Analysis on Galgame <Doki Doki Literature Club!> from the Perspective of How Traditional Digital Game Forms Stand Out in Today's Society

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Abstract: Digital games have been around for seventy-four years. While some games have slowly become obsolete through generations of innovation, others have evolved with the times and have become successful in the modern society. How those forms of games that were born in the last century can have a foothold in today's world, and how traditional digital game forms which are difficult to integrate with new technologies can stand out from their peers through the use of alternative methods is the focus of this paper. Galgame is the object of study in this paper, and the game <Doki Doki Literature Club!>'s composition is analysed from various perspectives, including its content and plot. It also compares <Doki Doki Literature Club!> with other games in the same genre from the perspective of Maslow's Hierarchy of Needs, and explains why this game stands out from other Galgames. It also discusses whether the success of <Doki Doki Literature Club!> can be a reference for other traditional digital games, so that the development of traditional digital games can have more possibilities. The study conclusion is that the game <Doki Doki Literature Club!> did not use a lot of brand-new electronic technology, but was created from the perspective of fully understanding and satisfying its unique player base. The success of <Doki Doki Literature Club!> is a good reference for other traditional digital games that cannot make use of a lot of advanced technology.

Keywords: Galgame, digital game, motivation model

1. Introduction

At the beginning of this century, more and more forms of digital games have come into being. Not only the games, but also the platforms that include them are evolving at the same time. PC, PSP, XBOX, Switch, smartphones… Although various genres of games are launched on different platforms, most of them are shown to players in the flat screen. But in recent years, the emergence of VR gaming has put an end to this situation, and more game companies are willing to invest more money and effort to produce triple A game or devote themselves to researching games that use VR technology as the main form of gameplay. Now that the traditional digital games that are difficult to be integrated with new technologies are gradually losing their popularity, is it possible to find a way to make them popular again in today's society? This question is where the study of this paper is started.

In the research of multiple game genres, Otome Games, mobile games, Galgame and other game genres were once included in the research object.

The reason for choosing Galgame is that there are existing cases of failed attempts to use VR technology on Galgame, which makes this research object more typical.

Galgame or bishōjo game is a type of Japanese video games that allow you to interact with beautiful anime girls. While almost all galgames involve romance, love, or some sort of sexual innuendo, they are not necessarily X-rated adult games[1-2].

Galgame is a phenomenon that belongs specifically to Japanese culture; few similar game genres exist in the American or European video game industries. Galgame makes up a significant portion of the Japanese market and is the bulk of Japanese PC video games. However, because of the cultural differences that do exist, only a small percentage of these games have been translated into other languages (primarily English and Chinese), and they haven't attempted to be released in large numbers in markets outside of East Asia (including Korea).

In 2016, D3P announced the release of a Galgame using VR technology on PS VR, <Happy Manager>, but it was eventually cancelled for various reasons and got turned into a regular PS4 game.

Only an upgrade was planned to allow some of the game's content to support VR after its release.

Since Galgame relies on the game plot, players have a low rate of repeated play for this type of game. Meanwhile, the cost of producing a VR game is comparatively high. Therefore, applying VR technology to a Galgame is relatively difficult.

However, at a time when high-cost games occupy a large share of the market, a high-quality Galgame emerged. Why did this Galgame achieve success? In what way did it achieve success? Can the success of this game give hope to other traditional digital games? These questions are the main content of the following analysis and research.

2. The characteristics of Galgame and the image of Galgame players

Galgame (bishōjo game) is a type of digital games where players can interact with anime girls. In the word, it is the katakana notation of the English loanword "gal" in Japanese, which came into being due to the irregular pronunciation of "girl" by the Japanese. (And "gal" is the slang expression for "girl" in English)

The major part of target players of Galgame used to be Japanese men, and they were mainly adult pornographic games. But now, with the progress of society and the awakening of innovation awareness, Galgame plots now are aimed at all audience regardless of age or gender.

Most of the game types of Galgame are VNG (visual novel games), but there are also various types of interactive galgames.

Galgame, as a form of game that started in the 1980s, is technically simpler in comparison to other games. In 1982, eleven years after the launch of Kenbak-1 (the first PC recognized by the world) by Kenbak Corporation in 1971, the Japanese company Koei Tecmo Games launched a bishōjo game called Night Life. Although this game is very different from the bishōjo games in the early 21st century, it is the earliest recorded work of this kind.

Instead of using a lot of technical means, the core of Galgame is the plot, which is the characteristic of Galgame. Since the production is simpler, the only two types of Galgame mostly known to the public are TVAG and VNG. These two text-centered types are often overlooked in the gameplay, and are better known as novels or manga. Even so, the interactive content and multi-threaded storyline contained in Galgame are beyond the reach of novels, or works that are simply produced for the sake of admiration. But if it stops at the level of simple interaction without further development, Galgame will inevitably decline as a type of game that needs to serve the rapid development of technology in this century.

And so it did.

The number of Galgame topics reached its peak in 1999, and then in 2003, the number of Galgame releases reached its peak. Since then, Galgame kept on being animated, making this game form noticed by players in other countries of the world and reached its peak in 2005. However, since more game formats were created, the low playability of Galgames became its downfall. Games that relied only on plot were clearly behind the times, and so Galgame gradually faded from the public eye. Maruto Fumiaki, Urobuchi Gen, Kinugasa Shōgo and other famous Galgame scriptwriters also stopped writing scripts for Galgames one after another. The game companies that made their fortunes in Galgame have slowly shifted their focus to larger, more technically advanced games such as triple A games.

The highest-selling Galgame in history was <Tokimemo> released by KONAMI in 1995, which sold 540,000 copies, and there are still no galgames that have sold more than this one so far, which also proves that the traditional digital game Galgame is declining in today's society.

But what is fortunate about this game form is that it does not require too much technical support and cost investment. And because of the rating system, the plot of Galgame is able to only serve a small group of people, and there are basically no restrictions on creation. Therefore, Galgame has more free space for development than other games[3-4].

Therefore, many independent game studios choose to produce and release Galgames at the beginning of their business, and individual Galgame lovers can also easily produce them, making the number of Galgame releases still high. According to the statistics, there were 4,770 Galgames released worldwide in 2021, which equals a release speed of 12.2 games per day. Such a release speed can fully reflect the advantage of low investment and cost of Galgames. Although the quality varies, there are many good works such as < Bishōjo Mangekyō -Kotowari to meikyū no shōjo->.

Galgames are mostly R18 strategy games targeting male audience, with interactive novel + background music + CG. Lack of gameplay and focus on the plot and graphics to bring a sense of excitement and interaction is also one of the characteristics of Galgame. In addition, Galgame as a non-free game, generally has higher prices. As a type of game that does not have a solid gameplay, the high cost will discourage non-specific groups of players from playing Galgames. Therefore, we can initially speculate that the user profile of Galgame is male subculture fans (OTAKU/).

OTAKU generally refers to a special group of people whose knowledge, appreciation, and ability to play ACGN (Animation, Comic, Game, Novel) are beyond average people, and it's a synonym for the ultimate ACGN enthusiasts. Otaku are not necessarily people who stay at home and don't go out, but people who are passionate about and master in certain things. There are also "car otaku", "military otaku" among other types of otaku who are passionate about other forms of subculture. Therefore, OTAKU that are passionate about Galgame can also be called GalTAKU.

Although OTAKU may have a negative image in today's society, this is actually a stigmatization of this group by outsiders. Since what this group is passionate about is relatively niche, it is not uncommon for the OTAKU group to not be understood by outsiders. In fact, OTAKU is a neutral term that does not have a positive or negative connotation[5-6].

The classification of OTAKU in the "Study of OTAKU" is as follows

1) Consumption type: Otaku who are attached to a certain object and devote all their money and time to it.

2）Psychological type

a. Those who want to spread their hobbies to people around them

b. Those who create their own interests and hobbies

Regardless of the type of otaku, the common feature is that they have a low need for real life social interaction and a high level of online group living. The most typical characteristic is that they are accustomed to using the "ACGN (human-machine-human)" mode of information dissemination instead of the "real life (human-human)" mode of direct communication. Most of them have a natural rejection of money, status and complicated interpersonal relationships in the real world, and they feel helpless in the competitive society, so they try to escape from reality through what they are passionate about. However, as an organism in the society, it is impossible for human beings to be completely separated from the real human society. That's why they enter the "virtual reality space" on the Internet.

The reason for their obsession with ACGN is their over-dependence on the Internet and their low social adaptation ability, which leads to "misfit". The existence of ACGN allows them not to try to integrate into mainstream culture and mainstream social circles. The internet has become the main channel for socializing among otaku.

Although socializing through the Internet is still socializing with real people, for otaku, social interaction completed through cell phones, computers and other machinery is a kind of ACGN interaction.

Although the interaction in Galgame is completed by the pre-set script and code, many galgames have become much more than simple love games, but can make the players get moved, with their heart afire or have melancholy emotions due to their magnificent plot. By choosing different options to enter different branches and falling in love with different characters to achieve different endings, it gives players a strong sense of immersion. The social needs of otaku can be met in the immersive experience of Galgame by clicking on different options to get different feedback. The discovery of a good Galgame can help players share or stimulate their creativity on the online platforms to achieve their self-actualization needs.

We have basically deduced the following characteristics of a good Galgame that can be approved:

1) Excellent CG, CV, storyline, and interaction design.

2) Let the players have a sense of immersion.

3) Let the players have the desire to share.

4) Can meet the players' higher-level needs.

3. A masterpiece that appeared out of the blue: <Doki Doki Literature Club!>

Of course, a game that is popular only among the original player base cannot be praised as "extraordinary" or "outstanding". However, satisfying the original player base is a necessary foundation for a game to become popular.

<Doki Doki Literature Club!>, the subject of this paper, has become popular among the general public while satisfying the needs of the original player base, and stood out from the 4,499 games released worldwide in 2017, resulting in a phenomenal popularity , as shown in Figure 1 and Figure 2.
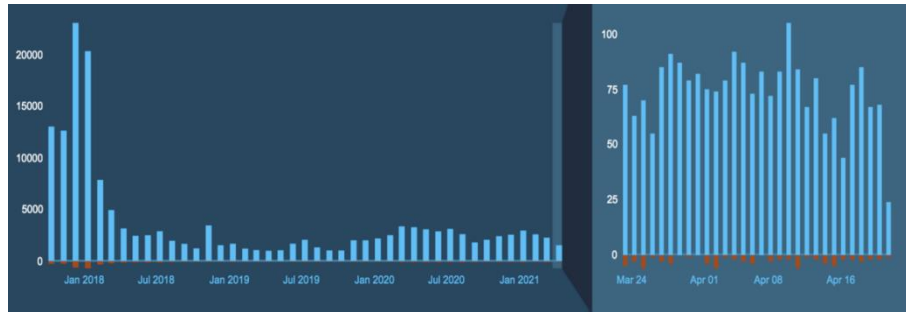

Figure 1: Positive and negative review status of <Doki Doki Literature Club!> on Steam.

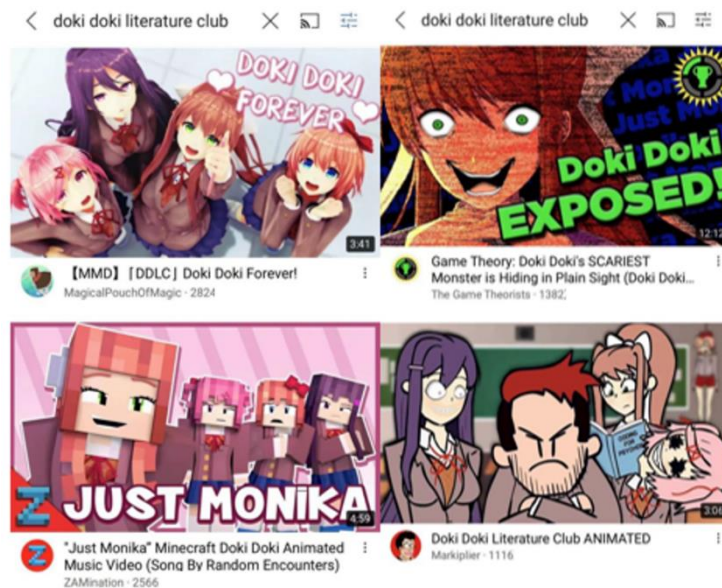*Figure 2: MMD content created based on the content of <Doki Doki Literature Club!> (top left) and a video commentary on the content of <Doki Doki Literature Club!> (top right).*

This argument can be supported by the views of re-creation works of this game on Youtube.

The MMD video (MikuMikuDance, often abbreviated as MMD, is a free animation program that lets users animate and make 3D animated movies, originally produced for the Vocaloid character Hatsune Miku.The MikuMikuDance program itself was programmed by Garnek (HiguchiM) and has undergone major upgrades since its creation. Its production was part of the VOCALOID Promotional Video Project (VPVP), a spin-off of ADGN) created based on the content of <Doki Doki Literature Club!> reached 28.24 million views, while the video commentary on the content of <Doki Doki Literature Club!> reached 13.82 million views[7-8].

What is it about a traditional digital game that is supposed to cater to a niche audience that has suddenly gained such popularity?

Based on the characteristics of Galgame players, the following is an analysis of how <Doki Doki Literature Club!> meets what kind of mental needs of gamers in various ways with Maslow's hierarchy of needs, and how it differs from other Galgames in terms of the level of satisfaction of players' mental needs.

4. Production strategy of <Doki Doki Literature Club!>

Galgame is a very special form of game, a genre that connects rather than separates the game maker from the players. The game maker must take into account the mental needs of the players. So next, I will analyze the production strategy of <Doki Doki Literature Club!> from the perspective of Maslow's hierarchy of needs mentioned above. <Doki Doki Literature Club!> satisfies players' belongingness and love need, aesthetic needs, cognitive needs, and transcendence needs in Maslow's hierarchy of needs in terms of production strategy.

4.1 Galgame that can be seen everywhere – dating simulation

An indispensable element in Galgame is to generate love stories with various female characters through reading and interactive clicking.

In <Doki Doki Literature Club!>, you can also develop different romances with the four heroines. Players get close to the female characters in the literature club, namely the hero's childhood sweetheart Sayori, the quiet and book-loving Yuri, the enthusiastic Natsuki, and the head of the literature department Monika, by writing poems.

Choosing the words that appear in the poems can increase the favorability of each character and the strategy route, for example:

Sayori: Words with mixed feelings, for example: happy, depressed.

Natsuki: Otaku and cute words, some of which are related to the plot. For example: cute, pat, dad, lover.

Yuri: Horror and literary words. For example: tragedy, hell.

When the player enters the story line of a selected character, he will collect CGs of the dating content with female characters, such as confession kisses or chocolate feeding. Because of the excellent CG graphics, players will be immersed in it and get the experience and enjoyment of dating. This is not much different from other Galgames, or even simpler than most Galgames with the theme of dating simulation.

The previously mentioned < Tokimemo>, which has the highest sales so far, provides more game scenes for players to experience. Players can meet, chat with, date, and confide in each other with the character they are pursuing in many scenes. The simulation of Kirameki High School in the game is very realistic. There are classrooms, school buildings, sports fields, swimming pools and all kinds of hardware and software equipment that modern schools require in the campus. In addition to love life, players must pay attention to their schoolwork from time to time, and players can also join various clubs to make more friends. During the period when the school holds various competitions, players can even sign up freely. The final love ending can only be achieved through the combination of various indexes and the favorability of female characters.

Whether the operation is simple or complex, the dating simulation content in Galgame undoubtedly allows players to get the immersion of dating through text + CG + BGM in order to meet the player's belongingness and love need. And <Doki Doki Literature Club!> can meet the players' aesthetic needs with the exquisite CG of the game.

This is why there are more exciting 18R graphics in many Galgames. There are more types of games that use exciting scenes to pursue immersion than Galgame. When choosing themes, the current hot VR games also tend to seek more horror or 18R themes. The annual VR game on the Steam platform in 2020 <Half-Life: Alyx> is a horror-themed first-person shooter (FPS) game.

Since there are no rich interactive methods and more exciting 18R graphics, <Doki Doki Literature Club!> can only be regarded as acceptable in terms of satisfying belongingness and love need. Therefore, in the shared content on various platforms, there's little content that mentions how happy the players get because they fall in love with the female characters in it.

In June 2021, the game production company released the sequal of <Doki Doki Literature Club! >, <Doki Doki Literature Club Plus!>, which is a very traditional Galgame. In it, players can fall in love with beautiful girls in the game to get a sense of dating. This is also the plan of the game production company to meet the mental needs of Galgame's original player base.

4.2 From Galgame to Metagame – break the fourth wall and break it multiple times

"The Fourth Wall" is a concept in dramatic theory, often used by actors to signify the invisible stage wall where the audience is seated to view the play, since there are usually only three walls in realistic interior scenes on the proscenium stage.

On the proscenium stage, a "wall" that does not actually exist is located along the proscenium stage in people's imagination. It is produced by associating the "three-dimensional" space entity of the stage, and is connected with the "three walls" of the box set. Its function is to separate the actors from the audience, so that the actors forget the existence of the audience and only recognizes the existence of the "fourth wall" in their imagination.

The establishment of the fourth wall is largely due to the emergence of realistic dramas. Its emergence has led many artists to focus directly on enhancing drama play and comedy effect, leading to the breaking of such boundaries, for example, actors on stage speaking directly to the audience.

The fourth wall was born in theatrical works and has been used by various fictional works. Therefore, the concept of "MetaFiction" was born in novels, and the so-called Meta element refers to the breaking of the fourth wall in the works. The protagonist breaks through the world view of the novel and has a direct dialogue with the readers.

In games, the Meta element is also being used in the 21st century. As early as 2013, in the Galgame < Kimi to Kanojo to Kanojo no Koi > produced by Nitro+, there were female characters who broke the fourth wall to directly talk to the player and used Trojan Horse to delete the files of other characters.

And in <Doki Doki Literature Club!>, the fourth wall is broken many times in many playthroughs of the game.

In the first playthrough, it's a very traditional visual novel, where the player uses poetry to engage in dating simulations with various female characters. However, at the end of the first playthrough, no matter what choices the player makes, Sayori commits suicide due to depression and the game is forced to restart.

Sayori's files are completely deleted from the system by the second playthrough, and the game attempts to continue running without Sayori. However, bugs, gibberish, and character crashes often occur during the playthrough. Finally, at the end of the second playthrough, no matter what choice the player makes, Yuri will self-mutilate and die. And the game is forced to restart again. At this point, the player will find that Monika grows "self-awareness" in the game and tries to make the player truly fall in love with her. At this point, the fourth wall in the game is broken for the first time.

During the third playthrough, Monika deletes all the files of other characters in the game except herself, and the player enters the "Just Monika" plot. During this playthrough, Monika completely breaks the fourth wall and directly communicates with the player. The third playthrough will enter an infinite cycle until the player deletes the "Monika" character file from the computer.

After Monika's character file is deleted, the player can enter NE (Normal Ending), where Sayori becomes the head of Literature Department. In this ending, Sayori also breaks the fourth wall and wants to emulate Monika to own the player. In the end, Monika, who is not completely deleted, will come out to stop all this, and the game's files are all deleted and cannot be launched again. At this time, the fourth wall in the game is broken again when Sayori also gains "self-awareness" after she realizes that Monika has broken the fourth wall. Then Monika, who was completely deleted by the player, reappears and breaks the fourth wall again. At this point, the fourth wall is not only made use of to increase the player's sense of immersion, but also to add to the fun and suspense of the game by breaking the fourth wall.

The game maker used two techniques to achieve such an excellent design.

1) Trojan horse virus.

2) Role endowment.

From the "real-life" point of view, the reason why the files in the game can be easily deleted and modified is the Trojan horse virus carried in the files. The Trojan horse program running on the server first hides its whereabouts, pretends to be a legitimate communication program, and then uses the method of modifying the system registry to set trigger conditions to ensure that it can be executed, and can continuously monitor the relevant content in the registry. If it finds that its registry is deleted or modified, it can be automatically repaired.

Although it's a computer virus, the Trojan horse virus used in <Doki Doki Literature Club!> is not

designed to crash the player's computer or steal the player's information. When the player repeatedly plays the game, the Trojan horse virus deletes or modifies the game so that the player can enter a new plot in every playthrough. At the same time, it helps the "Monika" in the game achieve the effect of breaking the fourth wall.

From the perspective of ACGN, the position of "head of the literature department" endows the character with the ability to break the fourth wall.

Monika has been given the position of "head of the literature department" in the first three playthroughs. She knows when the game is closed and can edit other characters' files to modify their personalities. She can realize that the player is recording the game, and she can attain the name of the player's computer administrator account. She can add or delete some files in the game, such as "hxppy thxughts.png", "have a nice weekend!", etc. Every time the game is restarted, she can check whether the game file "monika.chr" still exists.

At the beginning of the fourth playthrough, if the player restores the file "monika.chr", Monika will say "Please don't play with my heart, I don't want to come back" in the game, and then the "monika.chr" will be deleted from the system again. At the same time, if the player records the screen during the game, Monika will also have a special dialogue with the player in front of the screen.

After Monika's character file is deleted by the player, Sayori, who was originally the deputy head of the literature department, will become the "head of the literature department".

If you delete "monika.chr" in the first playthrough, Sayori, who has obtained the position, will not be able to accept the fact that the world is just a game, and that all the characters in it may be deleted by the player at will. The game will shut down automatically, and after restarting, the player will witness the scene of Sayori committing suicide.

Monika's character file no longer exists in the fourth playthrough, and Sayori, as the "head of the literature department", will want to own the player in front of the screen.

After the player has collected all the CGs, there will be a final ending (True Ending). Monika will disappear, and Sayori will return and became the head. She will find that the player has learned all about the game through SL and is full of love for the game. Sayori will thank the player for playing, and the game content ends here.

It can be seen that the characters who break the "fourth wall" in the game are not randomly selected. The position of "head of the literature department" has the highest authority in the literature department, so that person gains the right to have a direct dialogue with the player. It also changes the way of playing Galgame from relying on Program Script to relying on Dialogue Script.

In the game, the barriers between virtuality and reality have been broken many times. In addition to giving players a sense of freshness, it also allows players to walk between virtuality and reality. On the surface, such a design will make players lose the immersion they hope to obtain in the game and be "brought out of character". But in fact, what it gives the players is a brand new experience.

The player is not playing the game, but participating in the game and becoming a part of the game.

In "The Stanley Parable", the narration as the guide keeps emphasizing a theme of the game: "This is my story, not yours!" If the player does not follow the instructions of the narration, the player will always end up with tragic endings. But following the instructions of the narration, what the player gets will be the most boring ending.

Players can choose the ending they want through their own action. They can choose to immerse themselves in the virtual game and follow the plot step by step, or they can break the shackles of the virtual world and choose to share the world view with the characters who break the fourth wall.

"The Adjustment of Controversies·Chuang Tzu": "Once upon a time, I, Chuang Tzu, dreamt I was a butterfly, fluttering hither and thither, to all intents and purposes a butterfly. I was conscious only of following my fancies as a butterfly, and was unconscious of my individuality as a man. Suddenly, I awaked, and there I lay, myself again. Now I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly dreaming I am a man. Between a man and a butterfly there is necessarily a barrier; and the transition is called Metempsychosis. "

I don't know whether it was Chuang Tzu who dreamed that he turned into a butterfly, or whether the butterfly dreamed that it was Chuang Tzu. The concept of Metagame is exactly the same as Chuang Tzu's Dream of Butterfly. We don't know if the characters in the game break the fourth wall and stand in the

same world view as the player, or the player hasn't broken the fourth wall to enter a higher dimension.

During the gameplay, the players constantly experience switching between virtual world and reality. It ensures the fun that players get through the game and also explores various issues between virtuality and reality. It adds a certain depth to the game and at the same time allows players to obtain cognitive needs.

4.3 Advantage of the players - a game outside the game

Galgame's unique player group has also been considered and utilized by the production team of the game <Doki Doki Literature Club!>. After playing the entire game itself, the production team also designed some "stingers" that need to be obtained through various means.

There are generally two forms of "stingers" that appear in movies.

1) A stinger that appears in the film and blends with the plot. Most of them are in tribute to other works.

2) A stinger that appears at the end of the film, giving the audience a surprise beyond the content of the film.

The "stinger" in most game settings is more inclined to the first type, paying tribute to movies or novels in video games, which isn't uncommon. For example, in the <Outlast> series, the "stingers" in the game are used many times to pay tribute to <Evil Dead II>, <The Shining> and other works. In <Doki Doki Literature Club!>, the game creator put the content of "stinger" in the game file package and the pictures in the game store.

And in the process of searching for a "stinger", the characteristics and advantages of OTAKU are fully brought into play in the game.

Toshio Okada, who once worked at the University of Tokyo, has this definition of OTAKU in "Introduction to Otakuology":

First of all, OTAKU is passionate about the field he is passionate about and has a deep understanding of this field.

Secondly, OTAKU has the adaptability to the explosion and informatization of mapping information, the cross-field divergence of data search and textual research, and the interpretation and research of the secret hints suggested by the mapping creators.

Third, the insatiable ambition and desire for self-expression, and the love and understanding of the field they are passionate about must be expressed through various channels.

The love for Galgame pushes this type of players to gain a certain level of understanding and mastery of electronic technology.

Each character in <Doki Doki Literature Club!> has a character file with the suffix ".chr", and the content of these files does not affect the game process. However, these files have all been encrypted to varying degrees (mostly base64 encryption), and four files are obtained after decrypting chr. One PNG (image file corresponding to Monika.chr), one JPG (image file corresponding to Natsuki.chr), one OGG (audio file corresponding to sayori.chr), and one TXT (text file corresponding to yuri.chr)

The OGG file, after being decoded, is a scannable QR code pointing to http://projectlibitina.com, the content of which is a human body experiment report.

The PNG file, after being decoded, is a poem. <Can you hear me?>. Judging from the content, it is a poem written by Monika to the player.

The JPG image, after being color inverted and projected onto a cone, turns out to be an image of a human face.

The TXT text file, after being decoded, is a horror story written by the game author in 2013.

For FPS game or MOBA game players, unpacking game files is not a required skill. For Galgame players, however, it is commonplace to obtain and save the CG in the game by means of unpacking. Therefore, the Galgame player group will be more aware of unpacking than other gamer groups, so they can discover the content hidden by the game producer outside the main plot.

However, "Find the stinger" is not the only game hidden outside the game <Doki Doki Literature

Club!>.

The "third eye" information that frequently appears in the game still hasn't been revealed after the player has completed all the main storylines.

The "Self-Portrait of Markov" that Yuri reads and highly recommends the protagonist (not the player) to read in the game has the "third eye" on its cover, which is the first time it appears in the game. Then Sayori and Yuri's poems also mention opening the third eye. It doesn't play a big part in the main plot gameplay, or we should say "Yuri", who occupies a large part of the content, becomes the protagonist in the "third eye" plot line.

However, the "third eye", which seems to be unimportant in the main storyline, can be found in the unpacked "stinger" and the official store of <Doki Doki Literature Club!>. Judging from the age, the protagonist in the human body test report in the OGG file is "Yuri". And the "killing" written in it echoes with Yuri's "stabbing others to gain joy" and "this desire is still lingering in my blood vessels, and the third eye is pulling me closer and closer" written in the main plot.

Markov in "Self-Portrait of Markov", which Yuri reads, is famous for pushing forward the concept of Markov chain. It means that in a sequence of events, the probability of a given event occurring depends only on the event that occurred just before. That is, the interdependence of probabilities.

While it's mentioned in Monica's poem that:

"I think you might be able to go back...or however you want to put it...

To go back and tell them what's going to happen.

If they know ahead of time, then they should be able to avoid it."

It tries to get the player to change something that happened in the past so that something wouldn't happen in the future.

Such a design seems to have become a complete storyline and put the player in another reasoning game. The difference from the main storyline is that this storyline is not provided by the game producer, but needs to be generated by the player's own reasoning. A similar design can be found in the horror puzzle game "Devotion" released by Red Candle Games in 2019. Players who found clues through the official information participated in a puzzle & reasoning game offline, and attained a plot line different from the main plot of the game.

However, what deducing a different storyline in a reasoning game provides reasoning game lovers with is the thrill of gaming. While the second storyline that players infer through the integration of various knowledge and puzzle solving in addition to the main storyline of Galgame is the game author's satisfaction of the players' needs beyond their own needs, that is, the satisfaction of transcendence needs.

The satisfaction of this level is beyond the reach of most games. Thus I think this is the key reason why <Doki Doki Literature Club!> is such a great success.

5. Establish a simple mental need model of games Based on the case of <Doki Doki Literature Club!>

From the above three perspectives, <Doki Doki Literature Club!> meets the four needs of Galgame players. That is, belongingness and love needs, cognitive needs, aesthetic needs, and transcendence needs.

In Maslow's point of view, the lower the level of "needs", the greater the power and the greater the potential. As the level of "needs" rises, the power of "needs" weakens accordingly. Before higher-level "needs" can arise, lower-level "needs" must be satisfied.

Based on his point of view, we can establish a preliminary mental need model of digital game players based on the needs provided by digital games for players.

1) Demand for digital games: only refers to players' demand for this form of "game".

2) Requirements for the aesthetics of digital game graphics: whether the graphics that players see in digital games can be beautiful or unique.

3) Emotional experience needs for the pleasure or sense of conquest brought by digital games: falling in love with female characters in Galgames, or the pleasure and sense of conquest brought by destroying enemies in FPS or MOBA games.

4) Needs for the desire to explore and share brought about by video games: Players have obtained a higher playing experience in the game, achieved their own expectations for the game, or the game is higher than the player's expectations, which makes the players willing to continue to explore the game more or share or recommend this game on social occasions.

5) The experience that video games bring to players beyond their needs: video games can enable players to think and grow, or bring players an experience that can enable players to gain a sense of accomplishment , as shown in Figure 3.
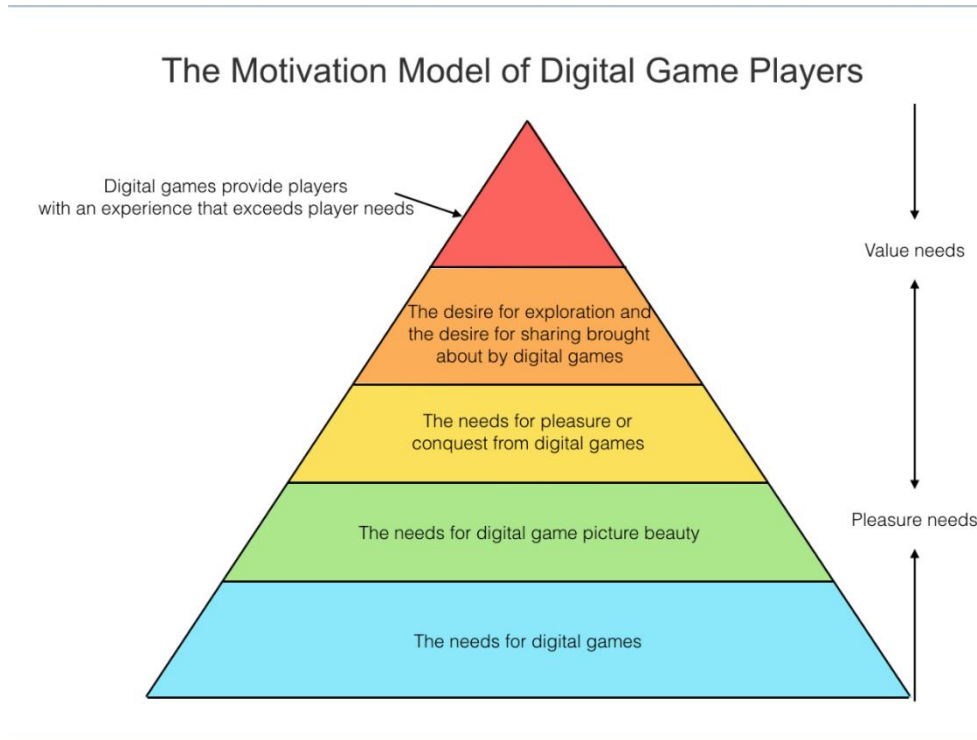

Figure 3: The motivation model of digital game players.

Although Galgame is the research object of this paper, this mental need model can also be applied and verified in other types of games. Although Overwatch released by Blizzard Entertainment in 2016 is an FPS game, the background stories of each character and the stories between various forces are carefully set. Each character has its own unique skins, voicelines, movements, poses, sprays, dance expressions and close-ups. Such a large investment of energy and cost is precisely to meet the needs of players beyond the first-person shooting content of FPS games. Therefore, Overwatch still has a solid foothold in the market today, five years after its release.

This model can also be used to analyze the reasons why most traditional digital games have been outdated in a short period of time. The gameplay is single and limited since they stick too precisely to the original game form. Therefore, it is easier for them to be replaced by new technologies or new types of digital games.

Games with social functions can still keep some players through the interaction among users. If stand-alone or console games cannot stand out, they can only become products abandoned by the times.

This phenomenon is especially remarkable in female-oriented mobile games. 2017 is a year when mobile games for women are particularly popular. With <Ensemble Stars!>, <Touken Ranbu Warriors-ONLINE-> and other games became popular, <Sengoku Night Blood> released in May 2017 was also a smash hit. However, two years after the game was released, the server had to be shut down due to poor revenue. However, <Ensemble Stars!>, which was released two years earlier, still earned $9 million in 2020.

They are both female-oriented mobile game released in Japan, and they both used the game IP to create animations, stage plays and other works, but the two games had completely different endings. The reason is that <Ensemble Stars!> developed a second way to play besides the female-oriented plot reading - music game. In this way, the player group of music games got attracted, and it also provided more freshness for the original player group, which exceeds the players' original needs for this game to

simply read the plot or collect character cards.

6. Conclusion

Different from digital works such as TV dramas, movies or animations that are simply created for appreciation, the completion of digital games depends on the interaction between the player and the game. Therefore, this paper takes the mental needs of players into consideration while researching digital content.

As a result of this research, <Doki Doki Literature Club!> meets the higher-level mental needs of the player group through the flexible use of Meta elements and breaking the original restrictions of Galgame with the new game form created by its unique player group.

The above thesis established a preliminary mental need model of players by analyzing the production strategy and success of <Doki Doki Literature Club!> from the perspective of Maslow's hierarchy of needs. And from this model, the reasons for the success and failure of some traditional digital games are analyzed.

Based on the success of <Doki Doki Literature Club!>, if traditional types of digital games want to gain a foothold in today's society, they can start from the following angles.

a. Create brand-new content or forms, and flexibly use Meta elements to bring players a game experience beyond two dimensions.

b. Break through the shackles of the original game form, and exceed the players' expectations and basic entertainment needs of this particular game form.

c. Fully understand and investigate the player group, and set up interactive content during the game that allows players to make full use of their own group advantages.

On the other hand, it can be analyzed from the comparison chart of the number of game downloads of <STEINS;GATE>, <Crush Crush>, <Doki Doki Literature Club!>, <Senren＊Banka> on the Steam platform that, although <Doki Doki Literature Club!> was popular for a period of time, since it is a Galgame that relies on the plot, the game content is limited. After the heat on the Internet passed, the number of downloads of this game gradually became lower than that of the free game <Crush Crush> with pornographic nudity as its major content.

Therefore, whether the players' mental need model established above for the game form of Galgame is completely rigorous, and whether there are any inapplicable digital game forms will be explored through follow-up research and verification.

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