FarmVille. Testing limits. Four years. Level 1446.

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The Facts

Started playing *FarmVille* in February 2010 daily – just interrupted by vacations when there was no access to the internet. Using no money. Taking notes on progress, game mechanics and playing experiences from the start. Main target: levelling up as fast as possible. Right now (January, 29th 2014) level 1446 reached, daily income more than 40 million Farm Coins (1). Still alive – no long-term damages noticeable yet. Many experiences.

Gaming a Non-Game

With the rise of social network services (SNS) such as Facebook (FB), Social Network Games (SNG) have also gained a huge audience. FB based and Zynga provided *FarmVille* (Zynga, 2009) became one of the first genre coining SNG with a peak player base of 80 million daily active users (DAU). Providing a high accessibility via web browser and later by mobile apps, SNGs opened up to a new target audience with a higher percentage of female players and older players in general compared to conventional video games (DataGenetics, 2010; Snow, 2010). SNGs are played in a casual manner; cycles of play can be short. Usually, the Free-To-Play payment model is utilised: Starting the game is free, but certain in-game items have to be paid for.

FarmVille's game play consists of trivial, basic actions: The player starts by placing items on a farm – an isometric playground with grid-bound positions. Items can be plots, animals, trees and decorations. Plots are used for seeding and harvesting crops. Animals and trees are harvested – by clicking on the item. This click restarts a timer – a main game mechanic of SNGs: When the timer elapses the item can be harvested again. Harvesting an item results in a Farm Coin reward. Farm Coins are an in-game currency. Experience Points (XP) are the level-determining, accumulating resource: For seeding crops and placing items on the farm, the player is rewarded with XPs. The placed items are either rewards for missions or have to be bought from the market. Currencies needed for market purchases are Farm Coins and Farm Cash. Farm Cash is the rare "hard" currency which urges the players to invest real money in in-game transactions (Kelly, 2010). Missions mostly consist of placing or harvesting certain items. Another type of missions are resource-gaining interactions with neighbours, often posting a help request to the player's FB news feed. The help request is confirmed by a neighbour's click. Neighbours are also FarmVille playing FB users, who get their neighbour status by an invitation-approval procedure. In general this is a rough, but complete description of the elementary rules of play in FarmVille.

Such a game play, in connection with no required synchronous interactions between players, almost no story and relatively simple graphics and sound effects, seems not to be appreciated by players of conventional games: It is described as "mind-numbingly repetitive [...] no thrill in playing" (Newton, 2012). The reactions of traditional gamers indicate a kind of cultural shock: The game is not in agreement with any of the development directions of "real" video games, striving to improved graphical effects – powered by continuously sophisticated hardware – as a prominent example. Their production becomes more and more elaborate and costly. In contrast the development of the first version of FarmVille has been accomplished by a team of 11 people in 5 weeks (Mahajan, 2010). Admittedly costs cannot be compared to game play, but these figures on their own exemplify why SNGs are an additional branch of video games. Therefore it is no surprise, that SNGs cannot meet the expectations of so called hardcore gamers. Another point of criticism is the option to buy progress in the game. From a different point of view, this business model of in-game transactions could be considered as an official, publisher-organized and more user convenient version of the phenomenon of "gold farming". This term describes the paid, work-sharing production of game progress (Gilmore, 2010). Gruning (2013) has delivered another in-depth analysis of FarmVille 2, the successor of FarmVille. She especially examines the value of virtual goods in the social context the game provides.

One culmination of the SNG critics is Ian Bogost's SNG parody "Cow Clicker" (Bogost, 2010a) – a game which shows those game mechanics commonly in SNGs used: simple click accomplishable – and optionally purchasable - game progress, easy post-and-click interactions with FB friends and the use of timers. Bogost (2010b) points out that SNGs' game mechanics create compulsion and destroy even the time when the player is not playing, "through obligation, worry, and dread over missed opportunities."

When Success becomes Failure: Optimization as a goal

I started playing FarmVille for the first time in February 2010 – when I wanted to know how that "new style of game" works and if such a game could be facilitated as an educational tool – an option as development costs were said

to be relatively low. I saw the isometric playground covered by a few items – trees, animals and plots. It took only a few clicks to become familiar with harvesting, using plots and relocating items. Reaching the next levels seemed very fast. When I browsed the market, I recognized items available only for Farm Cash and the different harvesting times of animals, crops and trees. Because I just wanted to get an impression of FarmVille, I decided not to use no credit card. I wanted to be a "real gamer", who solves all "problems" on his own. Then I became aware that it was advantageous to be connected to as many as possible FarmVille playing FB "friends". Fortunately FarmVille players had already organized themselves: In gamer forums I found threads in which FarmVille players were looking for co-players. In the next days, these threads became regular reading for me. A higher number of FarmVille playing FB-friends made the "harvesting" of the FB news feed more efficient. Also it improved the probability that my own news feed help requests would be successful.

FarmVille is also known as a decoration game: players arrange items on their farms artistically resulting in a beautiful overall picture or in an idyllic rural landscape. Those farms reminded me on virtual model railways or a sort of digital display case. I did not choose this style of playing as I like the challenge of optimization. Another reason was that many decoration items needed Farm Cash. After a few days – already a regular visitor of my FarmVille farm - I stumbled across the website *www.farmviller.com*: here I found the information I had missed so far: the harvests of animals and trees, and also the space which certain items require. It was a systematic presentation of FarmVille related information. This site helped me to start optimizing my game play. The goal at that time was to level up since the *Belted Cow*, an animal which delivers an harvest of incredible 3000 Farm Coin each day, could be bought starting at level 75. 3000 Farm Coins each day – 4 *Belted Cows* per plot – this resulted in 12 000 Farm Coins per plot and day. I measured the harvest in this way. All other options had to compete with this benchmark. On the website *farmviller.com* (2) there were lists maintained which showed such calculations already and which made it easy to discover the most yielding items.

At that point it had already become clear to me that time is an important resource in FarmVille: The first dimension is the time spent on game play. Plowing, planting and harvesting required a lot of time, so I preferred crops with longer harvest times. Also I upgraded my machines as soon as possible to multi plot machines, which saved a lot of time. A kind of revolution was the *Combine*, a machine doing all three processes (harvesting, plowing and planting) at one click. It is very helpful for the ambitious farmer and really worth its price of 500 000 Farm Coins! I also detected at that time the web browser short cut *STRG + Left Mouse Click* to open a link in a new window. This made harvesting the FB news feed far more efficient: Instead of clicking on a FarmVille link, opening the FB page again and positioning it next to the new news feed entry it allows you to click on one link after the other.

Rhythm of play

There is also another aspect of time in FarmVille: the game play needs to be scheduled as crops, trees and animals are characterized by harvest times. To be efficient it is useful to establish a rhythm of play and to plant crops accordingly. On one side the rhythm of play is determined by the harvest time of animals. Fortunately the harvest time of animals always is a multiple of a day. So playing each day at the same time is a good choice. The game design supports this approach: real harvest times calculate with duration of one day of 23 hours. So I could start each day at the same time and integrate game play into my daily routine. The differing harvest times of crops were in an early state of FarmVille subject of emergent game play: There were instructions available how to create a farm with all (i.e. 40 to 50 crops at that time) different crops harvestable at the same time – a goal with no special reward except that snapshots of such a farm could be posted on FB.

On the other side, another determining factor of times of playing is the fact of withering: Crops wither. This is the only occasion in FarmVille when a player gets punishment and loses progress: when a crop has withered it can only be ploughed under, there is no gain left. A cure against withering is the so called *Unwither Ring*. It is one of the most expensive Farm Cash items in the market (worth 250 Farm Cash which can be bought for € 37.50) – so it is unreachable for me. Instead I have planned plant-harvest cycles carefully to avoid that punishment.

Establishing a rhythm of playing was important for me as it ensured a maximum of gain and game progress. In this sense missing the best opportunity to play (and thus reaching not the maximum gain possible) felt like a failure – although in fact there has been progress. This feeling comes close to the phenomenon Bogost (2010b) calls "compulsion". Being aware of it I tried to tune the game play according to the next planned visit on my farm.

Principles of playing

My progress in FarmVille has been grounded on a few cornerstones: First I tried to use farm space as efficiently as possible, i.e. there was no free space, all space has been filled up with animals, trees or plots. At this point I strived to save all Farm Coins for buying *Belted Cows*, as they are the most lucrative animal. To illustrate the progress: at

the beginning it took 10 days to buy on *Belted Cow*, currently it takes 15 minutes of work a day to harvest the Farm coins necessary to buy 40 of them. At a later stage of the game the Blue Whale became the most profitable animal – but buying a Blue Whale does not result in as much XPs, i.e. it does not help on levelling up directly. Mainly these facts accompanied by perseverance and tenacity are the foundation for levelling up in FarmVille.

My game play is about allocation of resources. Resources are limited and I have to use them in the most productive manner. The first limited resource is land space – so I saved my Farm Cash for farm expansions. Starting from a certain farm size expansions can be bought only by Farm Cash. Up to level 250 each level is rewarded with 1 Farm Cash. This Farm Cash I used in the most effective way, which I identified as buying farm extensions. The next resource is building material: Buildings can be useful in the optimization process, e.g. the Cow Pasture allows storing of up to 100 cows. This saves land space and makes them harvestable with a click at once. Of course building material can be bought, but it needs Farm Cash. The alternative is sourcing it through post-and-click interactions from your neighbours. This turns fellow players into resources, as success is correlated to the number of neighbours. This aspect is often criticized in the context of SNG, but also attributed to other game types, as Yee (2014, p. 193) states, that MMOGs as *World of Warcraft* "turn friends into fungible, disposable resources." My main sinks for "requested" building material are *Cow Pastures* (for *Belted Cow*s) and *Aquariums* (for *Blue Whales*). Another noteworthy destination for building material is the *Fishing Hole*, which itself produces building materials: *Special Delivery Packages* can be converted in almost every building material needed. Each farm, during the development of FarmVille new farms are released in periodic intervals, is able hold only one *Fishing Hole.*

At the moment the most important resource is time: There are almost endless options of work to be done (or in other words: achievable rewards). In order to achieve progress on levels, I start with most productive actions. The first action is to harvest all *Belted Cows* on a farm which is completely filled up with them (It took 4958 to reach this limit. Friends, to whom I showed this farm, accused me of "factory farming"). Interestingly the number of cows has not been limited by available land space, but by a maximum number of items per farm. The next action is harvesting the *Aquariums* on another farm. This gives further boost of 15 million Farm Coins. The third action is a farm which hosts all the *Cow Pastures*, currently inhabited by 2999 *Belted Cow*s. Together with the harvest of approximate 4000 trees (the result of an intermediate optimization goal) this farm produces a daily harvest of 10 million Farm Coins. These three actions sum up to 40 million Farm Coins gain and take 10 minutes a day. The problem arises thereafter: Farm Coins have to be converted into XPs in a way which cumulates earning power of the farms: until now the most productive way to reach this goal is buying *Belted Cows*. However to place them it needs either land space or building material and time. All of them are limited resources. At the moment of writing I have piled up the money for 820 cows. Buying a cow from the market takes around 10 seconds, so there is the need to invest at least two hours of work. Yes, it is chore at this point.

The agile game: FarmVille as a continuing and player-including experiment

FarmVille started as a small prototype and has experienced a still continuing development (Mahajan, 2010). Game development is driven by commercial requirements: players need to be attracted and bound to the game (Kelly, 2010). From the developers' view SNGs have a unique advantage: new content can be tested in the (restricted) field. So-called A/B-testing allows game developers to chose the more accepted alternative for the final roll out (Nutt, 2011). In general a SNG functions as an online laboratory for testing game mechanics with short feedback cycles – an ideal environment for game developers.

Extension by configuration

An important mechanism in FarmVille to provide new content is configuration (Mahajan, 2010). Adding a new crop to the game needs only the configuration of attributes as name, harvest time, seed cost and harvest gain. Additionally images of the crops at well defined stages of the ripening process need to be provided. The mechanism of configuration also can be used for more complex game mechanics: *Animal Breeding Buildings* are such an example. These buildings hold animals of a specific species: the *Aviary* for example takes birds. For each kind of these buildings the contained animal species has to be defined. Also the materials which are necessary for capacity expansion have to be defined and declared. Only these configurations – besides graphics - are needed to introduce a new building without code changes.

In March 2011 – almost two years after the start of FarmVille - an even greater extension was introduced: a new farm, called *English Countryside*. This farm worked in the same way as the original farm, now called *Home Farm*. Directly after the release switching to the new farm set all ripening processes on the *Home Farm* on hold. A few weeks later an option was introduced: the player could choose if the farm should be paused or not during the work on the other farm. It was communicated, that this change has been made on request of players. After the introduction of *English Countryside* new farms were added to FarmVille regularly – now they act as a way to add

new content to the game. An analysis of those game mechanics, which are supported by each farm, reveals a development over time. In farm #4, *Winter Wonderland*, *Snow Treasures* appeared: These heaps were spread over the farm and blocked placing items on their spot. They could be removed by adding a certain number of materials. The removal released an arbitrary item as reward. Now such a heap-material-reward game mechanic is element of each newly released farm. In contrast a not continued example is the limitation of plots: Starting with farm #3, *Lighthouse Cove*, the player was not able to cover the whole farm with plots. Since farm #7, *Haunted Hollow*, there is no longer such a restriction.

From time to time new mini games, which address other motivations of the players, have been introduced, e.g. *Pop The Balloons*, a raffle. The tickets, *Mystery Game Darts,* can be bought or earned as rewards for missions. Every dart results in a reward. There is a set of 6 different rewards, completing the collection of all 6 rewards releases a bonus reward. This mini game aims at players with a preference for gambling and collecting.

Dimensions of goals

Often a game offers different goals within different time frames (Squire, 2011). In the context of FarmVille the current goals are defined in at least three dimensions: First there are the goals the game can offer in different stages of development. In the early years of the game the number of game mechanics was limited. It was possible to play each mechanic of the game. Now the player faces a huge range of game mechanics, s/he has to make choices. Secondly the current choice is regulated by the resource “time”: As there exist more than sufficient options of play the player has to allocate the available time – so s/he may not pursuit time-consuming goals. Also the current goals are determined by personal preferences as a third dimension. These goals may be aligned with each other, but there is always a set of current goals.

During my game play I used an online spreadsheet to track the efficiency of my measures by defining “Key Performance Indicators (KPI)”. This approach supported the long term goal of performance. Corresponding to the development of the game the KPIs changed over time: The spreadsheet started with a systematic calculation of the daily gain of all the crops. After that I recorded the status at the specific events, like buying a *Belted Cow*, buying a farm expansion or starting a new farm. Then I introduced the KPI GDI as “Guaranteed Daily Income” – the gain which can be reached by simple clicks on animals and trees without the effort to cultivate crops. In 2013 the most important KPI was “Dairy Level Up XPs” as most XPs earned stemmed from the *Dairy* game mechanic. In the meantime this game mechanic has been subject to a nerf, so it has lost its overarching impact on game progress (cf. below). Another example for a changed goal is the cultivation of trees: In earlier stages of the game it was efficient to harvest trees in orchards. So I filled up a whole farm with more than 5000 trees. Now the relative advantage (i.e. there are other measures which create more gain per time invested) of trees has gone and I have stopped this activity.

Another former activity was connected to my preference to collect items: With the help of orchards trees can be bred systematically. As the offspring of certain forest species is not the same, but another forest species, which was not available to me as it was sold only for Farm Cash, I was able to gain some new forest species by the breeding game mechanic. The mid-term goal of tree collection did not support my long-term, main goal of performance optimization. I gave it up in order to use my available time for the main goal. Another reason to stop breeding trees was that the number of forest species became unmanageable.

Asian Pears, Postier Bretons and Nutmegs – The learning outcome

Video games provoke collaborative knowledge construction and training of meta-skills (Steinkuehler & Duncan, 2008). This applies as well to SNGs (Söbke, Corredor, & Kornadt, 2013). Also it has been shown, that SNGs contain complex problems, which are often player-chosen as solutions of those problems are not rewarded additionally (Söbke, Bröker, & Kornadt, 2012)

Agriculture is the main theme of FarmVille. Therefore a lot of technical terms of agriculture are used. Plowing, seeding, fertilizing and harvesting are terms which can be considered as general knowledge. However names of crops, animals and trees are partly unknown to players before these items are presented in FarmVille. This is true especially for non-native English speakers. Those in the section title mentioned fruits and animals are such examples.

Learning of technical knowledge in games mostly is about the models of the game. If these models mirror real world systems the player probably learns something s/he can apply in the real world. A difficulty which becomes visible in FarmVille very prominently is the necessary distinction of fantasy- and real world items. If on farm #13

Sweet Acres forest species as *Jawbreaker Tree* and *Cake Slice Tree* appear it is obvious that these are not real trees. Over the time a player learns to estimate if an item is a real-world or a fantasy element. If those items spur web-based research, learning is triggered in both cases.

The insisting game – guiding players

Although elementary actions in FarmVille are very simple and easy to execute, the game contains a lot of functionality which guides the player. This functionality works as a kind of game embedded side rail. One result of these assistances is a never dry-running-source of tasks for the players. From the developer point of view tackling these tasks generates a lot of opportunities to sell game-progress-easing items (Kelly, 2010). A good example are the decorating control elements on the main screen of FarmVille: in the screen's left side there are mission icons, each of these missions consists of elementary tasks as harvesting a certain number of plots of a specified crop, harvesting or placing an animal or asking fellow players for certain items (using post-and-click interactions). A mission manager was introduced to improve the player's overview.

In the right side there is the icon for the *Leaderboards* window. This is a weekly changing contest of elementary farming actions, like harvesting a crop or animal. In this window the player can keep track of his performance relative to those of his neighbour players. The same motivation of play, competition, is addressed by the bottom line, where the level of all neighbours is revealed. Right after the start of the game the bottom line is covered with a set of recommendations: items available in the market which require Farm Cash.

Also at the right boarder of the screen there is the entry point for a Farm Countdown, a mini collection game: An item needs a certain number of neighbour clicks to be issued to the player. Each day a new collectible item is released. If the player collects all available items, an extra reward will be issued. Each of the items can be bought using Farm Cash as well as the whole collection can be bought using one click. Nearly once a month the mini game is restarted facilitating new items.

When the game screen appears, often dialogue windows will open to present opportunities of play. If the player does not like the suggested features it becomes bothering to close these windows. Another annoying feature of FarmVille are those FB news feed entries which provide almost no gain, but try to lure other FB friends into the game.

In general there are so many "Buy" options that it is easy to lose one's Farm Cash accidentally – just by incautious clicking. For this reason paying the first time real money is a decisive step in the career of a FarmVille player. From time to time there are charity events which encourage the player under the pretext of a donation to add a credit card number. Once this information is added, further FarmVille related transactions are eased.

Is it still joy or already chore? When Level Up starts bothering

If the daily income in FarmVille has reached 40 million Farm Coins the player gains 4 levels a day (by buying items). Each level up causes a pop-up window to appear, the player has to close it manually, it appears as extra work. If even a positive event like reaching the next level causes work to be done the question for fun arises: Why do I play (or operate) a game that causes so much work? First it is curiosity concerning the limits: When does the game show results of the long lasting play? Where are the differences to a more moderate and casual gaming style? What happens at formerly undiscovered points of the game?

At one particular point of game play there was at least one answer to these questions: The *Dairy* is a self-contained mini game about harvesting and transforming resources, it has been rolled out in January 2013 and maintains its own level status. The original reward schedule issued 1000 XPs more for each level reached than for the previous level. It is possible to level up 2 times per day. As a consequence there was once a reward of more than 230 000 XPs for one *Diary* level up. Each level in FarmVille requires 100 000 XPs, so after 5 months of play the *Dairy* reached the same game progress as the result of 3 years of optimized play before. Furthermore the *Dairy* rewards increased much stronger. In this way the *Dairy* had become the delimiting game mechanic for game progress. Finally a nerf of the reward schedule has been made.

Another motivation to play the game is to experience its lifecycle together with the development of game mechanics. FarmVille is one of the first SNGs and therefore it is thrilling to observe how the game transforms in order to be still attractive to players - always expecting the unforeseen. A further personal motivation is the desire to remove the entropy on the farm – to order items systematically: each item category has its place. There is a farm containing trees, a farm holding pastures, a farm showing mastery billboards, etc.

The game lies in the eye of the player.

The described game play is not representative. The description leaves out some similar important aspects, e.g. cheating, sources of knowledge and common play, as it is a limited selection. Also it is highly connected to my context: Traits of my personality guided the game play as well as my personal situation. According to Bartle's taxonomy (1996)and world-oriented versus player-oriented. An account of the dynamics of player populations is given in terms of these dimensions, with particular attention to how to promote balance or equilibrium. This analysis also offers an explanation for the labelling of MUDs as being either \"social\" or \"gamelike\".", "author" : [{ "dropping-particle" : "", "family" : "Bartle", "given" : "Richard A.", "non-dropping-particle" : "", "parse-names" : false, "suffix" : "" }], "container-title" : "The Journal of Virtual Environments", "id" : "ITEM-1", "issue" : "1", "issued" : { "date-parts" : [["1996"]] }, "title" : "Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs", "type" : "webpage", "volume" : "1" }, "uris" : ["http://www.mendeley.com/documents/?uuid=829111f2-d0c6-102d-ae72-0024e85ead87"] }], "mendeley" : { "manualFormatting" : "(1996 I play predominantly as an achiever. Also I tend to fulfil my duties assiduously. This seems to be a good foundation for dealing with a game that is attributed as "compulsive" (Bogost, 2010b). Another circumstance which stimulated this once-in-a-lifetime experiment (other SNGs I play only for capturing their game mechanics) has been my personal curiosity in the game mechanics and lifecycle development of such an SNG. Also the sake of procrastination has "fostered" a lot of game progress: As I have to solve often long winded intellectual problems, such game mechanics provide always an instant and positive feedback.However I do not regret the time I spent on FarmVille (I estimate an average of 2 hours a day for four years), because in those moments I had a good time. I could relax during game play: when I had free resources to think about optimized game play, I did so. If this was not the case, I clicked and made as well progress. I made a lot of experiences in observing game development and my own game play. From my view point now the puzzle is solved (Koster, 2004): It needs a lot of perseverance and stamina to compete with real-money-paying players, but it is possible. Only the time is the limit.

Epilogue

The design of FarmVille is highly driven by its commercial background as a Free-To-Play SNG. Similar to ad-funded TV the player as a consumer is supplied with those game mechanics s/he prefers. The pervasive offerings to buy game progress can be ignored in the best case and are annoying in not so good cases. The used game mechanics as competition and interactions with fellow players and the open-ended game style tend to overburden some players. As delineated by Pixie (2010), who seems not be an isolated case, quitting the game is often related to frustration. Harmful effects of excessive play are not limited to FarmVille or SNGs in general, but in SNGs there is an easy possibility of regulation as there is always a connection to a central server. However, the positive traits of SNGs make them another part in the set of tools for learning. It has already been shown that SNGs foster learning processes and the development of meta skills (Söbke et al., 2013). Due to their format they acquire a group of people for gaming which have not played before. SNGs are accepted as a game genre. Development of SNGs can be done in parallel to their productive use with short feedback cycles. Also development costs tend to be lower than those spent on traditional video games. It is worthwhile investigating the game mechanics which are used now successfully to lure the player into becoming a paying customer: If and how they could be used in educational settings to guide player's learning progress.

"Why are you trying to make them do more?" is the concluding question of Jason M. (2010) in a response to Ian Bogost's (2010b) SNG critical article. "Why not taking the good and ignoring the rest?!" is suggested as an appropriate continuation.

Endnotes

(1) 40.000.000 FarmCoins have a real world equivalent of ca. 22.000 € - using the price of 30 € per 56.000 FarmCoins Zynga charges (https://apps.facebook.com/onthefarm/money.php, accessed 01/11/2014)

(2) This website is no longer available. It has been shut down in 2011.

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