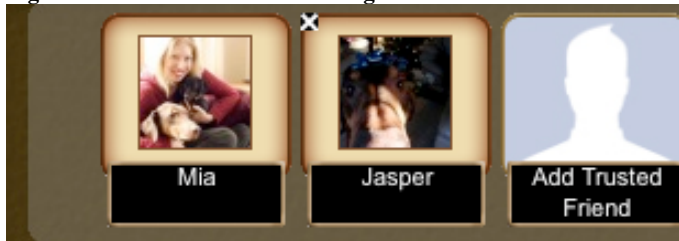
The layout of the pictures was usually designed to fit the aesthetic of the game world, with complementary colors, shapes, and so on. Such icons constitute a physical display of friends also playing the game, usually referred to by the game as 'neighbors' or 'friends.' Most games do use friends' actual profile pictures for the friend

bar, lending an aura of familiarity to the (new) game interface. Thus players already familiar with seeing their friends' picture via posts on their wall, or in other games, gain a new context for such friends and a reassurance of not being 'alone' in a new place. In addition to providing a visual reminder of who is playing along beside the player, the icons are also functional—the two clickable options usually possible being gifting and visiting. Such options speak to the idea that each player has their own controllable (and visit-able) space as part of the game—whether it is a pirate ship, planet, garden or apartment. Each of these activities is described in detail below, but it is important to note the near universal presence of this design strategy across social games. Likewise, although some puzzle games such as *Bejeweled Blitz* did not allow players to visit their friends (as there was no home space to visit), they instead provided the most recent high score that friends had achieved, with the player rank ordered amongst their friends.

The presence of the friend bar also provides a way for players to quickly see how friends are progressing in a game, and who is stalled or advancing rapidly. Such displays likewise serve as a constant prompt to the player to invite more friends to play, often featuring one or more blank spaces with the urge to "invite Mary to join you in *Simply Hospital.*" Many games now auto-populate friend bars with friends that are already playing the game, saving players the step of having to find and invite others individually.

Although such friend bars may not seem important initially, they work to facilitate several social components of play. First, they serve as a visual reminder of who is playing the game with the player. Thus players can measure their progress alongside their friends, as well as find out which new friends (might) have started playing. This is especially easy with the games that auto-populate. Although many games are not explicitly competition based, the placing of one's icon among friends, and leap-frogging over friends as one progresses, can encourage friendly (or even not so friendly) competition as one plays. Thus, one friend I talked with mentioned being in an implicit competition with a similarly ranked *Frontierville* player, as she worked to progress in the game. And that other player later confirmed he too shared that competitive spirit, working to ensure he was not leap-frogged by her in his progress.

Friend bars also facilitate sociality through their simple positioning—as more games adopt the same layout, and design of the toolbars themselves—players know they can easily use such bars to visit and send gifts to friends, making these options more likely to happen than if they were hidden from view, or difficult to find via the interface.

Lastly, many games also populate the friend bar with a 'starter friend' for the player to employ. For example, *Cityville* features "Samantha"—a level 20 neighbor who the player can initially visit and use as a test site for placing a franchise she has started. Such NPCs allow the player a way to experiment with how to visit friends and give examples of how to play the game—either how resources could be collected and what will be gained. Alternatively, the visual icon of another player can help the game feel more social if the player has few (or no) actual friends playing the game, or if the game does not auto-populate the friend bar. Thus such icons can lend a feeling of being amongst others even if that other player is not real.

It should also be noted that while many games employ a friend bar as an important visual presence in the games, they are almost

always silent, employing no sound or distinctive music associated with particular friends. Instead they remain visual and static in their design.

4.2 Gifts

Perhaps even more ubiquitous than the friend bar was the opportunity (or necessity) to send gifts to friends and neighbors, whether it is a horse, a ribbon, blueberry pie, a park bench, or plutonium. Structurally gifts serve two basic functions—they are a currency that is exchanged to facilitate or enhance gameplay within particular games, and they are often used (or the desire for a gift is used) as a marketing tool for the game itself. Although not directly serving a social function within a game, gift request postings serve to communicate to one's friends how one is progressing in a game, where one might need help, and perhaps also how advanced the player is—depending on the type of gift requested. While many gift requests go directly to players' message notifications or appear within the game space itself, requests also often appear via Facebook wall postings, which constitute free advertising for games.[2] Despite Facebook's policy changes for what apps can post via users' walls (now only friends who play the same games can see app postings for those particular games), such posts do serve an important function for the games and for players, as just mentioned. Yet how gifting functions *within* games is variable, and can range from an optional activity for a largely single player game, to a near necessity that drives certain games into friend-requesting frenzies.

One of the major ways that gifts shape sociality could be termed the potlatch approach. The potlatch refers to an event where an individual or family hosts a gathering and provides food and gifts to all who attend. The purpose is "the re-distribution and reciprocation of wealth" [8]. Basically, the potlatch is about showing off how much you have, by giving it to others. Gifting in social games can also serve this purpose. For example, many games feature the ability to send friends a variety of gifts, although there is usually a limit of how many per day can be sent. In many games a player can unlock additional gifting options as they progress in a game, and at least some of those options are more valuable in some way to other players. *Farmville*, for example, offered more advanced players the opportunity to gift fruit trees that paid out in great amounts as well as animals (such as the horse) that did the same. Some gifts are also not available for purchase, and so friends must rely on one another in order to acquire such items, if they so desire.

Thus the ability to send better gifts allows players to display their status within a game, to the benefit of all involved. Despite the fact that the player is not usually giving gifts from her own inventory, generosity is still a positive feature, and players can be both generous and accrue "gaming capital" [2] among friends at the same time.

In addition to the basic gifts that games allow players to send to one another, a few games have additional mechanics or options for players. Thus while the vast majority of games let players send gifts that they do not actually possess, or even need to purchase, a few make different possibilities available. *Zoo Kingdom*, for example, allows players to send friends animals they themselves have purchased—making the gift more of an actual sacrifice, investing more meaning in the process. Likewise, *Frontierville* lets a player send a hand-crafted gift to a friend who has requested that item. Thus I can send Alice the "fire" that she needs, provided I have some in my inventory or can craft some. Although most crafted items in social games require no real skill to create (much like crafting in MMOGs), the option to send something that the player herself has created, and may have used herself, invests more in the activity, and thus in the meaningfulness of the gift.

In addition to being able to send higher level gifts, purchasable, crafted or rare gifts, gifting can also be social and convey status when friends are recognized as 'always available' to answer a request. Although not generally built into the games, such systems rely on a group of friends (who may cross various games) who can be depended upon to send that final item needed to complete a collection or finish a quest.

4.2.1 Reciprocation

In addition to letting friends display their generosity, gifts also (and perhaps more often) function in an often unspoken or assumed exchange relationship: friends send one another gifts in the expectation that they will receive them back—both in the abstract as well as in particular situations. Developers often build this expected reciprocity into the structure of gifting itself: gifts arrive with a notification message, and often the message includes a line such as "how about sending a ____ back to help me out?" and a click will allow the player to do so. Of course, if players reciprocate, this can create a never ending loop of gift sending and receiving, as players endlessly exchange gifts of the same kind with one another. More often, perhaps, players do not automatically reciprocate all gifts, but regular gift sending can evoke in players a sense of guilt or obligation that they should be sending gifts to those who regularly send them what they request (or even what they don't request, but simply receive).

Games encourage reciprocation in other ways as well. While many games (and particular quests or options) do offer players a one-for-one gift exchange (send me this, and you'll receive one for doing so yourself, or I promise to send one back), some other games offer no particular rewards for gifting, other than friends' gratitude for helping out, and the expectation of future help as needed. For example, *Cityville* requires players to construct community buildings that require friends to sign on as workers in order for buildings to be completed. There is no particular reward for doing so, and no display in the game of who helped out, but the game builds in so many community building requirements that it becomes a reciprocal expectation—if you staff my library, I'll staff your newspaper. While players likely do not keep exact track of who helps out in particular circumstances, over time certain players/friends are likely thought of as more reliable, and thus as better friends at least in playing a particular game.

4.2.2 Peripheral versus Critical Gifting

Although almost every game we examined offered the ability to send gifts to other players (some beta games had gifting disabled), how necessary gifts were to advance in a game played a key role in shaping overall gameplay. Typically, games leaned in one of two directions—either offering mostly peripheral gifting, or critical gifting. While all gifts could benefit players, in some games gifting was structured as a practical necessity in order for players to make decent progress in a game--unless they wished to purchase large amounts of virtual currency instead.

Some games, such as *City of Wonder, Office Daze* and *Island God* offered players opportunities to send gifts, but did not require the collection of particular gifts for quests or game advancement. Likewise, such games usually had gifts that did not confer great

benefits to the giftee, beyond being an aesthetically pleasing or minorly useful item. For example, City of Wonder lets players send one another items such as shrubs and action cards, which can confer a minor bonus to the player when used. However, such items are not very powerful, and so not having them would not be an impediment to gameplay. Similarly, *Zoo Kingdom* lets players send one another zoo decorations and even animals, but such individual items are not required for a successful zoo.

In contrast, games such as *Frontierville* and *Café World* present the player with large numbers of quests to complete, which require the collection of various items—such as 10 wagon wheels and 10 land permits, or various parts to construct a specialty oven. Such components can be gathered in only two ways: through purchase via virtual currency, or via asking friends to gift the items to you. Players are thus confronted with the option to spend real money in the game, or regularly request a barrage of items from friends. Additionally, some games have started offering timed quests, meaning that players have a limited time to request and receive certain items to avoid timing out the quest, and rendering such objects useless. Likewise, games that require the player to collect many items that are only 'rare drops' in the game world—such as *Ravenwood Fair's* Vitalin, similarly place players in the position of requesting gifts frequently, or simply hoping that friends will send needed items of their own initiative.

Overall, these two different approaches to gifting have interesting and important implications for gameplay. While all games feature gifts that can be peripheral to gameplay, if a game does not incorporate any or even several critical gifting components, the game can largely be played solo, with the option of visiting and helping friends simply that—an option. On the other hand, games that require multiple, frequent gifting to advance force a different play style—one of mutual interdependence among friends. In practice, this may mean that players self segregate according to which type of game they prefer to play, or even can play. If a player does not have a critical mass of friends playing a particular game and it requires critical gifting, she will not be likely to succeed in the game—or keep playing it—at least for very long.

There are other challenges to gifting that are structural to both game design and Facebook design. Traditionally all requests for gifts have gone to a player's Game Requests section, where gifts much be individually accepted (or ignored). Clicking upon 'accept' for a gift initiates the launching of the game application, where the player is often asked if she has other gifts to accept, or wishes to proceed to the game—although at times the game automatically launches instead. If players have multiple gifts from multiple games to deal with, the delays and loading screens can quickly kill interest in dealing with gifts. Zynga has attempted to bypass this problem through the creation of the "Zynga Message Center" that loads when the player launches one of its games. This center streamlines the gift receiving and giving process, allowing the player to quickly accept (or reject) gifts, respond to friends' request for help by easily sending the needed gift item, or helping out as a 'worker' in one of its games many community buildings. For most other games, however, Facebook structures can slow down the act of gifting.

4.2.3 Other gifting challenges
While gifts are a major way that friends are encouraged to interact in social games, they face challenges beyond the structure of Facebook, and the peripheral or critical need to gift that a game creates. Because players start and stop playing social games without making an announcement, or have different styles and frequencies of play, gifting can be more or less useful to players as their playstyle warrants. For example, we do not know how many gifts are actually accepted, or even if accepted, then used by players. Gifts can (as in real life) become clutter, although in the digital version there isn't as much danger of them piling up in the corner. Yet the question remains—how helpful and wanted are gifts? Even though all games offer the option to give and receive gifts, there is little to concretely reward the player in game (aside from the nebulous gaming capital) for doing so. One game trying a different approach is *Beach Town*—it rewards players with 100 coins for every gift actually accepted, and likewise promises that if a gift is given to a new player (to entice them to play), and that gift is accepted, the gifter will receive the same item herself as a reward. Additionally, some games have used mystery gifts to encourage players to send and receive gifts—as they add an element of uncertainty to the process, and rely on a player's curiosity to see what's inside, and thus open the gift.

4.3 Won't you be my neighbor?
One key (yet little remarked on) element of social games is the construction of a space for the player to control and inhabit, where she can build, grow, tend, decorate, or otherwise craft elements that constitute a personalized play experience. Such (somewhat) personalized spaces thus allow game mechanics such as visiting one another, with various levels of interaction following from that. Of course not all games provide spaces for players to visit one another or interact: for example *Geo Challenge, Bejeweled Blitz, Lost Cities Solo, Mafia Wars*, and *Writer's Blox* have no option to visit friends' spaces, as there are no virtual home spaces created by the game for players to inhabit. Such games instead feature a uniform game board, where players can level characters, manipulate jewels, create words from random letters, or play various card games. Friends' icons and latest high scores (or level) remain part of the space's design and encourage a spirit of friendly competition in what is often a single player game, yet there is no reason to travel to a friends' space, as there is no personalized content to encounter there. *Mafia Wars* (and related games such as *Knights of the Crystals*) likewise have no personalizable space, and do not allow players to visit one another, but do let players customize their character or avatar in certain ways.

For those games that do feature visiting, there is a wider range of options occurring than with gifting. Game designs provide a range of activities to engage in while visiting, all of which employ a balancing act of letting one's friends interact with your game space (and potentially change it) with the player's desire to completely control what happens there. Most games also assume asynchronous visits, although a few do allow for real time chatting between visiting friends. Visiting is prompted in a couple of ways. Players may voluntarily visit friends through clicking on a friend's icon on their friend bar, or the game may prompt a player to help out a friend via a notice such as *City of Wonder's* announcement that "Amy's civilization is in need of your help! Won't you lend a hand?" When responding to such a prompt, players receive a bonus for helping out once they complete the visit, but may or may not then continue to help a friend with other more regular interaction options. Such prompts help add content to a game and personalize the experience, encouraging players to believe they are helping friends as they play, and are responding to dynamic and unpredictable requests that also confer immediate benefits.

4.3.1 Showing up is ~~half~~ all the fun

One of the most common tropes games employ for visits is a reward of some type for simply visiting. Such rewards are conferred by the game system itself (rather than the visited friend) in order to encourage players to explore their friends' spaces and possibly help them. Thus games such as *City of Wonder, Frontierville* and *Ravenwood Fair* will award a player variable amounts of coins for each visit to a friend's space; *Cityville* will give a visitor a certain amount of energy; and *Chocolatier: Sweet Society* and *Cooking Mama* will allot a fixed number of experience points to visit a friend's shop.

Figure 2: Visiting in Cooking Mama brings automatic rewards

Such benefits encourage players to visit one's friends, even if only for the immediate gains just mentioned, as all players can benefit from increases in coins, experience, and energy.[3] But games usually place a cap on how many visits a player can make in a 24-hour period, to avoid overusing this mechanic to gain rewards. Thus players with only a few friends may have no problems visiting all of them, but once the number of players exceeds how many a player will be rewarded for visiting, choices may have to be made about who to visit and for what purpose, forcing players to strategize their visits, at least in successful games.

Most social games offer players more than a simple bonus for visiting friends—there is the ability to take action in the space, in some way. Actions can vary, but range in degrees of impact upon the space. Overall there appear to be three types: simple actions that benefit the visiting player and make no impression on the game space; actions that improve the existing world to some degree; and actions that change the existing world in some way.

Beyond the basic act of visiting and being rewarded for the journey, many games offer players the ability to act upon the existing space of their friends' game. For example, *Happy Island* lets the player clear trash from neighbors' islands in exchange for rewards, and *Fish World* asks the player to clean friends' tanks, which get grimy over time. Similarly, *Zoo Kingdom* will let a player tend to a friend's animals or sweep up trash, and *Frontierville* allows players to tend friends' crops, as well as pull weeds that may be over-running their gardens. Some of these actions may be reported to the player when they next login, while others are not. If they are not reported back, they are usually of benefit only to the visitor, to encourage them to visit to earn some type of reward. Such actions aren't always tied to the actual needs of the friend visited—their zoo may not be in need of actual tending, but the game will treat it as if it is, in order to give visitors something to do, and a sense of actually helping a friend.

And of course, if treasure chests are found while visiting a friend, these are not 'stolen' from the friend, but are simply a bonus for making the trip.

In addition to doing chores or finding treasure, some games encourage players to interact in some way with the friends' avatars. For example, *Pet Society* lets the player dance, kiss, or hug the pets of their friends. Similarly, *YoVille* used to let the player dance or joke with the avatars of friends when their avatar visited friends' spaces (this functionality no longer appears). Such actions are similar to the interactions found in *The Sims*, and encourage a sense of sociality, even if it is not actual conversation or communication. In the past, *YoVille* encouraged the player to take a snapshot of avatar interactions and would award more points if the picture featured the two avatars closely together. Such mechanics are likely designed to enhance the gameplay of the single player, and simulate a sense of sociality rather than provide a live one. The removal of that option from *YoVille* has led to fewer options to interact with friends, although the game's 'sticky factor' continues to hover around 12-13%, even as its overall MAU has fallen from a high of more than 19 million to around 6.5 million users [1] [10].

While most games with the ability to visit one another's game spaces reward the player for acting on the space in some way, many such actions are transitory, leaving no trace on the space visited. Yet some games let those improvements or changes persist, so the visited friend will see evidence of their friends' travels. Thus in *Farmville*, watering friends' crops makes them glow, and increases the output of crops. Likewise, watering crops in *Cityville* makes them mature more quickly, allowing owners to reap the benefits sooner. Other games have explored different ways to let players improve their friends' game spaces in simple ways. For example, *City of Wonder* lets players build Wonders such as the Luxor Temple, which require a certain number of clicks from visiting friends to be completed. The more benefit the Wonder confers, the more friends needed to help build the Wonder. In this way friends can contribute to the expansion of friends' spaces, and feel satisfaction in the role they have played in augmenting it.

Figure 3: City of Wonder allows players to improve one another's game spaces
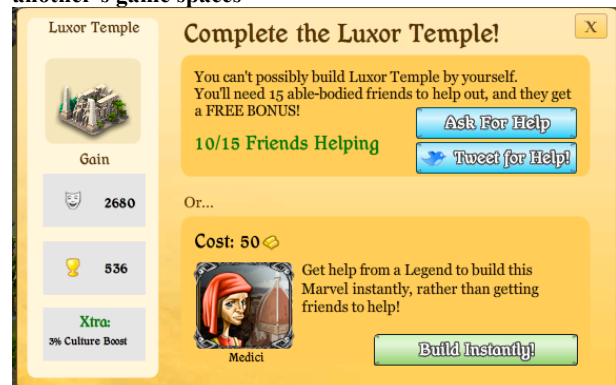
Likewise, players can in some ways change the form of a friend's game space, altering it in ways that go beyond a simple click. One of the earliest examples of this was *Farmville's* signpost system—which allowed visitors to leave a sign on a friends' farm, which included a personalized message on it. More recent games have incorporated additional enhancements. Thus *My Vineyard*

encourages visitors to sample a friend's wine, thus increasing the rating of the wine, which then sells for a greater value. Similar to the watering crops mechanic, this option also encourages friends to leave one another notes commenting on the 'story of the wine,' to name the vintage, and for friends to leave their own feedback on how the wine tasted. Wine can also be tasted numerous times, and subsequently 'aged' to make it more valuable. *Fametown* rewards players for having their friends visit in a unique way: visitors automatically increase the ratings of any movie currently in production. Likewise, *Cityville* asks players to set up business franchises in their friends' cities. Such franchises must be approved by the friend, and then regularly stocked. Franchises bring bonuses to both parties, and let friends feel they are a part of their friends' games in a more concrete way. And absentee friends can have their franchise businesses removed, if they are not contributing adequately.

Such visits can also leave evidence in additional ways—Zynga's games let a player see evidence of friends' past visits: *Frontierville* used to feature ghost avatars of friends appearing upon logging in, and would allow players to accept or reject the actions the friend had taken while visiting. Similarly *Cityville* shows visiting friends' icons with the same ability to accept or reject their help. This lets players decide, for example, if the tree a friend has chopped down on the player's frontier should actually be chopped, or if the player wishes it to remain. However, the restriction that a player must always accept/reject a friend's help ensures that alterations will always be beneficial for the space and player, which does limit the potential for other types of social interactions. One notable example of a game that deviates from this template is *Fish World*. The game allows players to visit friends' fish tanks and steal a fish. Yet even in this game, when the friend logs in there is a notice that a fish was stolen, and the player can then visit the friend and steal the fish back. However, if the friend waits more than four hours to retrieve the fish, the thief-friend can sell it for a profit. Thus there is some possibility for negative sociality, although the vast majority of games do not employ such mechanics.

Figure 4: Fish World attempts to make players feel guilt for an allowable action

4.4 Challenges & Competitions

The next major social mechanic used in social games is challenge/competition. Although a central activity in many traditional videogames, many popular social games feature little or no direct competition between players. For example, the top ten social games on AppData for February 15, 2011 included only two games (*Texas Hold 'Em Poker* and *Mafia Wars*) that included competitive activities.[4] Instead, highly ranked sim-style games usually employ collaborative activities or mechanics that foster positive relationships to enhance gameplay, such as giving gifts and helping one another develop game spaces. Examples of social

games that do include challenges or competition as a feature include *ESPNU College Town, Miscrits: World of Adventure, EA Sports FIFA Superstars, Monster Galaxy* and *CLASH: Rise of Heroes*. Increasingly, certain types of games are designed to be more competitive, and such games often feature the ability to compete against not just one's friends, but strangers as well.

One of the simplest ways that social games foster competition is through the inclusion of leaderboards that feature daily, weekly, or overall high scores, and can also break down competitions between friends or the larger game playing population. Almost all games visually depict one's friends with their current level or ranking, but in certain types of games a current high score or ranking (that could rise or fall over time) encourages players to regularly play, advance and perhaps surpass a friend's achievements.

In addition to leaderboards, many competitive games have options for players to challenge friends as well as strangers to matches, games, or tournament play. Some games use the friends' team as an opponent in absentia, while other matches play out in real time and require the consent of the challenged player. Thus for example *EA Sports FIFA Superstars* encourages players to challenge one's friends, although matches are not played in real time. Instead each match draws on the statistical makeup of friends' teams and then predicts outcomes, without allowing for extensive player input (in the game, players can make half-time substitutions if so desired). Alternately, other games feature real-time competitions, and can allow players to take meaningful actions during play that affect the outcome of the match. *Miscrits* lets players enter a stadium and challenge other players to battles in real time (with *Pokemon*-styled teams of creatures), with players encouraged to develop their own strategies and methods for successful battle.

Figure 5: A real time battle in Miscrits against another player

Many more games offer more limited routes for competitive interactions, which largely draw off player and opponent stats to generate winning/losing outcomes for players to witness. *Crazy Caravans* and *City of Wonder* allow the player to challenge strangers to battle as they travel across a game world map, although battles are not real time and outcomes are based on the stats of each player. Similar functions occur in games such as *It Girl* and *Big City Life*, where instead of simulating swordplay, players challenging one another based on popularity, friend accumulations, and other factors.

Big City Life also featured a player-voting mechanic for certain types of challenges: players could vote on particular avatars based on their clothing and relative 'hotness.' On a more positive note, *Healthseekers*, a game about adopting healthier lifestyle choices let players challenge friends to join them in starting various quests, to see who would succeed and how soon. Thus instead of a challenge resulting in a winner and loser, ostensibly both players would be winners for succeeding at the challenge.

While competitive games do offer players opportunities to engage in battles or other types of competitions with strangers, such interactions are quite bounded—limited to a match, for example, and usually without the opportunity to communicate in real time. A common exception is RTS games such as *Kingdoms of Camelot*, which allows chat between all players globally as well as those in alliances. Such exceptions tend to reinforce the dominance of the larger model, however. Social games thus largely construct a bounded play space, encircling the player with friends also playing the same game. Strangers are sometimes allowed to enter that space, but in narrowly defined ways. Interactions are (as with collaborative mechanics) tightly delimited and defined, and communication even more restricted. Few social games allow for open, unrestricted communication of gameplay between strangers, unlike other online games such as MMOGs or multiplayer FPSs. Whether or not such open-endedness could emerge is still an open question, yet the focus of social games on 'pro-social' mechanics, and the asynchronous styles of play they foster, tend to argue against this developing very broadly.

In conclusion, few games give players many rewards for engaging in competition with other players, aside from possible gaming capital achieved through gaining rankings on leaderboards and the ability to best one's friends. *Isle of Tune*, a non-Facebook game, allows players to create and share islands with musical components that players can vote up or down in popularity, and lets players then view the most popular levels created by players. But levels are not affiliated with particular players' other levels and there is no way to acknowledge such work outside that limited mechanic. Overall, competition plays a limited role in social games, particularly the most popular ones, clustering in certain types of games, and still somewhat limited in its implementation.

4.5 Communication
Although it may seem a logical design element for social games, communication played a surprisingly limited role in encouraging sociality among players. The large majority of social games presume asynchronous communication is the dominant form of interaction among players, who are likely logging into and playing games at different times, on different days, and so on. A few such as *YoVille, Kingdoms of Camelot* and *We Doodle* did feature a real time chat option, but that proved to be the exception rather than the rule. Without real-time communication as an option, games offered players a different set of options to talk or communicate with one another.[5]

By far the most prevalent game mechanic for communicating in social games is the wall post. Games would almost universally offer players the opportunity to make wall posts about various elements of gameplay. A few examples include:
- *Dragon Age Legends* asked players if they would like to post to their wall when they leveled up in the game;

- *Cooking Mama* encouraged players to post when they opened their kitchen for business;
- *Ravenwood Fair* would ask players to post if they needed a certain item from friends;
- *Mafia Wars* announces the player is gearing up for war, and friends should "Arm yourself and follow Mia into battle";
- *Where in the World is Carmen Sandiego* provides status updates such as proclaiming that a friend has "arrested Nichole Minklei" in the game.

Such wall posts are entirely optional for players to initiate. Most games prompt players repeatedly to make such posts, the overuse of which eventually prompted Facebook to revise its policies, limiting who could see a player's game-related posts, and how many such posts per game could be made in a certain time period. Game developers have argued that the changes have resulted in a dip in gameplay, and a reduction in the ability to hear about new games from a player's friends. Marketing concerns aside, however, such wall posts can allow players a way to gain a sense of how friends are progressing in games, and signal to them how they might best help one another out. Research from Wong et al confirms that use, concluding that for at least some social game players, wall posts can serve as a way for players to provide basic information about the progress in various games. However, such posts are largely limited to a system-generated message announcing a player's particular progress, need, or activity in a game. While almost all games offer players the ability to add a personalized note to such messages, anecdotally very few players take advantage of that option, leaving what are essentially depersonalized announcements that may invite another player to receive a reward or help out, but offer no substantive way to communicate with the originating player about the signaling event, other than commenting on the post, which is also rarely done.

Going beyond wall postings, games employed several mechanics that allowed players to communicate with one another. One of the most basic is the sign post (*Farmville*) or guest book (*YoVille*), which offered visitors the opportunity to leave a message for the player visited. Signs became part of the game space itself, a visual marker for the player and all future visitors of the message. Space owners could remove such sign posts, but other visitors could not. Guest books are viewable by anyone, but such forms of communication were again one way.

A different game with a somewhat interesting social mechanic is *Dragon Age Legends*, which lets players choose the avatars of their friends (who are also playing the game) to become part of their groups as they slay armies of Darkspawn. During gameplay, when an avatar strikes a critical blow a text balloon appears that includes with a personalized message, which the player is encouraged to craft as appropriate for the killing blow. Friends can personalize these and insert familiar jokes if they desire, although there is no way to respond back to friends about their choices, other than changing one's own avatar's personalized message in return.

Largely, however, communication was the most impoverished of the social mechanics found in the social games studied. While most games assume asynchronicity as a mode of gameplay, it was still striking to see how limited game mechanics were in encouraging players to talk with one another, chat, socialize or exchange information in any meaningful way.

5. CONCLUSIONS

The most common social mechanics identified in this study included the friend bar, gifting, visiting, competition/challenge, and communication. Although not unexpected, or particularly sophisticated, there were variations found in how various games employed those mechanics, and thus affected how games were played. For example, although almost all games had a gifting mechanic, games that required multiple gift exchanges for quest advancement drove a more multiplayer experience, while games with more optional, lower value gifts, could be played more as a single player game. Likewise, visits in games varied, although the majority of social games feature personalized spaces for players to inhabit and thus visit in some way. Visiting might only benefit the visitor and leave no trace, it might improve the game space or it might actually alter it. However, practically all such changes had to be approved by the space's owner, and were beneficial in some way to both parties. Negative social mechanics were a rarity. Competitions offered by social games were generally tightly controlled, but remain one of the few ways to interact with strangers in social games. However, most such competitions did not allow for communication, thus diminishing the social aspect of the mechanic. Finally, the vast majority of games assumed asynchronous communication was the norm for players, and offered little in the way of meaningful communication, beyond a slogan, guestbook, or perhaps a chat channel for strangers.

In sum, the social mechanics found in current top social games are quite limited in how they allow players to be social with one another. Most often sociality means a 'click' that helps one player, or requests help from others. Likewise, icons of friends and one-line messages from them (or impersonal wall posts) are the standard ways to communicate with one another. While these options do allow players to feel as if they are playing amongst friends, and some may engage in deeper forms of sociality and communication in their own play groups, such activities would seem to happen in spite of the limited affordances that social games create for players to be social, rather than because of them.

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[1] In addition to the Facebook games, about 10 of the games were either standalone web-based games that featured multiplayer possibilities (such as *Kingdom of Loathing*) or were games playable via Apple's GameCenter (including *Angry Birds* and *Fruit Ninja*). All games were either multiplayer or had integrated components for sharing gameplay experiences with friends in some manner.

[2] Note that gift requests usually have an option to personalize the text and add a message, although in my own experience this is rarely used. We didn't study this, but in my own gameplay, only a couple of players have ever personalized their requests. More research in this area is definitely needed.

[3] Most social games limit the amount of energy a player has to do particular tasks, in order to keep players returning as their energy slowly replenishes (or forces them to purchase energy via virtual currency). Energy can be a particularly important resource as a player progresses in a game, and uses up her allotted energy before finishing needed tasks in her game space. For example, when playing *Frontierville*, a player generally will exhaust their energy resources before completing tasks set to them. One way to replenish energy—aside for purchasing it—is to visit friends, which rewards players with a certain amount per friend visit.

[4] The complete list is: *Cityville, Farmville, Texas Hold 'Em Poker, Frontierville, Bejeweled Blitz, Café World, Millionaire City, Treasure Isle, Mafia Wars* and *Pet Society*.

[5] One game, *Ravenwood Fair*, allowed players to talk with the NPCs that populated their game space (woodland creatures that were visiting the player's fair). However such interactions were similar to 'talking' with NPCs in a standard RPG, as most animals would make a few general statements, perhaps ask the player a question, but in no way did responses from players or light/heavy interactions with NPCs affect gameplay in any way.