

Title	lbtla : interstellar adventure design of immersive experience to enhance personal engagement
Sub Title	
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Publisher	慶應義塾大学大学院メディアデザイン研究科
Publication year	2020
Jtitle	
JaLC DOI	
Abstract	
Notes	修士学位論文. 2020年度メディアデザイン学 第804号
Genre	Thesis or Dissertation
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO40001001-00002020-0804

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Master's Thesis
Academic Year 2020

Ibtıla: Interstellar Adventure
Design of Immersive Experience to Enhance
Personal Engagement



Keio University
Graduate School of Media Design

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A Master's Thesis
submitted to Keio University Graduate School of Media Design
in partial fulfillment of the requirements for the degree of
Master of Media Design

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Abstract of Master's Thesis of Academic Year 2020

Ibtıla: Interstellar Adventure
Design of Immersive Experience to Enhance Personal
Engagement

Category: Design

Summary

In recent years, immersive experience has rapidly become the primary trend of exhibitions. Indeed, they are considered as a privileged means for communicating ideas and play a central role in expressing the concept of art to the mass audience. 'Ibtıla: Interstellar Adventure' is a project that aims to create private connections between the audience to the immersive experience they will have during the exhibition. The project 'Ibtıla: Interstellar Adventure' combined a five-element themed personality quiz game with an immersive experience on the smartphone platform. In this study, through playing the game 'Ibtıla: Interstellar Adventure', users can enjoy the immersion while finding out their personality through the quiz.

Keywords:

Immersive Experience, Personal Engagement, Quiz Game, Screen Interaction

Keio University Graduate School of Media Design

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Acknowledgements

First, I would like to present my most profound gratefulness to my supervisor, Professor Masa Inakage, a respectable, responsible, and intelligent scholar who has provided me with helpful guidance in every step of this thesis writing. Without his enlightening direction, extraordinary compassion and patience, I could not have completed my thesis. His keen and dynamic academic observation enlightens me not only in this thesis but also in my future study. I shall extend my thanks to Professor Ueki Atsuro for all his kindness and help, and Professor Sunahara Hideki for giving valuable feedback. I would also like to thank all my team members who helped me developed the project.

Last but not least, I'd like to thank all my friends and parents for their encouragement and support. Thank you.

Chapter 1

Introduction

1.1. Background

Digital art is a leading role in today's museum and exhibition, and it is a new trend of expressing ideas and art. Nowadays, the immersive experience of digital arts is a new and popular form of entertainment we do in daily life. People like to visit and take photos while in the exhibition and upload it to social media. Immersion is a significant part of thriving digital art. An immersive experience is making an illusion and taking the viewer to the distinct or expanded reality, enhancing surroundings (by making it more appealing or pleasing) with the help of technology. In a project, one or more technologies joined together, For instance, virtual reality (VR) and augmented reality (AR). The immersive experience is about building a real presence with the content and connect with what the viewers are seeing. However, the existing works (for instance: Borderless by team lab; Flowers by naked) are lacking private personal engagement.

Use the Borderless¹ exhibition as an example. The theme and visuals of the display are fit for every visitor. It is taking place at a wide space with more than dozens of guests joining together at the same time. Visitors are admiring the works while others are talking and shooting photos on the side. Disturbing is along with the visit. What if there is a room that only one person can enter at each time and interact with surrounded walls in a particular theme connected to visitors. This concept would be a method to solve the problem and fill the gap of lacking individual participation. In short, this thesis will design an immersive quiz room that visitors can have a private personal experience.

Nevertheless, the quiz here is not like the normal one we took in our student life. The quiz here is more of a short, fun psychological test. Since the conclusion of the quiz is exclusive and depends on the participants' choice, it increases engagement.

1 teamLab Borderless, Tokyo
<https://borderless.teamlab.art>

Thus, visitors can enter the immersive quiz room, completing a quiz by interacting with projections on surrounded walls, and having a private individual experience.

1.1.1 PSYCHOLOGICAL FUN QUIZ

In the 21st century, the internet is part of everything that we do. During the last three decades, the internet and social media have overgrown, and its inevitable influence on our lives is undeniable. It has changed how we look at things, the way we socialize, and even the way we discover the world and ourselves. High tech software and device have replaced the old methods of playing games and killing spare time—for instance, fun quiz games. From newspaper and magazine to websites and application, quiz game has found their way in the internet process, through computers, smartphones, and much other equipment. However, the old way of the paper-based quiz game still exists. Now we use laptops, smartphones, social media, and many more in place of a paper text quiz game; either way, it is not hard to find how popular and speedily spread they are. This popularity motivated me to take this research a step forward and consolidate immersion into quiz games.

1.1.2 IMMERSIVE EXPERIENCE IN EXHIBITION

The immersive experience is a new trend of expressing content and ideas in but not limited to the art domain. It is a relatively new exhibition format, usually refers to the multi-sensory experience, which allows visitors to walk into the scene, to interact with visitors as well. Such exhibits pull visitors out of the inactive, one-dimensional viewing system and bring them to a distinct moment, place, or routine where they become active participants in what they confront. Compared with traditional exhibitions, the immersive experience is attractive, novel, and three more points on the following:

1. These exhibitions are successful as competitive leisure-time attractions.
2. They have greater holding power and memorability.
3. They are effective in conveying content, thereby increasing visitors' learning.

From the behaviors of various exhibitions developers, designers, kols(key opinion leaders) and artists to open exhibitions, it is shown that a successful exhibition must be based on the premise of controlling costs, using the good visuals, playfulness to stimulate young people and other visitors. A good content and visuals of exhibition cannot only enhance the enjoyment while observing, but also attract more visitors. Visual image suited the content is the concept in the filed of performing immersion, which is an important factor affecting the evaluation of visitor when in the exhibition. When visitors step into the space and engage to the consistent visuals, the influence of the image of the content will be translate as immersion. [1] [2]

1.2. Purpose of study

The immersive experience is inevitably the mainstream format for future art in the digital domain. This research proposes a new concept and immersive experience design, which aims to build an immersive exhibition that maximizes the engagement between audience and content. The target audience will be millennial who are willing to explore new stuff, like participate in an immersive experience and like psychological tests.

Specifically, there are three primary purposes of this research.

- To what degree the visual and interaction of content influenced the immersion.
- Examine the factors that lead the audience to engage in the exhibition.
- Find out what is the key feature of creating private personal experience towards the exhibition.

Undoubtedly, building strong persuasive visuals can increase the enjoyment of the exhibition. Especially in a highly competitive art market environment, attracting the broadest spectrum of individuals has become an important center. However, for an immersive exhibition, the key to succession is not limit to rely on high quality visuals, but also to make visitors feel as if they are actually visiting a particular time or place.

1.3. Change of plan

COVID 19 began to hit the world start from the spring of 2020. The plan for the project was initially to open the exhibition during the Golden week in May. However, due to the Government issue about COVID 19, events like exhibitions in a closed space will no longer approve to hold. Thus, the project's format was changing from a physical showroom to an online video quiz game.

1.4. Structure of Study

To best explain the concept of the thesis research, there are five chapters included in this paper. The first chapter depicts a summary and the goal of the project's idea, revealing the primary purpose of the study for this research. In the second chapter, related works are reviewing from three different perspectives and briefly summarized. Also, fieldwork and interview of existing projects to receive a genuine understanding of immersion. Whereas the third chapter focuses on the design concept and the flow of the whole quiz process. Design details are listing out with description. In chapter four, the evaluation divided into two tests. One is focusing on video that visualizes the main plot of the story. The other one is the quiz which themed in five-element. Finally, chapter five concludes the evaluation result and design limitation of this research.

Chapter 2

Related Works

2.1. Immersive Experience

Almost everyone dreamed of traveling around the world since little, flying above glaciers in north pole, climbing the Great wall, watching whale swim in the ocean, and taking photos in front of the pyramid in Egypt. Nevertheless, the view is positioned around the world; one might expect to travel to far-off lands for such an encounter. However, to experience them in a day? Visitors to Disney can visit the beautiful landscape anytime they like in the “Soarin”¹(chapt2.1.1).

Above is one example of how immersive experience can use in our daily life. In this era of high-tech, high-glitz entertainment, one of the significant challenges that entertainment industries or galleries or museum developers face is inspiring visitors. As there are more and more recreational activities, they must not only focus on the content and concept of a project but also find new ways and form to express them.

In recent years, many industries and companies have begun to incorporate immersive exhibitions, like teamLab² and Naked³. Although the words immersive experience might be considered almost globally known, there is some misunderstanding of it. Online searching on “immersive experience” will most likely provide several possible results connected to VR experience, yet the immersive experience

1 *Soarin' Around the World*, Attraction located in Future World at Epcot and Tokyo Disney Sea

<https://disneyworld.disney.go.com/attractions/epcot/soarin-around-world/>

2 teamLab, teamLab is represented by galleries world widely

<https://www.teamlab.art>

3 NAKED, INC. A creative company that orchestrates entire spaces

<https://naked.co.jp/en/>

is not limited to VR technology. The immersive experience is where the real physical world and the imaginary digital world meet together. Hence, there is more than one method to create an immersive experience as follows.

Due to COVID 19⁴, the project changed from actual physical exhibition to an online game, different from examples of above, the definition of immersion will be redefined in this situation. When referring to immersion, people usually think of exhibitions produced by TeamLab, which is to create immersion by focusing on adding projection and visuals for an environment to let the audience be sunk in. Nevertheless, immersive is not only created by the closed space, but it could also be achieved mentally by other methods.

Research showing that people do what they want to do according to their psychical drive, and immersive experience manifests conscious motivation. The immersion is happening when balancing challenges and skills; it is objective and temporary. In terms of achieving immersion, psychological enjoyment and complete focus are the two features. To expand on the idea of grabbing focus, seeking information is the most prosperous way. When involving interaction, the immersive experience can also be understood as following: [3] [4]

- Addiction of finishing the game
- Addiction of competing
- Addiction of mastery
- Addiction of exploration
- Addiction of high score

4 *Corona Virus 2019*

https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000164708_00001.html

2.1.1 DISNEY, SOARIN

Disneyland⁵ is an excellent example of creating an immersive experience through its whole theme of the park. The whole purpose of their park is to create a magical world that guests can have a magical time through their visiting. At the moment, a guest stepped into the park entrance, Mickey Mouse shaped gardening, Cinderella's castle insight, and the costume of crew members will have the guest immerse to the happy imaginary world.

Disney is always good at telling a story. Moreover, Soarin is an attraction that recently came to Tokyo Disneyland. It is their step on exploration experience. The whole experience occurs in a 180-degree, 80-foot IMAX digital projection dome, with scent and motion movement. Visitors in the attraction were dragged into sky, enjoy their ride on traveling the world by watching videos. Soarin is telling the story of an adventure starts from the entrance of it. Style of the construction, decorations in the yard, and pictures on the wall show when the story happened, who the main character is, and what they do. Even the safety instruction video is made in their time; by that, it means the characters in the video are all dressed in their past of fashion and other details.



(Source: Disney World, Epcot)

<https://disneyworld.disney.go.com/attractions/epcot/soarin-around-world/>

Figure 2.1 Photos of Attraction *Soarin*

⁵ *Disneyland, theme park*

<https://disneyworld.disney.go.com/destinations/magic-kingdom/>

Furthermore, when guests finish queueing and receive all the background story information, finally walk in the playroom, they will sit in the seat excited to wait what happened next. When lights out, music on, it will drag the guest into the air and fly across the world to see the traveling spots and see the magnificent nature views.

Soarin is creating the immersion by building up all the details of the story; It will create a feeling of experiencing the same thing of what the character has done. However, it lacks a connection between the audience to it. No interaction is involved during the whole time, and somehow people saying it was like just watched a movie.

2.1.2 TAMAGOTCHI

Tamagotchi is another example of immersive experience by creating a virtual relationship with the user to the game. It is a handheld console game released in November of 1996 by Bandai, it promptly spread into the world and became one of the best toys of the late 1990s and the early 2000s. At the 20s anniversary in 2017, there were 82 million units have been sold in the world.



(Source: Tamagotchi, BANDAI)

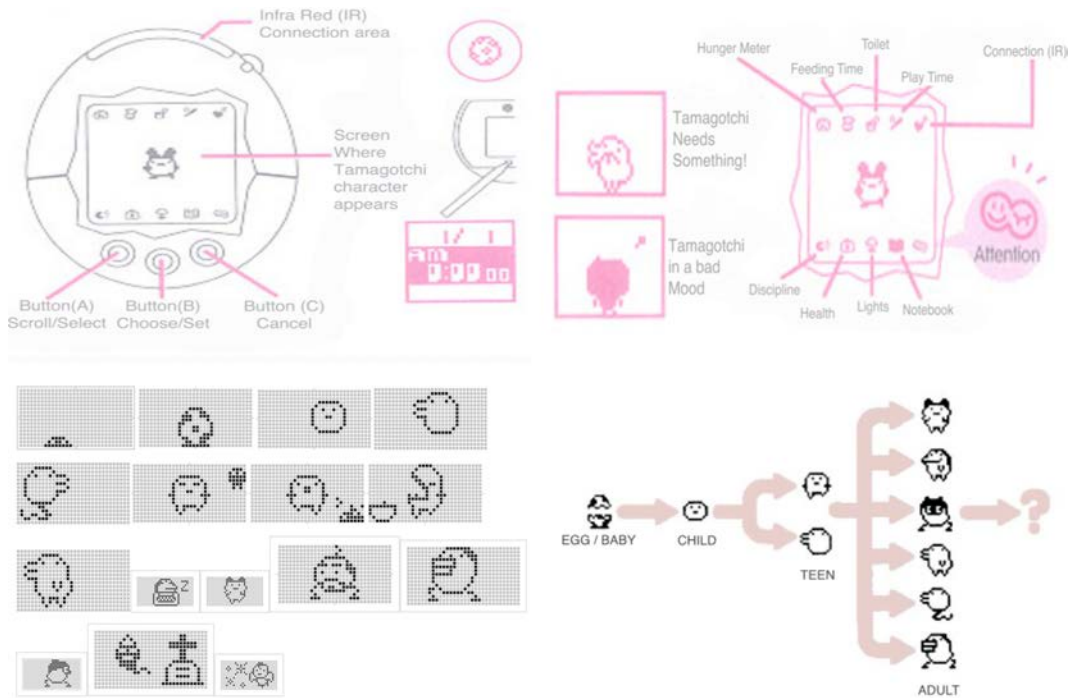
<https://www.bandai.com/brands/tamagotchi/>

Figure 2.2 Tamagotchi

The game gives users a chance to raise a pet digitally by play with it and feed it. The user can name it after it's birth, and it has four life cycle stages, Baby,

Child, Teenager, and Adult. The Adult characters will vary in the feeding process, which means any choices made during growing up will affect the grown-up form. [5] Tamagotchi is a simple mono-color game with only three buttons in its interface when released. However, it became the most popular game at the moment. Connection to the real world time and interaction with users are the two main features of Tamagotchi to create immersion.

First of all, the game has no 'pause' selection; time in the game passes like in the real world, which means the pet will be sick or even dead when left days without notice. This design choice distinguishes the game from others and makes the digital live pet valuable and believable.



(Source: Aiden D. In)

<https://aidenin.wordpress.com/2013/11/11/virtual-relationship-with-tamagotchi/>

Figure 2.3 Tamagotchi Interface

Further, interaction plays an essential role in the game; users can get feedback through their movements. To take care of the digital pet, users need to keep their eyes on their emotions. In terms of interaction, users can play a simple game with Tamagotchi, such as "Rock, Papers, Scissors," and can make their virtual pet pleasant. Besides playing games with the pet, feeding and cleaning toilets also add points to the realness, leading to the game's immersion. Last, the console only has three buttons; scroll, choose, and cancel. It is simple to understand and operate. However, when users are playing the game, the buttons are more than the purpose of just select and choose; it is food, brush, and hand. The user was immersed in the virtual connection to the digital pet by interacting through the game of fostering.

2.1.3 RAIDEN

Raiden is a 1990 vertically scrolling shooter arcade video game developed by Seibu. [6] The game has a background story of alien species that invaded Earth in the year 2090. Players assume the Defense pilot's roles, taking control of the art Fighting Thunders aircraft to defeat the aliens and save the Earth.

It was ported to home computers in the early to mid-1990s. The control system was simple, aircraft was operating in the game by moving the mouse, and left click for shooting, right-click for a bomb. Eight stages were in the game; at each end of the stage, there will be scores and status of how many alien enemies were taken down. There will be competitions and the enthusiasm of reaching higher scores whenever there are scores, which will make players more concentrating on the game.

The game takes place from the third-person point of view; as a user moves the mouse to avoid and shoot, players will feel like they are the aircraft. When the player can see and control simultaneously by the third-person point of view, it is easy for the player to substitute into the pilot's role. Immersion was created in the game by willing to finish the game(successfully beat the alien army), competing, and aiming for a high score. As the feeling planting in the player's mind, the player

imagines that the real war was happening and have the immersive experience of fighting alien aircraft.



(Source: video game Raiden)

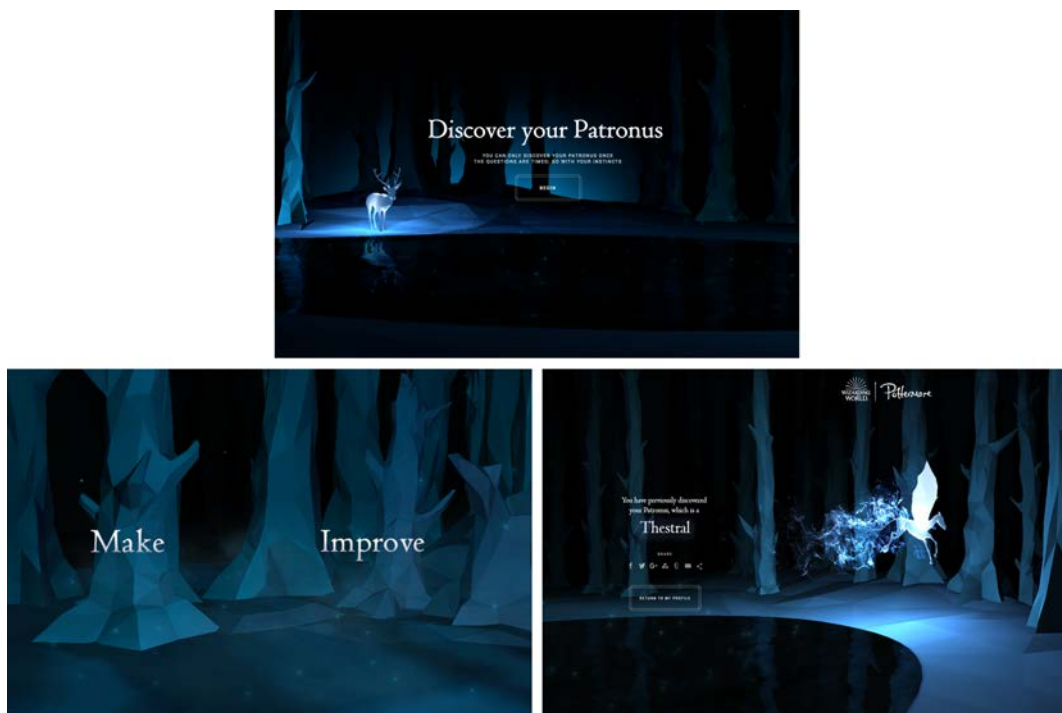
[https://en.wikipedia.org/wiki/Raiden_\(video_game\)](https://en.wikipedia.org/wiki/Raiden_(video_game))

Figure 2.4 Screen shots of Raiden video game

2.1.4 DISCOVER YOUR PATRONUN

Next, is Discovery Your Patronun from Pottermore website. Pottermore is a website for Harry Potter fans to communicate and hang out in the digital world. Discovery Your Patronun is a video quiz recently released on the site, in which the user followed the video and clicked the choice to go to the next scene to determine their spirit guardian. There are texts on the screen to lead and hint users, and there will be words like Time is limited, do not overthink, act quick. So users will have a nervous sensation and keep focus during the whole process. The hinted words will grab the user's attention and keep them until the resulting scene. This

patronun test creates the immersion by grabbing the users' focus and using the interaction of clicking words on the screen. However, the video is quite long and straightforward; nothing changed during the whole non-stop video. It was found that people who are not fans of the movie or book will find it annoying during the extended time video process. The whole quiz video is too much reliance on the exciting story of Harry Potter and exclusive to their fans.



(Source: Fun test on Pottermore)

<https://www.wizardingworld.com>

Figure 2.5 Screen shots of *Discover Your Patronus*

2.2. Fun quiz

Self-discovery is always a great topic worth arguing about. It can be ascertained in many places: religion, meditation, and a solo trek through Tibet. On the other hand, it can also be found through many quizzes on the internet. Those quizzes are a different theme in different criteria and serve for various purposes. Users can determine whether they are a character from a fiction movie or what their soul animal is.

2.2.1 POTTER MORE

Potter more⁶ is the website where fans of Harry Potter gets together and digitally realized the wizarding world. They share later news and their feelings towards the Harry Potter series on the website. On the website, there are dozens of quizzes about wizarding knowledge. Nevertheless, they also have fun psychological quizzes to determines what house the user is in Hogwarts.

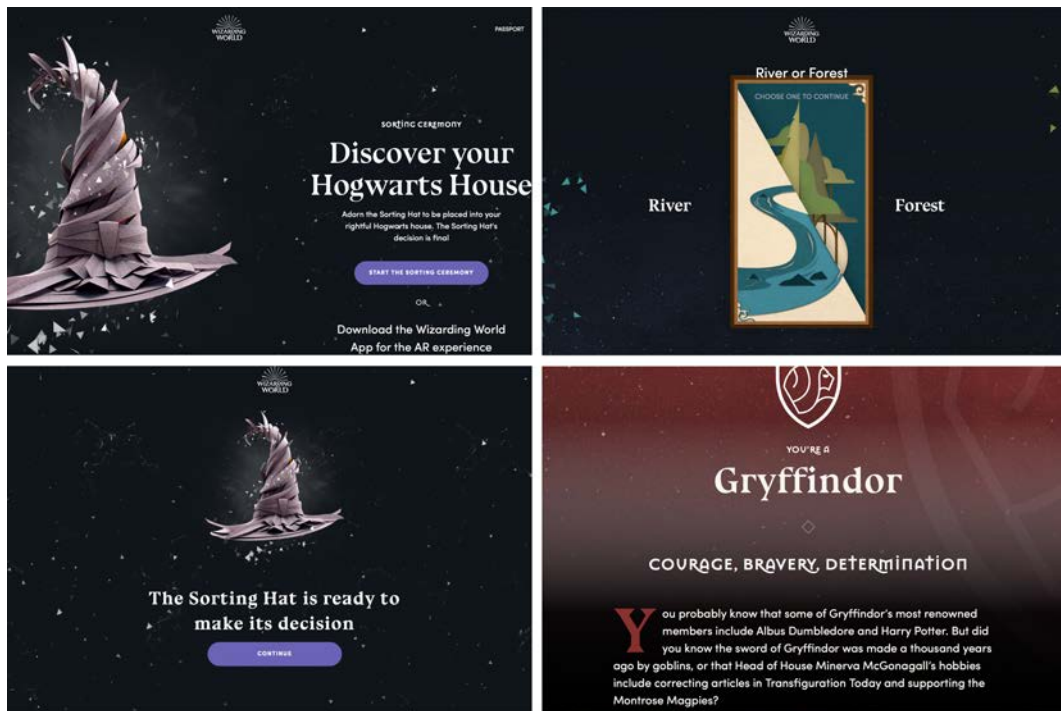
In the book, Hogwarts⁷ has four houses; each house has its unique characteristic and motto. In the story, a sorting hat will do the job to assign the house, but on the website, there is a fun quiz to ascertain the user's house.

The whole quiz has ten questions; some are genuine questions like 'what you want to learn most in Hogwarts?', the others are like two words' left/right'. By taking the house sorting quiz, it increases the immersion of users into the wizarding world. After the user receives the result of the house sorting, it gives the user a sense of belonging to the magical world hence the website. [7]

6 Pottermore (Wizarding world digital), Exciting new projects from the great minds of Pottermore and Warner Bros.

<https://www.wizardingworld.com>

7 The wizard and witches school where the main character goes in the book and movie of *Harry Potter*



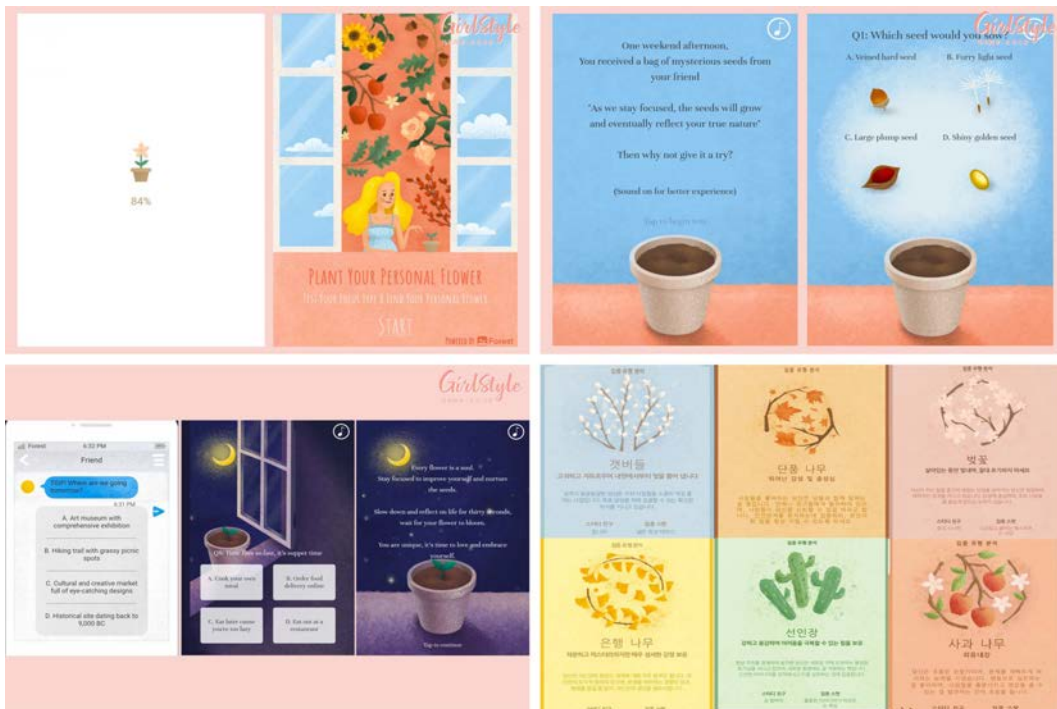
(Source: Screen shots of Sorting House quiz on Potter more

<https://my.wizardingworld.com/register/age-gate>)

Figure 2.6 Fun quiz on Pottermore called *Discover your Hogwarts House*

2.2.2 PLANT YOUR PERSONAL FLOWER

Nowadays, to experience immersive content, smartphones and technoscientific head device are the most popular ways to do. On the other hand, the software can also help users to enjoy the immersion. Users can use a web application or smartphones, desktop, or console app. The web application is a comprehensive solution, as it can work on various devices. ‘*Plant Your Personal Flower*⁸’ which was virally spread on Instagram, is a good example that combines the web application to a fun quiz.



(Source: Screen shots of Plant Your Personal Flower

<https://forest-mt.seekrtech.com>)

Figure 2.7 Fun quiz called *Plant Your Personal Flower*

⁸ *Plant Your Personal flower*

<https://forest-mt.seekrtech.com>

The personal flower quiz has eight questions, and each selection leads to some changes on the screen. For instance, there is a question asking what music you would like to play when resting; then, the user chose the answer; the background music will change to the music the user has chosen. The interacting part between users to the application enhances the realness of the story that happened in the quiz. After the user took the quiz, the user can share their answer to social media. It can also work as a promotion to attract more people to play this quiz. In the situation of the ‘Plant Your Personal Flower,’ Korean idols are playing the quiz as well; they upload their results to social media. Fans of them saw the post; they all play the same quiz to follow their idols.

2.3. Conclusion

For the exploration aspect, *Soarin* telling the adventure story starts from the decoration of the entrance to create immersion. Construction of the building and pictures on the wall show the story’s trace and chronologically tells the visitors the background story of the play. Before the actual attraction experience, visitors can know the story and have a preparation for the more details coming on the next. It was like the audience stepped into the story immersively at the point when they entered the queue area; along with their queue line, the story got more apparent and varied, and the immersion got more real.

Tamagotchi is a game that a user can get feedback directly; the digital pet is growing at the same time with the user. Realness through the virtual relationship is the core of creating immersion. For a user to believe in digital life and have an immersive experience, *Tamagotchi* made the design decision of a real-time system.

From the interaction phase, *Discovery Your Patronus* combine the quiz to a non-stop style video. The video’s content is about traveling in a dark forest; to continue the scene in the video, users will need to click on the screen to keep the video going and get an answer. Click is the primary interaction in this work to keep

users' attention during the process to build immersion. Moreover, the time limit is another feature in the video to grab the user's nerve.

Of the perspective of a quiz game, *Sorting Hat* test and *Plant Your Own Flower* all aiming to make their quiz game distinctive by adding theme and time sequence. Nevertheless, *Sorting Hat* test is exclusive for *Harry Potter*. Unique visuals show in the quiz that has the same style of the graphic in movies keep consistency. The content of selections was designed related to the pieces of information in movies to excite fans and made its result believable. *Plant Your Own Flower* has the quiz that happened in a time sequence of a day. It started from planting a seed in the morning then having germination in the night. Separate from other regular quiz game, the user will have an experience of a relaxing day by answering the question.

2.4. My Contribution

In summary, teamLab Borderless took place in a vast space. Visitors explore the immersive world by themselves, walking through each room, getting the feeling of immersion. Every visitor is in the same area at the equal time and getting the exact expression. The design of the teamLab Borderless is made to fit the public, to fit everyone's taste. Its lack of individual connection to the artwork and the environment. As of Soarin, it is more of watching an adventure movie than an immersive adventure.

In this research, a new immersive experience concept is proposed as a combination of personal engagement towards immersive experience. Unlike the current work that uses immersion as the initial design, Ibtilla is a new form of immersive entertainment. It adds a fun personality quiz themed in five-elements⁹ to provide

9 Five Elements Theory is a Chinese philosophy used to describe interactions and relationships between things.

<https://www.chinahighlights.com/travelguide/chinese-zodiac/china-five-elements-philosophy.htm>

a private experience of immersion and enhance the engagement between the user to the experience. Besides, to differentiate from the immersive experience created in physical space, Ibtilla uses immersion as a way to define the environment made by the quiz game, which proposes the following design guidelines:

- Narrative framing(complete and exploratory background story)
- Various tasks(simple screen interactive games)
- Fitting visual outcomes(change of colors, appears of elements, moving background, etc.)
- Consistent image style and dynamic visuals to establish a mood and scenery
- The third-person point of view(easy to substitute in character add to immersion)

Chapter 3

Concept

3.1. Concept Proposal

The project starts as a cooperation with a Korean company 101Global. The original plan is to build a pop-up store with its fashion appeal line. Later we passed the idea of a pop-up store and held workshops for new insight.



Figure 3.1 Work Shop with 101Global

During the workshop, I proposed an idea of physically visualize the result of a quiz game, which is the predecessor of the current concept. The quiz game could be a series of questions asking of personal preference and getting a result of which scenario is the best matching relaxing place for the user. In the previous design, the quiz will require before entering the immersive experience room. The room

will only work as a projection room. Further, after a few rounds of discussion and researching related works, I developed the features of the concept.

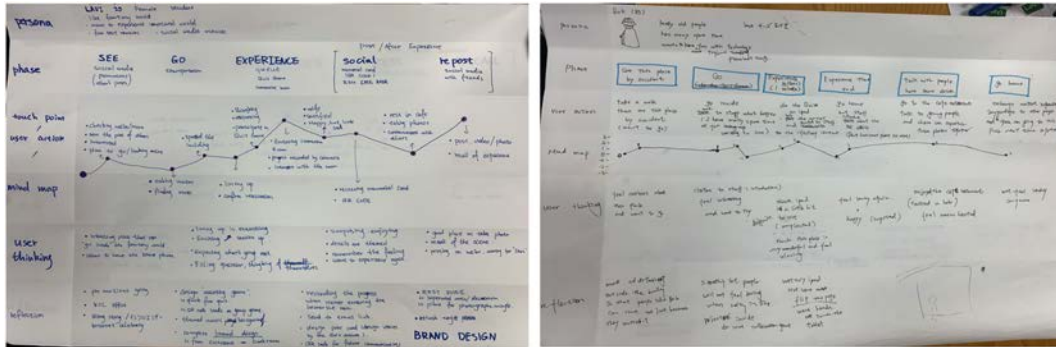


Figure 3.2 Customer Journey made during Workshop with 101Global

<Persona>		<Persona>	
Name LAVI Age/Gender 29 FEMALE Occupation STUDENT Location SHIBUYA		Name BOB Age/Gender 70 MALE Occupation RETIRED Location YOKOHAMA	
Phenomenon, Current situation -addicted to theme parks -wants to be in fantasy world -dream to experience unnatural world doesn't have a place to experience the fantasy world			
Good experiences Disneyland, Universal studio		Good experiences play some poker games with acquaintance	
Bad experiences Aquarium that overall theme is not design consistently		Bad experiences Stay at home just himself	
Goals to have a personal(private, customized) fantasy experience		Goal to find a place which can know some trends and also can make some friends	
Needs & Functions an unnatural place only for her		Needs & Functions want to enjoy some interactive technology and make some new friends	

Figure 3.3 User Story

3.1.1 CONCEPT OF IBTILA

COVID 19 concerning entertainment life has been developing from outside activities to in-home. Efforts to make immersive experience individually can be found on many stages of smartphones. According to Chapt2, the project uses immersion here as a description of the visuals and experience of the quiz game environment.

First of all, the concept begins with designing an immersive experience that participants can do in-home individually during the quarantine time. The virus is highly spread from person to person in several ways like droplets or aerosols, airborne transmission, fecal-oral, and surface transmission. This means typical mundane entertainment ways of hanging out outside is no longer safe. In the planning phase of social distancing, smartphones are one of the most widely used ways of killing spare time. Thus, changing from a physical room to a smartphone, it will be the platform for the quiz game. [8] [9] [10]

Secondly, redefine immersive experience to completed online is challenging. When speaking of Immersive Experience, people's first impression is where the real physical world engages the imaginary digital world. However, immersive experience is not limited to it. The immersive experience can be achieved and described in many different ways. As the flow theory, when a user completes a task that challenges one's skills, this person will enter the state of concentration and engagement, which can lead to an immersive experience. As overcoming task and seeking information will be the critical features of immersion, to fulfill the goal of creating immersion online, adding story and interactions is one start. Besides, to build depth of the experience and attract users' attention, personal connection is another element, and a personality quiz is a solution. [11]

Finally, to differentiate from regular quiz game, this project aims to develop an attractive, diverse video quiz with a theme accepted by everyone. It is encouraging to add an adventure story as the main plot to the video quiz that involves screen interaction, which will improve personal engagement through the process hence performing immersion. As the scheme is continuing in the story, the user will experience the high and low and answer the quiz selectin simultaneously.

3.1.2 WHAT IS IBTILA

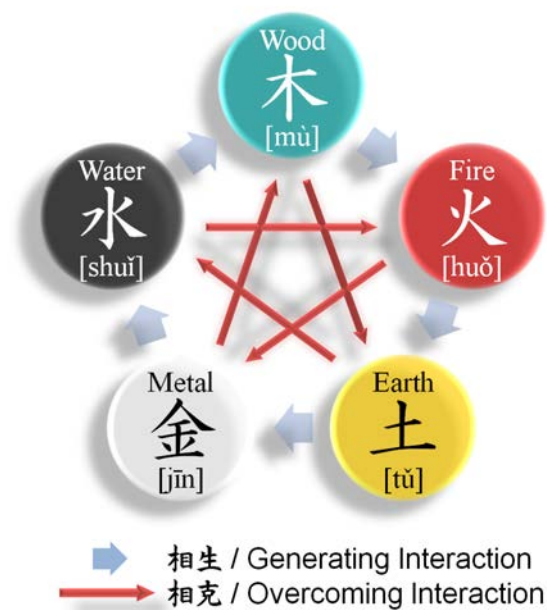
In this study, the immersive exhibition concept was developed from a separate quiz and room to merge into an immersive quiz content room. The previous concept relates to the type of exhibition which doesn't involve visitors' engagement, which is already commonly seen in the market. After rounds of brainstorming, the new concept which adds quiz game into the immersive content is investigated as an alternative engagement method for the immersive exhibition. The latest concept refers to an immersive experience in which the visitors lively experience the personality quiz game that occurred at the content of the show as if the visitors had traveled into space. Since the main objective of this concept is to provide an experience that makes people calm down and reflect on themselves to answer the personality quiz, immersion acts as the critical element. As a means to enhance the engagement between visitors and immersive exhibition based on the concept, personality quiz game was selected for the following reasons:

- Personality is always an exciting topic worth discussing. Research has shown that personality is an enduring and primary factor that determines human behaviors. [12] Understanding your personality will be useful in many things in life. Thus, it will attract users to come and experience.
- Unlike the typical immersive experience exhibitions, adding quiz game into the content is still an emerging trend, limited research and exhibitions have been done on this subject.
- The structure of the quiz game needs the user to select every word by themselves' feeling. Considering the user is one-hundred percent in deciding along with the process, the resulting scene is the personal work created by themselves. Theses process will be the essential factor in increasing the private connection from the user to the experience.

The use of personality quiz games increases the trust between users to the experience while the result is close to their real situation. This shows if the content is close to the users' life, they will tend to believe there is a connection between them to the experience.

Ibtilla: Interstellar Adventure is the name of the exhibition/game; it can be described as an interactive psychological quiz. The quiz is not officially used in an academic area or for psychological treatment. It is for entertainment purpose, and for people who is willing to know and explore more about themselves. In the next step, a five-element themed quiz was designed to fit the content of the immersion.

3.2. Quiz Design



(Source: Wikimedia commons)

[https://en.wikipedia.org/wiki/Wuxing_\(Chinese_philosophy\)#/media/File:Wu_Xing.png](https://en.wikipedia.org/wiki/Wuxing_(Chinese_philosophy)#/media/File:Wu_Xing.png)

Figure 3.4 Diagram of the interactions between the wuxing.

The inspiration for the quiz using in the project came from the five-element (Wu Xing from Chinese philosophy). The term "Wu Xing" is a short form of

”wǔ zhǒng liú xíng zhī qì” () or ”the five types of chai dominating at different times.” The five-element are Fire, Water, Wood, Metal, and Earth. Ancient Chinese philosophers used the Five Elements Theory to explain the formation and interrelationship of all things in the world. It emphasizes the entirety, and aims to describe the model of movement and transformation of things. Yin and Yang are the ancient doctrines of the unity of opposites, and the five elements are the original system theory. The ancient ancestors also believed that all things in the world are composed of five types of elements and there is a mutually reinforcing relationship with each other. [13] [14]The relationship between each element is like the connection among people, we influence each other, for better or worse.

Table 3.1 selections and their attributes

metal	wood	water	fire	earth
/	SINGULAR	/	/	VARIETY
/	/	/	CHALLENGE	SECURE
/	STRONG	SOFTEN	/	/
/	PROVOKE	MEDITATE	/	/
/	/	INDULGE	RULE	/
HOBBY	/	/	INTELLECTUAL	/
/	ROUGH	SMOOTH	/	/
TOGETHER	ALONE	/	/	/
SPIRIT	/	/	HEART	MIND
LEAD	/	ESCAPE	/	SAVE
UNDER	/	/	OVER	AROUND
/	/	WINTER	SUMMER	/
WEST	EAST	/	/	/
/	ANGRY	/	HAPPY	/
/	/	SALTY	/	SWEET
WHITE	/	/	/	YELLOW

The original quiz was designed with 16 sets of selections, and each set has 2 or 3 words: no specific text question, but only vague adjective words as selections. There are no text questions involved because we don't want the user to overthink and pay more attention to the questions. If only words need to be chosen, it will show most of the user's subconsciousness to answer and choose.

The 16 selections could be separated into three sets with the different number of selections involved. For instance, 6 selections, 11 selections and 16 selections.

The quiz is using five-elements to represent five different personalities. The answer and description are summarized and analyzed from researches of five elements. [15] [16] The selections and results description of the quiz are as follows. Each line of the table3.1 is working as one group that appear at same time.

Description of each element result is as following:

1, WOOD Personality Description

- The child of WOOD, they are very organized and logical. They plan things well and get frustrated if they go wrong. They are thinkers; their minds are always on the go, so they still tend to be doing something. They seek challenges and push to the limit. They love action, movement, and adventure and like to be the first and the best. When anger predominates, a person becomes easily upset by frustration and obstacles and unable to restrain their feelings appropriately. They get angry quickly and are prone to shouting.

2, FIRE Personality Description

- The child of FIRE, they are energetic; they believe in the power of charisma and desire. They have creative potential, are intuitive and passionately emphatic. They love sensation, drama, and sentiment. Fire types are unconcerned about material wealth. They tend to have little confidence, plenty of worries, are sharp and fond of beauty. They dislike being alone. By themselves, they feel lifeless; with friends, they come alive. Their easy excitability manifests as giggling and talkativeness.

3, EARTH Personality Description

- They love to associate with other people, seek harmony and togetherness, and insist upon loyalty, security, and predictability. They have a dislike of power. When a person is overly pensive and contemplative, he/she can quickly become fixated on worrisome thoughts and ideas. They are reliable, sympathetic, and good caretakers.

4, METAL Personality Description

- The child of METAL, they are hasty in temperament, able to adjust to different environments, often choose official duties, and tend to be surrounded by an aura of sadness, often seeming close to tears. Metal people like definition, structure, and discipline; they seek to live according to reason and principle.

5, WATER Personality Description

- The child of WATER, they have a greyish complexion, dark rings under their eyes, big heads, small shoulders, big abdomens, active hands and feet, and back longer than average. Their movement is fluid but can appear confusing. Water types are articulate, bright and introspective, self-contained, and self-sufficient. They are penetrating, critical, and scrutinizing, seeking knowledge and understanding. They like to remain hidden, enigmatic, and anonymous.

3.3. Original Plan

3.3.1 LOCATION

The project was originally planned to take place in Tokyo Camii Turkish Culture Center. Where we managed to borrow the basement floor to set up our projection corner. There are a wide place for exhibition, display and an auditorium room for us to use.

3.3.2 PROCESS

The whole process is divide into three parts: Entering the room(opening scene), taking the quiz(ongoing interactive video), showing the result (description and analysis).

First, when the audience entered the room, there is nothing but empty walls. After a few seconds, when the audience ready and stand in their request position, the surrounded wall will start to have visual. The whole environment will change into the space scene from the black background color. Then, the projection will show a short information clip to inform the audience about the background story and lead them into their character.

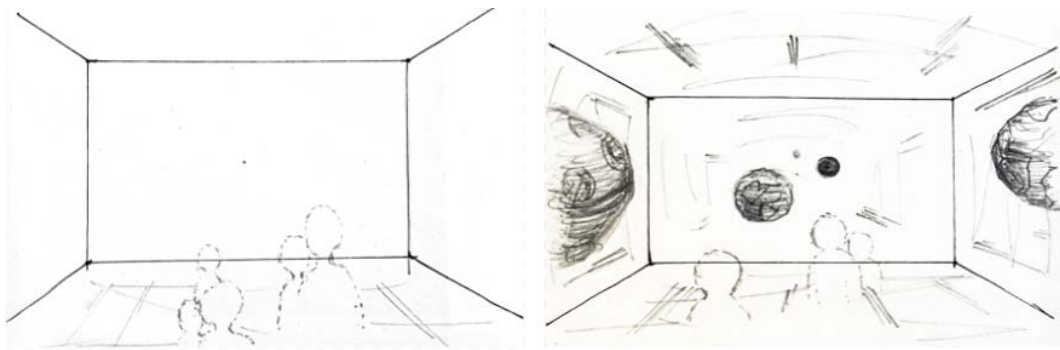


Figure 3.5 Step 1, Entering Room

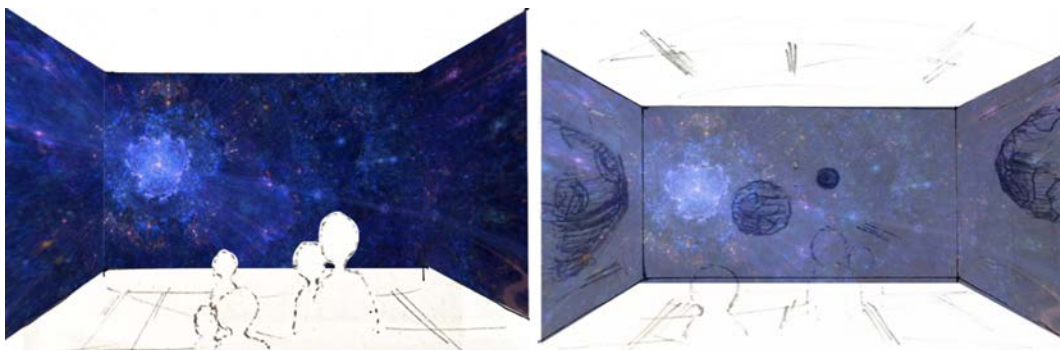


Figure 3.6 Step 1 mock up

Next, the projected video on the wall will continue to play. The video is a non-stop video that floats in the universe. The viewers will feel like they are a mediator that shuttle through the universe. The selection of the quiz will appear under a random planet that passes on the screen. The selected planet could be on any side of the wall; the audience will need to step closer to interact with the wall, choosing the selection. When choosing the selection, the video will be in slow motion, and after choosing it, the video will be back to regular speed.

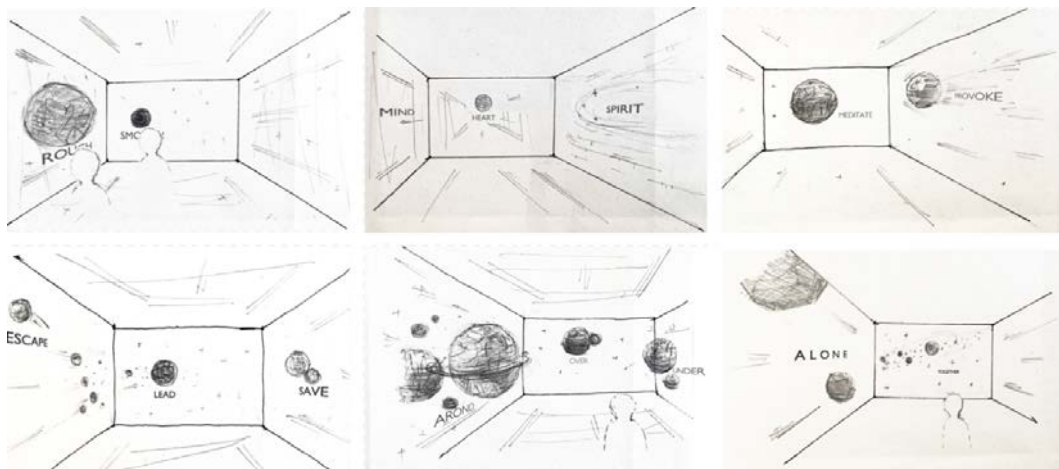


Figure 3.7 Step 2, Experiencing the Interaction Fun Test

Last but not least, after the viewer finishes choosing all the selections, the projection shows the result on the wall. The last scene for the previous process is confronted with a blast and white out the screen. Therefore, a short description will fade in on the front wall. An icon of the estimated element will show on the left side of the passage of the description. Sidewalls will show an animation of the pattern of the element. After the audience done reading the result, the pattern on sidewalls will take place in the whole room and enhance the visual impression. Then the whole projection will stop, and the audience walks out of the room.

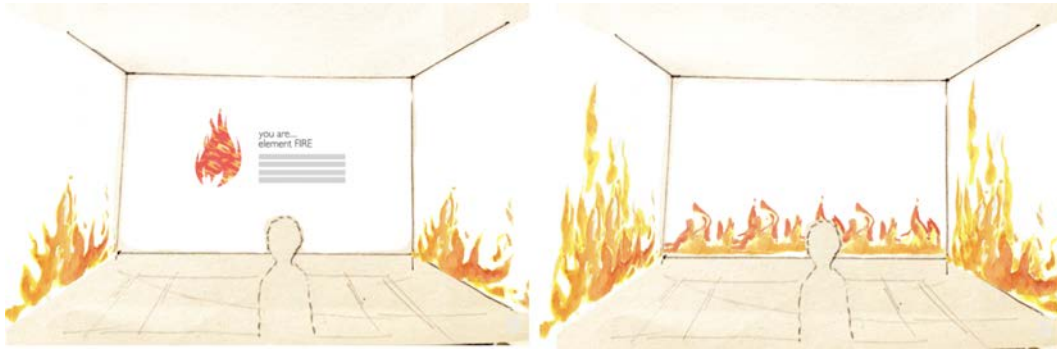


Figure 3.8 Step 3, Showing Results of the Test

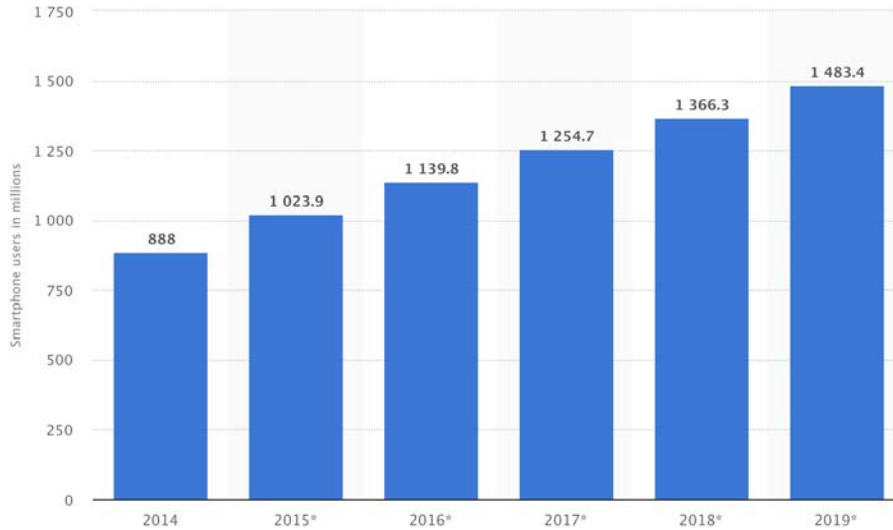
(The entry of the room is limit to one person each time. Multi people in the image are drawn to show the audience can walk around in the space.)

3.4. Revised Plan

Due to Coronavirus19 and restriction of crowded control, the original plan of hold a psychical room exhibition cannot accomplish. To solve the problem, we think of changing the method of showing the immersion using a smartphone. Unlike using projection in a closed space to create immersion, the new plan is building a suitable atmosphere for the quiz game to formulate immersion mentally.

Nonetheless, smartphones have become very popular with 1483.4 million users by the end of 2019 in the Asia pacific area [17], especially in the younger generation. This generation uses a smartphone as an accessory, where it is used to listen to songs, play games, spend time on social media, and many more. Social media or smartphone games have become a unique aspect among the younger generation. The younger generation is fascinated by the gaming world and online connection web. They utilize their brains and energy to play games, post their life on the internet, and gain self-satisfaction when they finally win and get likes.

Thus, we changed the format of our project to an online game that users can access anytime, anywhere. The Ibtilla quiz game will be performed on a smartphone device.



(Published by Statista Research Department, Sep 22, 2015 [17])

Figure 3.9 This statistic shows the number of smartphone users in the Asia-Pacific region from 2014 to 2019.

3.4.1 VIDEO DESIGN

The storyline of the video is based on the adventure story written by Marzuka (the other group member in our project), which is about the main character, a star, trying to find its sparkles after the big bang in the universe. The story's conflict is when the star character confronts the difficulties while the adventure journey, for instance: meteorite attack, black hole inhalation, a maze planet, and cosmic rays attack. After all the struggles are completed, the star character will reach through an aurora and retrieve its sparkles.

On the one hand, addition of exploration is one fundamental point to create immersion. Adding a narrative framing to the process of quiz game as the back-

ground information aims to grab users' attention since seeking information is the easiest way to keep the user focusing and leads to immersive experience. As the story is proceeding, the user's curiosity will drive them moving forward in the quiz game.

On the other hand, the whole story is written from the first-person point of view; the challenge in the process is to convert the story into a third-person point of view scene to depict the story. Although there are three types of third-person points of view, and in this video, it uses third-person limited omniscient as the narrator knows everything about the story. However, the characters will need to explore the story to find out what is going on. The advantage of the third-person is that the screen's design can occur in general appearance from a broader perspective. Furthermore, the player can see the character he or she is playing on the screen; it is easy for the player to substitute in the role.

To work best for the flow of the video, there is some adjusting from the original story.

3.4.2 IMAGE STYLE

For this project, consistent image style and dynamic visuals to establish an intimate mood and soft feeling scenery will be the other significant portion of creating immersion. The overall visual will be using paper cut theater as the main style to depict the universe. The paper cut style is mainly about the layer on layer to create depth. Each element on the screen will be on its own layer and spreading on the screen as a foreground, middle ground, and background. Since each component will be on its own layer, the visuals were produced hand drawing one by one, later scanned to the computer. After scanning, images were cropped out in photoshop, saved in png mode with transparent background, and ready for use.

The whole visual will be using watercolor as the primary medium. Watercolor paintings are distinguished by various patterns and specific textures that occur during the painting and drying process. In the case of creating a space scene,

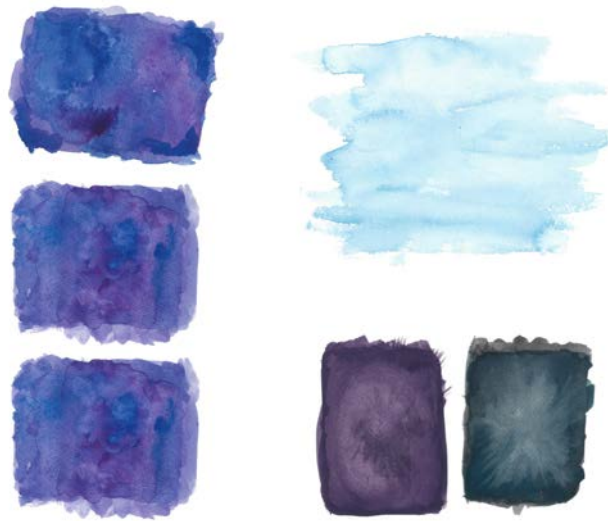


Figure 3.10 Background of the Universe 1

the pigment extension gives the surface of paper the appropriate texture and minimizes distortion when wet. Besides, watercolor is a transparent and light base paint; it provides the viewer with a relaxing attitude, the painting is in a bright tone, and lack of aggression is an excellent way to tell a story. In contrast to the flat design used in graphical user interfaces(GUI)(such as web applications and mobile apps), the children's book also mainly uses the watercolor as the medium to tell a story. In short, the watercolor texture gives the viewer a sense of intimacy, and flat design gives a sense of distance. As in this project of a personality quiz, we want the viewer to feel no unfamiliar and inconsistency towards the image style. Additionally, we want the viewer to feel like they are in a comforting mood while taking the quiz. When players feel close to the visuals, to the quiz game, it is easy to let their guards down and bring their inner thoughts out to answer the quiz selection. Plus, the paper cut theater method of arranging visuals also adds points on playfulness to the whole atmosphere towards the project. Thus, we use watercolor as the medium of drawing style. [18] [19] Followings are the visuals that drwan for the project, ready to use.



Figure 3.11 Background of the Universe 2

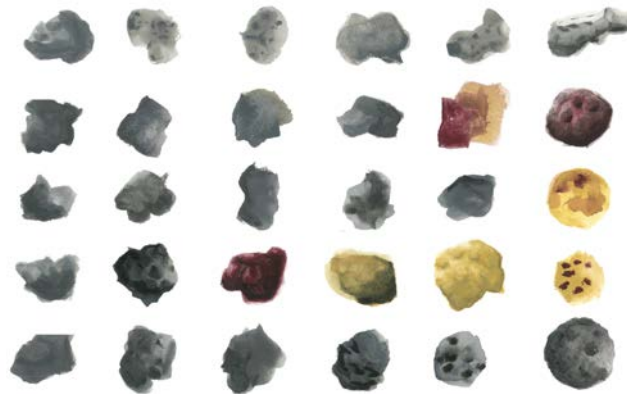


Figure 3.12 Meteors



Figure 3.13 Halos as at the back of Meteors

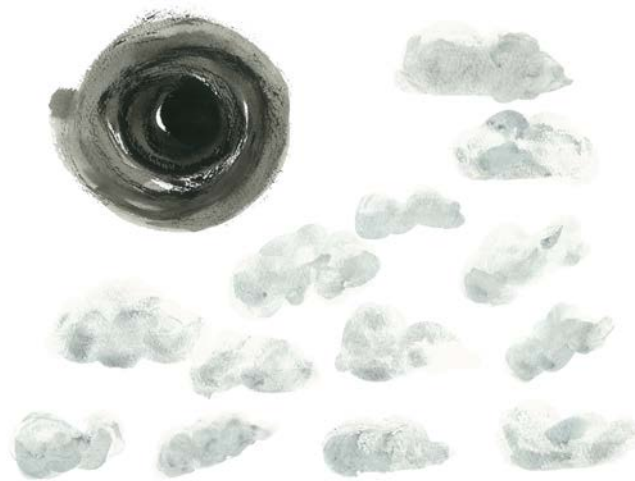


Figure 3.14 Black Hole and Smoke/Clouds



Figure 3.15 Glacial

3.4.3 QUIZ FLOW

The five-elements themed personality quiz is using in the project. The personality quiz game selections are initially sixteen sets, but not all of them are used in the process. As the ideal time of the whole process will be limit in three minutes to prevent annoying users, six sets out of sixteen sets selections were used in the quiz game. The six sets of selections are as follows.

Table 3.2 selections and their attributes

metal	wood	water	fire	earth
/	SINGULAR	/	/	VARIETY
UNDER	/	/	OVER	AROUND
/	ROUGH	SMOOTH	/	/
LEAD	SAVE	ESCAPE	/	/
/	/	INDULGE	RULE	/
SPIRIT	/	/	HEART	MIND

The first set of selections is 'SINGULAR' and 'VARIETY.' It will appear after the first screen interaction. There will be only two words on the screen without

any question neither nor instructions. The user will need to choose the word to rely on their first intuition. Though we do not want players to spend extra time on each selection, when selections resembled, it will proceed along with clock ticking sounds effect to remind the player thinking of time limitation and holds the nervous.



Figure 3.16 The screen shot of quiz selection1

The design in this part proposes fitting visual outcomes, which are the other features of grabbing the focus to formulate immersion. Although the words on the screen have no actual meaning; however, after the user touches the screen to choose their answer, there will be a visible development on screen. Take the first set of quiz selection as the example; if the user chooses 'SINGULAR,' the colored stars around the screen will all fade into the very shiny golden color star. If the



Figure 3.17 The screen shot of quiz selection2

user chooses 'VARIETY,' some of the golden color stars will fade into colored ones. Furthermore, to give the user mastery during the quiz game process, it forms personal engagement between the user to the quiz game. By giving a choice to the users and having right back visual feedback, it will calculate as realness to the quiz and build up the immersion.



Figure 3.18 The screen shot of quiz selection3

3.4.4 INTERACTION DESIGN

Interaction is an essential part of the whole process of creating immersion. Various tasks during the quiz and instant visual feedback will create an atmosphere of the same condition in the background story, which defined as an immersive experience. Several genres of interaction were included in the whole process. One interacts with objects on the screen by finger gesture, the other one involved in little game by controlling the main character. Diverse styles of interactions calculate the interest level of a game and append playfulness to it.



Figure 3.19 The screen shot of SPLIT interaction1

The first interaction of the game will be using a 'split' movement by finger. As the story is continuous, at a point, stars in the space will cover the screen, and the user will not be able to see the text under the stars. Out of curiosity, users will want to see the text under the stars, which leads to the first screen interaction, moving the stars away so the texts underneath can be read. At this point, users will need to use fingers to split the screen as if they move the stars away. Also, two arrows appear on the screen as a hint of the finger 'split' movement. Next, when the user split the screen following by the instruction, the stars will fly to the two sides of the screen and stay there until the next movement. This kind of interaction intends to attach personal engagement through the game. The user

is in the process of clearing the screen and be part of the game that building the image visuals.



Figure 3.20 The screen shot of SPLIT interaction2



Figure 3.21 The screen shot of quiz selection3

The other type of interaction is controlling the main character to fulfill some movement like avoiding meteorite. The initial interactions here is holding and

moving around by finger. As the player controls the character, the feeling of mastery is natural for the player to substitute into the role and continue the journey with the main character into the immersive experience, for instance, in figure 3.22. The main character star is flying in the space, later confronting the meteorite; then, there will be a text of caption describing the current situation and short instruction on the operation. Successfully avoiding the meteorite will cause the competition nerves of the player as another point of concentrate on the quiz and forming immersion.



Figure 3.22 The screen shot of avoiding meteorite game

Chapter 4

Proof of Concept

4.1. Prototype

Two user tests were developed for the evaluation section—a prototype of quiz game flow and a paper version of quiz selection. One is to test the quiz video of how users understand it, and the other was to verify the accuracy of the personality test.

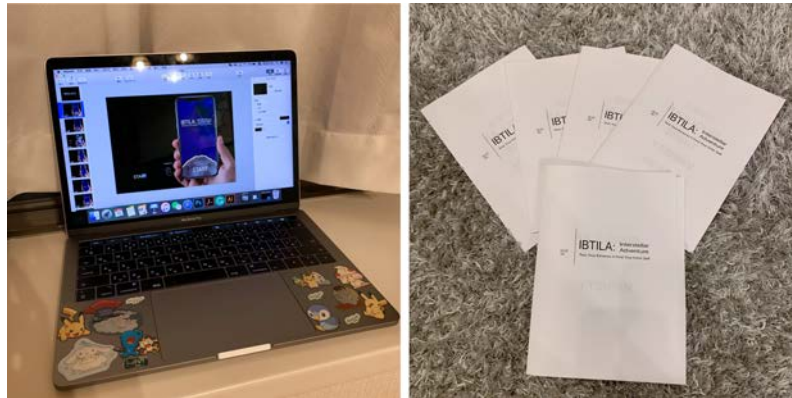


Figure 4.1 Photos of two user tests

4.1.1 TEXT QUIZ

The first one is a four pages booklet of the quiz selections in text. The first page is the title of the quiz, and the last page is the description of each elements' personality. Inside the sheets, each one has a set of selections; the user needs to circle out the one in each range. No other texts will be on the booklet, yet before answering, I will briefly introduce how the quiz work. After they select their choice, the calculation will be made and gave them the final results.

4.1.2 QUIZ ANIMATION

The second one was formed by a series of animations and PowerPoint and using the page transfer tool in PowerPoint to mimic the game flow. The page transfer tool is used to apply the flow of the quiz. Videos of the game will be on each page chronologically, and when interaction or choice needs to act in the game, the page will have a text hint on the left for the user to click as if it was touched on the smartphone screen. As for clicking text on the left, the page will turn into the page that responds to the movement. For example, there will be a different reaction that happened to two contrasting selections. The two selection texts on the left will take the user to two different pages. Also, consonant sounds were played through the whole experience as background music.

4.2. User Test



Figure 4.2 Photos of users

A user test was managed to establish that the proposed visual can realize the story for the immersive experience. As a preliminary stage of the examination, the user study was focused on the animation video and quiz. Thus, evaluation of the experience of the animation video and quiz itself was the primary purpose of this test. The particular categories of the evaluation were: overall feedback, immersion, interest level, understand-ability, screen interaction feedback, and intention of repeat. The interest level and understand-ability were investigated because they are two of the critical elements that determine the quality of the whole experience. The intention of use was investigated to predict how fair the quiz game would be to an ordinary user.

A PowerPoint and a text quiz were used for the review. After the PowerPoint and text quiz experiences, a questionnaire was given to collect data and feedback. The data and feedback are collecting by answering questionnaires and interview in person.



Figure 4.3 Photos of users

At the current step, eight users aged in the 20s age and 30s age participated in the experiment. Five of them took the video quiz, three of them only took the text quiz. Each participant was briefly introduced to the background story and the overall flow of the game then played the quiz game by PowerPoint and saw

the text version of the quiz. As a result, they were asked to rate their opinions of the experience and elaborate on their opinions, a questionnaire, and an interview.

Table 4.1 users' information

	AGE	STATUS	BACKGROUND
User 1	23	student	music
User 2	20	student	art
User 3	32	working	cardiology
User 4	25	student	design
User 5	26	student	photography
User 6	27	student	design
User 7	30	working	design
User 8	26	student	art

4.3. Result

Questionnaires on immersion, overall feeling, understand-ability, the intention of repeat, and interest level were rated on a scale from 1-5 for quiz video. Another questionnaire on theme-related, overall feeling, understandability, interest level and accuracy of results was rated on a scale from 1-5 for test quiz. The qualities of the above criteria could have been either positive or none. The following diagram shows the scores of the five categories rated by the users. Orange lines show the rate on quiz video; yellow lines show the rate on text quiz.

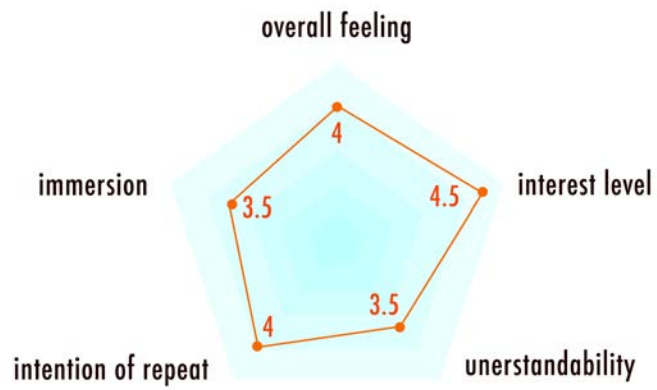


Figure 4.4 User 1 data on quiz video

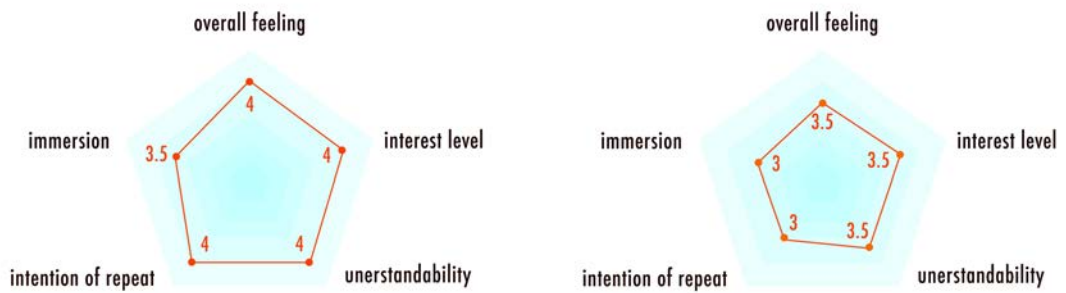


Figure 4.5 User 2,3 data on quiz video

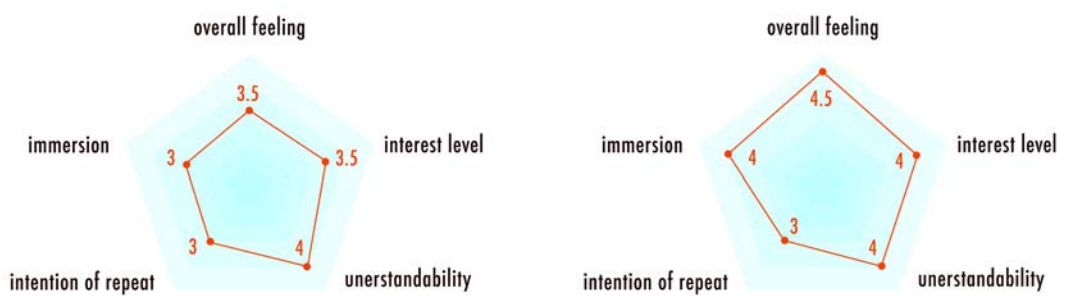


Figure 4.6 User 4,5 data on quiz video

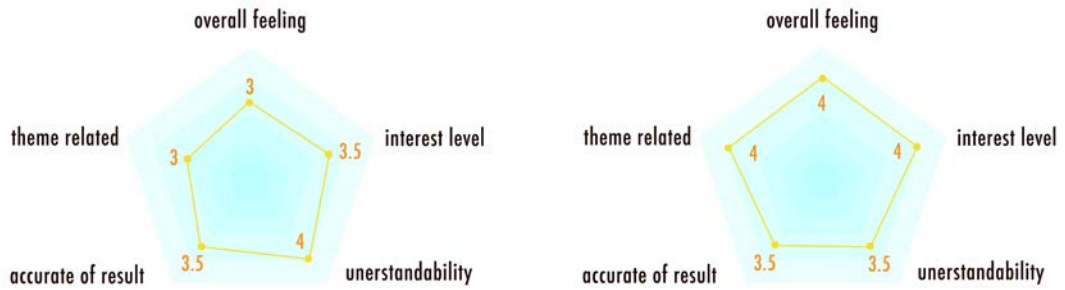


Figure 4.7 User 6,7 data on text quiz



Figure 4.8 User 8 data on text quiz

Interviews with users were organized into seven questions.

1. Could you please give us some overall feedback on the quiz game.
 - User 1: A psychological quiz that could be 'play,' it is different from other same quizzes, there are 'surprises' on the road of discovering myself.
 - User 2: It is interesting to see the space scene using watercolor as the medium. The image is appealing.
 - User 3: Personally, I wouldn't say I like fun quiz, but story plus quiz is a new form that I am willing to try.
 - User 4: I like the way of adding a story to the personality quiz; it is interesting that just a simple quiz. It adds more depth to it.
 - User 5: Details of moving backgrounds really made the visual vivid.

2. Do you understand the plot of the story through the visual of the video?
 - User 1: The overall feeling is that this is an adventure game in the universe. In the beginning, I saw the disaster (the big bang), which made me want to understand what happened. The interactive part has a feeling of seeing the sun like exploring the story one bit by another.
 - User 2: I get there is an explosion of the big bang, and a star character is taking his adventure.
 - User 4: The text description is kind of distracting; it is a little bit too long. If there is voice over, I think I maybe will understand more of the plot. But the big bang part is very clear.

3. Does the image style(watercolor) influence the understandability of the story?
 - User 2: Like a fairy tale book, the soft watercolor style makes me want to be immersed in it and explore the next story with the protagonist. Although the beginning was such a violent content as the Big Bang, it still did not give people a fear or tension atmosphere. The watercolor style sets the tone

of the work and increases the space of the player's imagination. All the fantasy adventure stories that happen next become logical.

- User 4: Yes, in a positive way. The watercolor is soothing and easy to follow. Like the children's book, we used to read when we were young.
- User 5: watercolor is an excellent choice. While the project is about a personality quiz, it relaxes you and lets you willing to take the quiz.

4. How do you feel about the screen interaction?

- User 1: Although there is no hint of instruction in the interactive part, I found the correct interactive way unconsciously according to my intuition. The background of the starry sky makes the exploration process surprising and exciting. The interaction and the story complete each other, and I am curious about what kind of adventure will happen next.
- User 2: The interaction is not only limit in one method; I like it. Different types of interaction keep my attention and willing to find out what is coming next.
- User 3: It was kind of confusing at the beginning when two words appear on the screen, but when it shines, I suddenly figure out I need to choose one of them. After I touch the word, the screen visual changed, it was kind of a surprise. Then I getting used to what I need to do next. However, the split movement is apparent since there were arrows that hint me.
- User 4: I would say it will be better to have a word or two as the instruction when the first selection appears because I was not sure what I need to react at first.
- User 5: I rather like the way of only two words without instructions. I think the process of finding out what I need to do on screen also counts as a part of an adventure.

5. Do you think the result of the quiz is accurate? Does it fit your personality?

- User 1: I want to see more quiz selections, the explanation part is a bit long, I hope it can be added with voice annotation. It's just that the relationship between a question's answer and the question is too straightforward, and I hope to add more questions.
 - User 2: Although the result I got, and the description is partially accurate, yet I am not sure if I should believe this. I think it was quite simple to get the result only depends on a few vague adjustive words.
 - User 3: The description is long, wish there will see an animation or something else more straight forward to show the result.
 - User 5: If I take the quiz game as an entertainment experience, the accuracy of the result is no longer relevant because a personality is diverse and should not be classified into five types. It was a stereotype.
6. Do you want to experience the same series/style of quiz games again? Why?
- User 1: Yes, because I want to see what other forms of interaction there will be for different results. Because under the influence of the overall style of image, just like reading a fairy tale book, you will be wondering what kind of story will happen if the prince does not save the princess, so I want to continue to explore and play.
 - User 2: Yes, because myself is the type of person who is liking fun quiz, and this video game version of personalty test is new and exciting. I am willing to play it one more time.
 - User 3: If the theme or story is different. It is encouraging for me to play again.
 - User 4: The little game in the quiz game's process adds a point of retaking the quiz because after avoiding the meteorite, I was always thinking of better ways to play it.
 - User 5: The game plus fun quiz is fascinating, similar types of it will attract me again.

7. Is there any other suggestion?

- User 1: No further comment, but only to extend the quiz's length, five quiz selections are a bit short for me.
- User 3: More instructions or voice over.
- User 4: Maybe next time adding more space sound effects.

For assessing dimensions of quiz game experience, the game feedback rate questionnaire was used. The results of the records are shown in Figure 4.4 - 4.8. The overall feelings towards the game are appealing, and the type of story video quiz attracts their attention. The lowest score is on the immersive experience section; however, after explaining the idea of achieving the immersive experience digitally, users said they all have second opinions on it. Interview results showed that the quiz game on a smartphone using watercolor and screen interaction has positive effects on all evaluation categories. In the debriefing, although five participants were involved in the evaluation quiz video, they all mentioned that they found this interactive quiz game entertaining and different. Users are satisfied with the visuals and interactions and willing to see more in the next step. On the other hand, the personality quiz is quiet unclear due to no instructions and no text captions. They pointed out the need to extend the length of the quiz game.

Chapter 5

Conclusion

5.1. Conclusion

In this study, an immersive experience exhibition was converted to a smartphone-based immersive quiz game due to the coronavirus, and the result of the research was based on the test of quiz game's effectiveness. The results of the user test show that the watercolor image style and interaction of the screen through the quiz game flow can satisfy the needs of personal engagement to an immersive experience. However, the prototype was produced through PowerPoint to mimic the game flow without programming; it was mostly concentrated on the progress of the quiz manner and the visual of it. In other words, several matters need to be determined in order to make this application serviceable. Some of these matters require technical aspects, including game programming and algorithms, while others concern a more in-depth user test of the system and game flow.

In conclusion, this study has significance by trying out the potential of enhancing the personal engagement to immersive experience by introducing personality quiz game as the content. Moreover, an available application can create a new user experience of immersion in quiz games and possibly presented in many other contexts.

5.2. Design Limitation

In this research, few limitations were found along with the producing process. The first significant one is that it was not able to build the physical room relates to the corona-virus, and restriction comes along with it. The whole design plan was messed up at that moment, time was limited, and we had to change it to an online platform. The sort of immersion we tried to create changed as well since there was no way to build an immersive space. Secondly, game programming was not

able to finish due to time limitations. Instead, we used PowerPoint to simulate the game flow. Using PowerPoint is not a smooth method; it has distraction as there were delays between selections to the next animation. Thirdly, limiting the form of PowerPoint, it was challenging to have a massive number of group people test and play the quiz game.

5.3. Future Plan

In the future, there still things the concept and project need to improve. Besides points that already mentioned in the design limitation section, to test the idea of combining personality quiz game with an immersive experience, a physical exhibition room is inevitable. The online version quiz game will continue developing in the future to finish the programming and launch on social media for a large number of people to play and experience with it. Circling back to the physical room of the immersive experience, further from the visuals that create the immersion, five senses of humans are also appealing to use in the place. From the step now, the impression of enhancing personal engagement could be used in other circumstances outside immersive experience. I am looking forward to using the concept in a different domain in the future.

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