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Master's Thesis
Academic Year 2018

The Treasure of Mine: A Game Design to Help
Young Generation Build Understanding with
Their Parental Generation in Chinese Family



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 2018

The Treasure of Mine: A Game Design to Help Young
Generation Build Understanding with Their Parental
Generation in Chinese Family

Category: Design

Summary

The Treasure of Mine is a game designed for helping 'Post-90s' generation build a better understanding with their parental generation by interacting with nostalgic objects.

Generation gap has been a common problem of family relationship in China. In this research, from the perspective of young generation, a design concept that interaction with nostalgic objects from parental era will help youth build a better understanding with their parents is addressed. By utilizing storytelling and interactions, players are expected to relive some of the typical and memorable life experience 30 years ago.

The results of evaluation showed a positive attitude towards the concept of the game. Players indicated high level of curiosities towards nostalgic memories from their parental generation. And the game has also been proved to have the capability of helping players find new topic with their parents. Most of players demonstrated their willingness to deepen their understanding with parents in the further life.

Keywords:

Design, Puzzle Video Game, Generation Gap, Nostalgia, Share Memory, Chinese Family

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Chapter 1

Introduction

1.1. Concept

The Treasure of Mine project is about a game design to help young generation build a better understanding with their parental generation in Chinese family. Based on the generation gap problem exists in Chinese society, the aim of The Treasure of Mine project is to bridge the generation gap between young generation and their parental generation, by letting young build a better understanding with their parents. In other words, The Treasure of Mine project is created to help relieve the generation gap in families from the perspective of young side.

To achieve the goal, as core of this project, the prototype idea of game The Treasure of Mine is came out with the following flow:

Firstly, the mission of this game should be letting Chinese young people know more about the social background their parents grew up with.

Then, it took some time to do research about those related methods that have showed capability of helping people from different generation groups communicate or exchange ideas with each other, which will be discussed in detail in chapter2. And inspired by Intergenerational Program, those old memories from parental generation were picked up as the core of the game The Treasure of Mine.

Last but not least, to crystallize the idea about old memories, it was decided to utilize shared memories from parental generation, which attached to nostalgic objects in 1970s-80s in Chinese society.

Based on above discussion, the idea about that interaction with old object will help young generation build a better understanding with their parental generation is shaped to be the concept of The Treasure of Mine project.

1.2. Generation Gap

Great rapid development of society brings us better life, better wealth, and better technology, but also brought us some troublesome problems, for instance, the generation gap. Generation gap is a category of social phenomenon, refers to the difference of opinions between one generation and another regarding beliefs, politics, or values [1]. The word “Generation Gap” was first proposed by anthropologist and sociologists in 1960s, which noted differences across generations and also the ways in which generations separate themselves from one another. For nowadays, the term “Generation Gap” can be converted to “institutional age segregation”, which means people from different generation group show their willingness to isolate themselves from other generation groups because of the distinctions of era, characteristics, trends and cultural impact between generations.

Changes of our world and society have contributed the most to generation gap problem. Every aspect of the changing society can help bear new conflict or differences of views between each generation group, and may let people deep roots in their own generational communities while have few connections with other ear group.

The generational gap can be reflected in many aspects. According to the different cause and manifestation, it can be subdivided into several categories: language gap, attitude gap, and generational consciousness gap.

- Language Gap: Being effected by their own social background, each generation group has established some of their own special usage of language, such as slang or abbreviations, which may create the complications within conversation [2]. In addition, for those families have immigrant experience, the language gap can also refer to the different mother languages or accents used within families [3].
- Digital Gap [4]: With the development of digital science and technology, the gap between those who master and those who do not master digital environment is referred to digital gap, or digital divide.
- Generational Consciousness Gap [5]: People in similarly-aged can always experience same changes of society, economy and policy, which would shape

their individuals' development and interpretations of world. And the diversity of generational consciousness could result in the gap across each generation group.

Generation gap problems have been a common phenomenon throughout our society. Workplace, home, school, generation gap problem is occurring almost everywhere nowadays. Most people regard this problem as a kind of normal state, but not really aware of the seriousness of this problem. Under the influence of gap problems exist between different generation groups, young people are tagged with coddled, lazy, disloyal while they are also tagging elder with inflexible, boring and hard-head. Those discrimination and conflicts arise by generation gap can finally result in misunderstanding, cold relationship, and even can have association with family broken and the increased mortality of isolation and loneliness elderly.

In The Treasure of Mine project, the generation gap problem in Chinese families are mainly focused on during the research process, and a design of digital puzzle game are utilized to help build understanding and bridge generation gap from the perspective of young people.

1.3. Digital Game

Since human invented game as early as 2600 BC, games have become an universal part of human cultures gradually during long history. And the definition of the word "game", has not been addressed until 1953 by Ludwig Wittgenstein. Wittgenstein is said to be the first academic philosopher to argue about the elements of games. He mentioned the play, rules, and competition can adequately define what games are. Four years later, Roger Caillois, who was a French sociologist, redefined the term "game" with some new characteristics: fun, separate, uncertain, non-productive, governed by rules, and fictitious. However there are still several new version of definition coming out throughout the development of game. The word "game" is a general term consists of different forms, from Sports to tabletop game, and video game.

Physical definition of video game refers to a kind of electronic game which involves interaction with a user interface to generate visual feedback on a video device, such as a TV screen or computer monitor [6]. For the common idea, video

games mean those games which are controlled by computer or microprocessor. Those electronic systems used to play video games are known as platforms, nowadays, there are several popular platforms, for instance, PC, PlayStation, Xbox, Switch etc.

According to research, a simulating shooting game called “ Cathode ray tube Amusement Device ” is thought to be the first video game and also the first video game platform in history in 1947. It allowed users to control a dot on the screen to simulate a missile being fired at targets [7].

With the 70-year-development of video game, it has been a special and captivating digital culture in people’s dairy life, especially for young so far. Meanwhile video games have also been a new type of digital media with its most special feature of interactive storytelling. And the propose of game has no longer been just for leisure time, more and more game designers started to convey their meaningful thoughts and outstanding storytelling skills by games.

1.4. Game Design

Based on concept discussed in chapter1.1, the design of game The Treasure of Mine is approached in four aspects:

First, The Treasure of Mine is designed to be a puzzle adventure game that based on the background of 1970s-80s in Chinese society for Chinese young people. To solve those puzzles, players need to interact with nostalgic objects appear in game, and find clues by reading text contents. The goal of game is aiming to enlarge knowledge and also inspire curiosity about the social background of thirty and forty years ago, which thus can help young generation build a better understanding with their parents.

Second, The Treasure of Mine is a solo-player game for PC platform. Players are expected to experience the game at home when they have leisure time. Developed by unity3D engine, based on the logical connection between objects and scenes, Players are allowed to explore and interact with nostalgic objects, to find clues to solve puzzles, and unlock those memory stories within each episode in this game.

Third, art style in The Treasure of Mine is designed to be black and white style, combining with the text contents of memories from 70s-80s, which would bring

players back to the past and nostalgic time period.

Last but not least, The Treasure of Mine tells a story about family love. The storytelling part of this game is designed to be accompanied with playable part, which means the whole story line is divided into several pieces hidden in interactive play part of this game. Thus, much more contents player explored, much more completed story they would learn about.

1.5. Expectations

Surrounding the topic of bridging generation gap, The Treasure of Mine project is consisted of two components: a puzzle-adventure game named The Treasure of Mine for PC platform, and an academic essay which mainly include related research materials, game design documents, and proof of content part. Each part of this project is done for specific purpose, and there are four expectations in total.

Firstly, players are expected to realize that they have the different growing up social environment with their parents, which should be the main reason of some misunderstanding occurred within their family.

Beside of this, by getting a better knowledge about Chinese society 30-40years ago, players are given a chance to find new topics with their parents.

In addition, the storytelling part of this game tries to convey a message to players about never forgetting their family love.

Last and that most importantly, since the manifest goal of The Treasure of Mine project is helping young people to build a better understanding with their parents, the major expectation is about letting players notice that generation gap problem is not just a one-side problem, as a member of their families, they should have responsibilities to do something to bridge the gap that have been existed in their families.

1.6. Thesis Structure

Chapter2: Related studies on generation gap, nostalgia effect, and puzzle games.

Chapter3: Design part of The Treasure of Mine project, which mainly discuss about the concept, game design document and implement of this game.

Chapter4: Introducing the evaluation method used in project, observation of playing process, and evaluation results of prototyping tests and proof of content.

Chapter5: Conclusion and plan for future improvement.

Chapter 2

Related Works

Three of the most important themes of literature review process in The Treasure of Mine project will be discussed in this chapter. Therefore this chapter is mainly divided into three sections:

- Studies on Generation Gap
- Studies on Nostalgia
- Studies on Puzzle Adventure Games

The first section talks about previous studies on the generation gap problem in China's society. The second section discusses about the psychological impact brought by nostalgia. The last section reviews about the defining and feature of puzzle adventure games.

2.1. Generation Gap

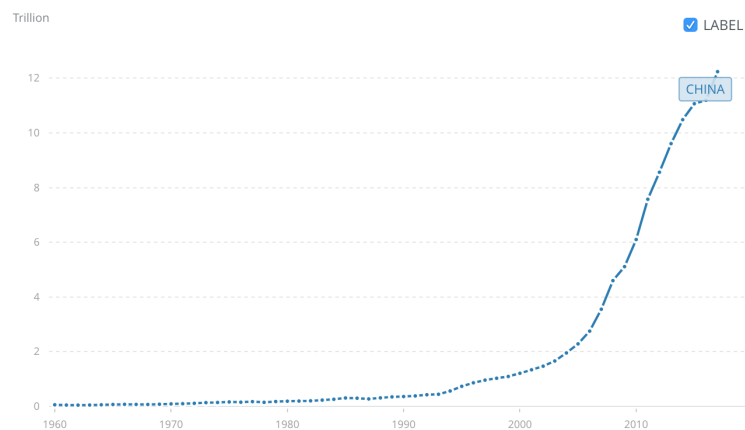
2.1.1 Generation Gap in China

Referring those differences in actions, beliefs, interests, and also opinions that exist between individuals from different generations [8], the word “generation gap” was not addressed until last mid-century, but the problem of gap has been in our society for a quite long time. In general, problems of gap can occur both at home and in the workplace, however, depending on countries, the point of gap issues would be changes a little bit. For example, we can find lots of generation gap studies on ageism problem or stereotyped image of young employee in workplace in America, while in China, a great deal of family problems about generational conflict and misunderstanding can be found with the keyword “generation gap”.

In fact, for Chinese society nowadays, the generational gap have been a very common problem that occurs in probably every family. The problem of gap is not only exist between young generation and their parents, but also happened between the young and their grandparents, and even sometimes, can be occurred among parents and grandparents. The problem of gaps, seems to be an everlasting element in Chinese family [9].

According to several studies, the accelerating rate of change, and also the increased mobility of society can be the leading reason for the gap problem in today's Chinese society [10].

Firstly, about the accelerating rate of change in China. With the continuous implementation of China's policy of reform and opening up since 1978, China has made rapid growth in economy (showed in Figure 2.1) and also technology within two generations, which is described as a incredible accelerating rate around world.



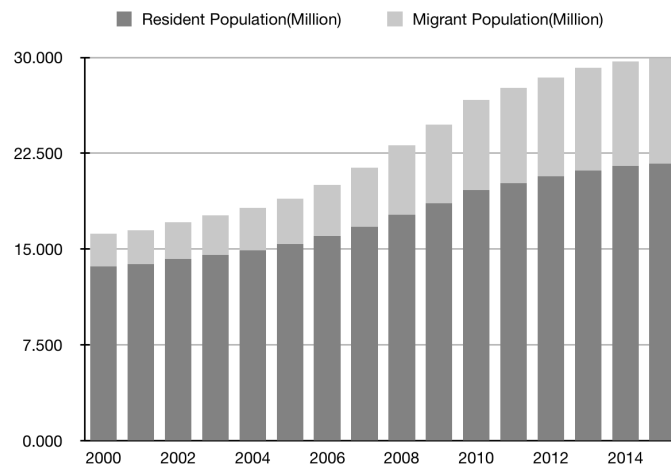
(Source: World Bank national accounts data, and OECD National Accounts data files)

Figure 2.1 The GDP(current US dollar) of China 1960-2017

This kind of drastic transition in Chinese society led to changes in aspects from lifestyles to interpretations of people [11], which resulted in generation gap between the young who were experiencing the surge of China's economy during childhood and their parents who suffered from poverty and scarcity at an early age.

Secondly, the increased mobility of society, both in physical and digital side.

Due to the development of transportation, long-distance trip became possible. Meanwhile, the technological innovation makes mobile communication convenient and low-cost. Thus, those people who are seeking for better resources raised a storm of migration inside the country(Figure 2.2). Getting wider sight, acquiring better education and having much higher income, those migrants from subordinate cities and minor cities are being reshaped by metropolis, which also makes them have more and more gaps with their parental generation who stay in hometown.



(Source: Data from National Bureau of Statistics in China)

Figure 2.2 The resident and migrant population in Beijing

Accelerating rate of changes, increased mobility, both of those two factors brought China more powerful strength, but also some serious social phenomena, for instance, the generation gap problem. It not just a private problem within families, but a public social issue need to be paid attention.

2.1.2 Social Differences of Two Generations

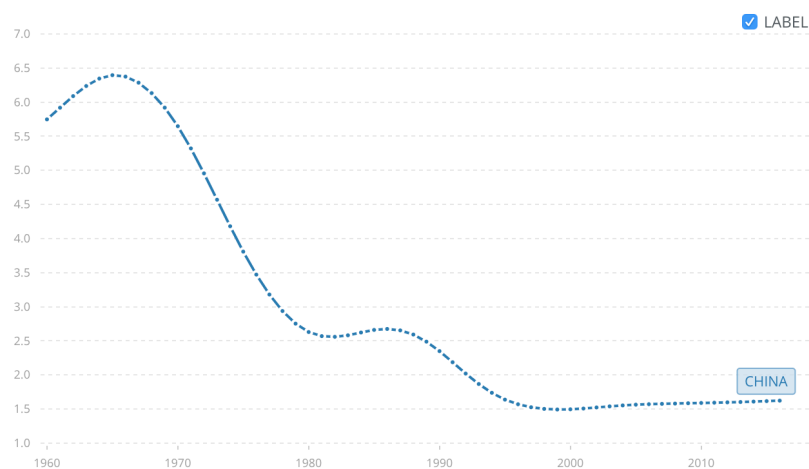
Generational consciousness is kind of awareness refers to that people start being mindful of their place in a generation group which can be identified by shared interests and values.

Similarities of personal encounters of the change of society, economy and politics make contemporaries form a generational consciousness and build their own

interpretations of the outside world. Every generation group owns their special generational consciousness, which can be expressed as time brand mark or generational characteristic. From chapter2.1.1 of this essay, it was said that the accelerating rate of changes and increased mobility makes gap problems. Actually, those two aspects of social changes lead to the difference between generational consciousness of young and elder, which should be the true reason of generation gap problem.

The Treasure of Mine project focused on the generational consciousness of two generation group: Baby-boomer generation and One-child generation.

Baby-boomer generation of China refers to those people who were born between early 1950s to late 1960s. The unusual high fertility in this 20 years was the consequence of corresponding with Chairman-Mao ' s political dogma: the bigger population we had, the stronger military, economic and political power China would have. The huge population did bring Chinese society strong power to develop, but also brought numerous problem that time, for instance, the shortage of resources.



(Source: Data from The World Bank)

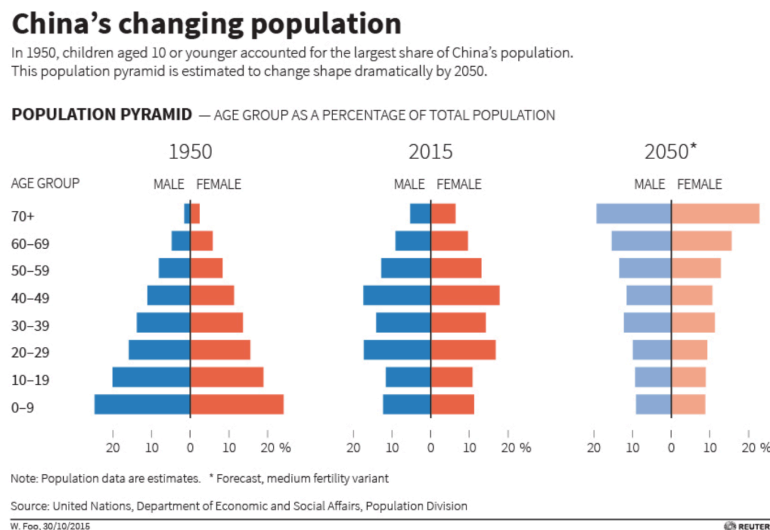
Figure 2.3 The fertility rate of China(births per woman) 1960-2016

In addition, at the beginning of The Treasure of Mine project, an interview about “ what is the most memorable thing for you at the early age ” had been

conducted with people from baby-boomer generation. Although there were varieties of answers being collected in the end of this interview session, lots of people mentioned about the suffering of scarcity, although most of them also mentioned about the happiness they had to overcome those difficulties of life.

One-child generation of China refers to those people who were born between early 1980s to 2015s when one-child policy was been conducted by China ' s government. One-child policy was designed to control the population and fertility of this country, which was introduced in 1979 [12].

Due to the decrease of birth rate and the improvement of society, one-child generation have the richest resource than any previous generation have had: better healthcare, better quality of education, more opportunities. According to a Reuters ' report, open-minded, optimism, sense of responsibility seems to be the keywords of Chinese young people from one-child generation.



(Source: United Nations, Department of Economic and Social Affairs, Population Division)

Figure 2.4 The changing population pyramid of Chinese society

By comparing the social background and characteristic, thus, we can observe the generational consciousness differences between baby-boomer generation and one-child generation. One-child generation are enjoying the best period that the

country ever had while their parents were being suffered at their early age. When one-child generation are used to utilizing those digital technology, their parents are just started with it. Those countless differences and the lack of understanding with each other leads to the gap problem between two generations. Young are tagged with egotism while elder are considered as foggy, and result in misunderstanding and conflicts in families.

2.1.3 Intergenerational Program

Intergenerational program¹ indicates a way to help bridging perceived gap problem, which in this program, people from different generation group will be brought together in ongoing mutually beneficial activities and achieving specified program goals by teaming up [13]. Building intergenerational relationship should be the manifest purpose of this kind of program.

In general, there are three categories of intergenerational activities being included in this program: Recreation, personal development, and education.

- **Recreation:** Since this kind of activities mainly focus on the intergenerational interaction, usually, participant are allowed to play around and have fun together in a leisure way without any structured goals or specific skills. Playing sports or instruments are two of the commonest items in this activities. Recreation activities are designed to aim for building intergenerational trust connection.
- **Personal Development:** Appearing in the form of conversation, people involved in personal development program can share their skills and insights with each other. And the expectation of this kind of program is letting all of participants gain new perspectives from other generation group, and leading them to be better people.
- **Education:** The main idea of education program is encouraging people from different generation group to exchange their knowledge and skills with others. For senior adults, they can pass their life experiences, vivid memories or

¹ <https://www.joe.org/joe/1997october/iw2.php>

traditional skill to young people. Meanwhile, young can support elder with digital technologies or new and fashionable information they learned. It is said to be a win-win activity within the education program. In addition, education program is also meaningful for The Treasure of Mine project, which the core idea of this project is inspired by it.

2.2. Nostalgia

2.2.1 Defining Nostalgia

Nostalgia is a word for mature people, who have found themselves be controlled by social rules and hardly to explore new emotions to feel. According to dictionary, the meaning of word “nostalgia” refers to *“a wistful desire to return in thought or in fact to a former time in one’s life, to one’s home or homeland, or to one’s family and friends; a sentimental yearning for the happiness of a former place or time.”*

2.2.2 The Power of Nostalgia

Nostalgia is a yearning for the past, which could be a quite strong emotion. The power of nostalgia can be a resource of meaning-making, and also help forming an intimate bond with others.

For the second point discussed in the last part, there is a interesting fact that the “happiness memories of past” sometimes may not literally refers to those memories that really about happy past. More often than not, these memories could be even passive at that time. According to a study on the relationship between nostalgia and *meaning-making* (a psychology term, refers to the process of how people construe, understand or make sense of life events, and the self [14]), it indicates that thinking about a nostalgic experience increased perceived presence of meaning [15]. In other words, the meaning of a piece of memory can be increased and even prettified by the power of nostalgia.

The power of nostalgia also help forming bond between one and another who has shared experiences or emotions. Most people are more sensitive than they imaged, comparing with information or data, people are more easily to be effected by their



(Source: picture from builtvisible.com)

Figure 2.5 Nostalgic Ideation

emotion. Therefore, if speak to people about the past they experienced, it will be a easy way to recall those nostalgic and vivid memories in their mind [16], which would help building empathy connection and make this conversation a emotional level and form an much intimate relationship.

2.3. Puzzle Adventure Game

2.3.1 Defining Puzzle Adventure Game

Puzzle adventure game, which can also be named as puzzle video game, is one category of games. The large amount of information and clues should be the most distinctive feature of puzzle adventure game. The gameplay of a puzzle adventure game is a process of putting pieces together and finding way to arrive at the correct or solution, which require inductive reasoning aptitude and deduction skills of players [17]. Different with intelligence game, puzzle adventure game emphasize more on plot, art style and character design. A good puzzle adventure game can practice the coordination of players ' brain, eyes and hands, and the gameplay can enhance logic analysis abilities as well as thinking agility of players.

2.3.2 Interactivity and Encourage Mechanic in game

Interactivity is a unique artistic form of video games.(Cowlevel 2018) Although the nature of player-video game interactions has not been clearly defined in the scientific literature [18], the interactions during a play process can be simply described as a bi-directional relationship between game and player, which means the decision or operation made by players will convert to real-time reaction or visible results in game, and then decide the next action that players need to do.

The interactions between player and game could be enjoyable and exciting from player aspects. According to studies and observations of gameplay, it is not hard to find that players are willing to challenge those part they have failed or not experienced, which is contrary to most people 's tendency in reality. The secret is the special encourage mechanic designed in game.(Theory of fun for game design, 2013) During gameplay, players are expected to experience the process from failure to success. Players are encouraged by plot or reward, trying again and again to find a good or correct way from the interaction with game, and finally to overcome a boss battle or solve a puzzle.

Although people show tendency of avoiding failure in reality, thanks to the point of interactivity and special mechanics of games, players in game world do not afraid of failing in most cases, which could also make game a good method for learning and education.

2.3.3 Storytelling Tool

Storytelling part have always been an important element of game design. A game with a good plot can help immersing players in its virtual world and making a better game experience.

Comparing with movies, the story within a video game is usually interactive for players and sometimes even the plot or ending of stories can be influenced by players ' operation, which makes players a part of this story, and convince them that they are the hero of this game. This can be called as the sense of immersion, which is a powerful drives attract players to explore the game(Times, 2015).

2.3.4 Related Game

Though there are little game titles about generation gap, the topic about nostalgia or the yearning for past memories are mentioned in some games. Those games express the theme of nostalgia and memories in different ways, each of them conveys a unique feeling to players.

- Lumino City

Lumino City² is a puzzle adventure game produced by State of Games from British. It tells a story about a boy who try to find his disappearing grandfather, rushed into a mysterious city that full of nostalgic elements. By solving puzzles and talking to npc, players will get to learn more and more about this city.

The most impressive point of this game is the special art style: hand-made. To express the nostalgic feeling of this game, developers created a ten foot high model city by hand to build a fantastic city with realities.



(Source: picture from State of Play Games)

Figure 2.6 Scenes making of Lumino City

- Homesick

² <http://www.luminocitygame.com>

Homesick³ is a puzzle adventure game with first-person camera made by Lucky Pause. In Homesick, player need to explore an abandoned building, by collecting clues to figure out what happened to the world and the main character self. Comparing with common idea of nostalgia, this game express this topic from a special point of view: the yearning for past world when human beings finally found their world was destroyed by global warming.



(Source: picture from Homesick)

Figure 2.7 Screenshot of Homesick

- Old Man's Journey



(Source: picture from Old man's journey)

Figure 2.8 Screenshot of Old Man's Journey

³ <http://homesick.luckypause.com>

Old Man 's Journey⁴ is a puzzle adventure game made by Broken Rules. In this game, player need to help an old man who is on his journey reaching destination by moving buildings and roads in the scene. Following the step of old man, those old memories of past life will be showed to player. Different with other puzzle game, Old man 's journey does not have clues to collect or dialogues to deal with, by the changing scenes during this long journey, it tells a simple story of an old man's memory about losing, regret and hope.

- Nostalgic Train

Nostalgic Train⁵ is a walking simulator game made by Tatamibeya. There is no specific goal or mission in this game, while players are allowed to hang around in a countryside where main character have stayed in childhood. Interaction with the scene will trigger some description of past memories.



(Source: picture from Nostalgic Train)

Figure 2.9 Screenshot of Nostalgic Train

4 <http://www.oldmansjourney.com>

5 https://store.steampowered.com/app/801260/NOSTALGIC_TRAIN/

Chapter 3

Design

The game design process of game The Treasure of Mine is discussed in this chapter. The design part of this game is divided into four sections:

- Game Design
- Overview of The Treasure of Mine
- Game Design Document
- Prototyping

In Game Design part, the defining and elemental factors of game design will be discussed in general. The thinking flow of shaping core idea and design concept of game The Treasure of Mine will be explained in detail in Overview of The Treasure of Mine part. In the third part, it will introduce the Game Design Document of game The Treasure of Mine. The last part records the prototype test period in this project.

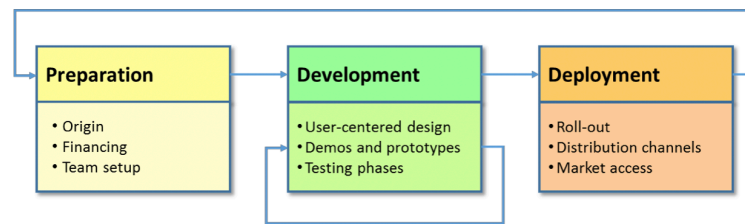
3.1. Game Design

3.1.1 Introduction

Game design can be described as a complex process of concept and content designing of game rules, goals and challenges. One of the simplest definition of game design indicated that *game design is an act of deciding what a game should be.*(Schell 2015)

There are several design elemental factors and aspects involved in game design, which can be categorized to tools of play, rule development, player mode, story

line and plot, action, boundaries and challenges, materials and resources. By making decisions and designing in those aspects, a game is being shaped step by step. In short, game design is the design of all these factors and aspects in order to make game to fulfill its purpose. ((Dörner, Göbel, Effelsberg, Wiemeyer 2016; Ijäs, Viitala 2017) In addition, the concept of game design not only applies to video games, but also can be used to describe the design process of the board game, card game, dice game, casino game, role-playing game, war game, sport, or simulation.



(Source: Dörner, Göbel, Effelsberg and Wiemeyer 2016)

Figure 3.1 Lifecycle and iterations of a serious game

However, depending on the type of game, there will be some differences in design process. For instance, the serious game, which is a special category of game that designed for a primary purpose other than pure entertainment [19]. In the case of designing a serious game, the purpose, the goal, and target audience of game are essential key factors. (SeGaBu project) Thus, there were two questions kept in mind throughout the design process of game The Treasure of Mine, which are “how to express the generational differences in game language” and “how to enable the game experience of exploring the past memories for young players”. Based on those two design questions for myself, The Treasure of Mine project was shaped by the decisions and designs made in game design process. From game mechanics to storyline, every element in game The Treasure of Mine is designed for the main purpose of helping players get a better knowledge about the social background thirty or forty years ago, and ordering a chance for players to build a better understanding with their parents.

3.1.2 Game Design Document

Game design document is often used by video game industry to organize the development team and help to make sure each branch department in a team such as game designers, programmers and artists can collaborate with each other smoothly. In order to ensure each progress of a game project can be completed correctly, every developer in a team need to adhere the game design document.

Different with a plan or guidebook, the game design document can be described as a “living document”, because it is continuously updated throughout the game development process (Moore and Novak 2009). Once the project has been approved, the game design document should be expanded by developers to a new level where it can successfully guide the development team [20].

Since there are numerous elements and phases of a game project, usually, the game design document can be divided into three sub-parts: concept document, design document and production document. Those three parts record the three main development stages in a game project, which is “*from concept to design to production*” [21].

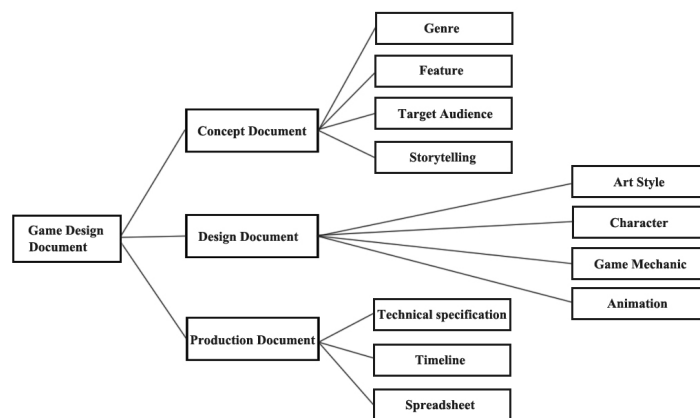


Figure 3.2 Structure of Game Design Document

- Concept Document: Information like genre, feature, target player and storytelling will be involved in this part. The purpose of concept document is to clarify the goal and main idea of game.

- Design Document: The collaboration between artist, programmer and animator will be recorded in this part, mainly about art style, game mechanics, character and animation in game.
- Production Document: In this part, the management aspect of a game project will be discussed in detail, which can be the work assigned to developers or the number of human resources in project, for instance, more in details, about the information of timeline, budget spreadsheets, as well as technical specifications.

The game design document of The Treasure of Mine project will be discussed in detail in part 3.3 this chapter. The description will be organized according to the order of sub-parts in game design document: concept document at the first, design document as the second, production document at the last.

3.2. Overview of The Treasure of Mine

3.2.1 Topic of Generation Gap

At the initial stage of thinking about the idea of The Treasure of Mine project, it was a multi-player game for building collaboration. That game was designed for family members playing together when they have parties or family reunions, and it was a game about finding treasure in a big forest or wild land by teaming up. However, when it was time to think about the playing situation in detail, a fatal problem came up, which was called “digital divide”, one aspect of generation gap.

For myself, it was the first time paying attention to the gap problem seriously, and the more I learned about generation gap, the more I felt it was not a simple family relationship problem about adolescent’s behavior. Generation gap problem is a common problem exist in our society, more in exactly, it can be called as a social problem or a phenomenon appeared accompany with the development of society. The problem of gap, can have negative consequences which like misunderstanding, elder isolation or age discrimination [22].

At that time, I realized that if this game can be designed as a serious game that lets people notice and pay attention to generation gap problem within their family,

it would be much more meaningful than just be a family party game. While the generation gap should be a both-side problem, in order to avoid the digital divide, The Treasure of Mine is designed to be solo-game only for young aspect, which expects to let young people realize that they also have the responsibilities for gap problem, and go a step to understand their parents. One year ago, as a turning point for The Treasure of Mine project, this game was converted to a serious game with the topic of helping to bridge generation gap.

The Treasure of Mine is a digital puzzle adventure game with puzzles attached to nostalgic objects designed based on the background of 1970s-80s in Chinese society. Players will be expected to learn about some memories and stories shared by their parental generation. By letting young people know more about those old things from past to arouse their interest of the past of their parents, which eventually will help increasing interpersonal empathy to their parents, and most importantly, contribute to build a better understanding with their parents, and bridge the gap within family.

3.2.2 Design Concept

After the determination about converting the topic of game The Treasure of Mine to generation gap was made, lots of elements involved in game content and purpose needed to be linked together to build a complete game concept. The concept of Treasure of Mine project are developed and completed based on the thinking flow by several steps:

Step1 The purpose: At the initial stage of The Treasure of Mine project, there were only the theme of this game was clarified at that time. While the concept of generation gap is totally in abstract, it need to be concreted into something can be felt or observed. Since the results caused by gap problem within family are usually described as misunderstanding between parents and children, the goal and expectations of game The Treasure of Mine was determined, which is building a better understanding with parents.

Step2 The expectations: Due to the theme of generation gap, and the purpose of building understanding, the expectations of this project should be building a better understanding successfully. However, as the term of “a better understanding is built” can not be easily scaled or measured directly, and as an expectation

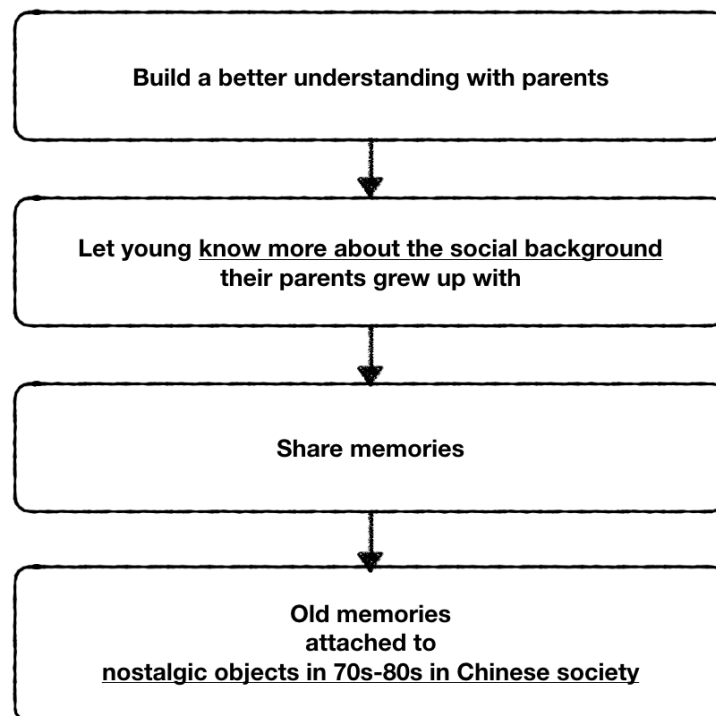


Figure 3.3 Thinking flow of design concept in The Treasure of Mine project

of game it has to be changed into another measurable form. As it was discussed in Chapter 2.1.1 and 2.1.2, the unusual development speed of society results in differences of generational consciousness, which can be the leading reason to gap problems. In other words, unknown and inexperience of the social period before birth, from the perspective of young, can be one reason to the gap problem and misunderstanding. Furthermore, comparing with building understanding, the knowledge and curiosity should be much easier to evaluate, thus, the central expectations of the game The Treasure of Mine was specified to let young people know more about the social background their parents grew up with.

Step 3 The activities: During this step, the method about how to arouse young people's interests and curiosities of the past society was being considered. There were several principles being used to judge if a method was suitable or not for the game The Treasure of Mine:

- The possibility of “gamification”, which means if this method or idea is applicable to be expressed in the form of game.
- Suitable for solo play. Due to the restriction of solo play of game The Treasure of Mine, the method should be user friendly for solo player to complete.
- It should have connection with the appearance of the past society.
- When players finish their playing of game, the knowledge or passion they gained from game should be able to transfer from game to external task or behavior.

Based on the inspiration brought by Intergenerational Program (which will be discussed in chapter 3.2.3), a method called sharing memories was picked up to be the main activity in this game.

Step 4 The vehicle: Those memories shared in the sharing memories activity should have no range of restrictions with its origin definition in Intergenerational Program. However, it does need a range to make a choice that which kind of memories should be more suitable for the game The Treasure of Mine. What is more, since memory is invisible, a vehicle that can make memories applicable for interactive and visible game experience is needed. Memories of nostalgic objects

that used in past daily life thirty, forty years ago but no longer used any more nowadays ended up to be the best choice for this game. The interactive capability of game can make it possible to simulate the using experience of those old objects for players, which makes nostalgic objects the best choice to be applied to game.



(Source: www.redocn.com)

Figure 3.4 China's nostalgic objects of 1970s-80s

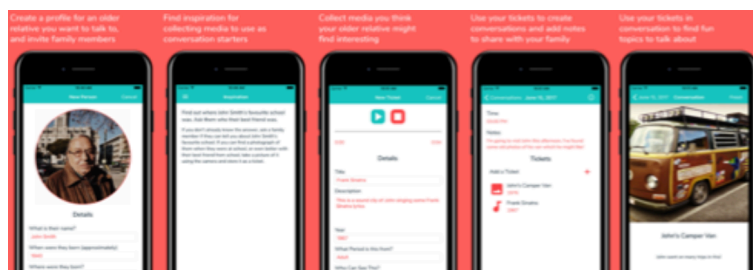
Step5 The whole game concept: Based on those four steps above, the concept of game The Treasure of Mine was completed, which is “ The interaction with nostalgic object from parental generation will help young generation get a better knowledge about the social background their parents grew up with, thus build a better understanding with their parental generation ” .

3.2.3 Inspiration

The Treasure of Mine project are inspired by many sources in numerous aspects, and some of them ended up shaping the origin appearance of this game.

- Ticket to Talk

Ticket to Talk¹ is a mobile application designed to support intergenerational interactions between people with dementia and young people [23] developed by Daniel Welsh, Kellie Morrissey, Sarah Foley, Roisin McNaney, Christos Salis, John McCarthy, and John Vines. The idea about encouraging young people to collect those media relevant to dementia and use in creating topic with people with dementia is quite influential for The Treasure of Mine project. Inspired by the concept of ticket to talk, the game The Treasure of Mine also utilize the similar concept to help young people learn and collect those memories of nostalgic objects as a new topic with their parents.



(Source: Ticket to Talk)

Figure 3.5 Application named Ticket to Talk

- Intergenerational Program

Intergenerational Program² should be the most important resource of inspiration for The Treasure of Mine project, which determined the main idea of content inside the game. As it was discussed in the part of related word in chapter 2.1.3, the purpose of Intergenerational Program is bridging gap problem by bringing people from different generation group together to complete specified program goals.

One activity in Intergenerational Program called sharing vivid memory contributed the most to shape the core idea of game The Treasure of Mine, which in this activities senior adult need to share their life experience and

1 <https://tickettotalk.openlab.ncl.ac.uk>

2 <https://www.joe.org/joe/1997october/iw2.php>

old memories with young people. While the game The Treasure of Mine is influenced a lot by Intergenerational Program, the process of playing this game can not be categorized to any activities of Intergenerational Program due to it is a solo-player game without any intergenerational collaboration during playing time.



(Source: http://agingconnections.osu.edu/intergenerational_center)

Figure 3.6 Intergenerational Program

- Rusty Lake

Rusty Lake³ is a series puzzle adventure game produced by rusty lake studio. An eerie and surrealistic world is created in this game. It tells a story about two mysterious family who were seeking the truth of immortality and reincarnation by alchemy and sacrifice. By solving those creepy puzzles, players will explore the storyline and the truth of these two old families.

As one of the most famous puzzle adventure game series, Rusty Lake inspired five guidelines in puzzle designs for this project:

1. Puzzle should be designed in logic, and should have rules or regular pattern to follow

³ <http://www.rustylake.com>

2. Important clues or interactive objects need to be remarkable.
3. Make puzzles solve a part of storytelling. The puzzles should contribute to the storytelling part.
4. Make storyline into pieces, and put them into clues. In other words, make the collection of clues a process of restoring a whole story.
5. There should be some reward after a successful puzzle solving. the reward can be a new clue or a piece of story.



(Source: from Rusty Lake)

Figure 3.7 Screenshot of Rusty Lake

- What Remains of Edith Finch

What Remains of Edith Finch⁴ is a walking simulator adventure game developed by Giant Sparrow. The story is about the memories of an old family whose family members were cursed to be unfortunate. By finding the room of each family member, player will be allowed to experience the the live of those characters and see what happened to them.

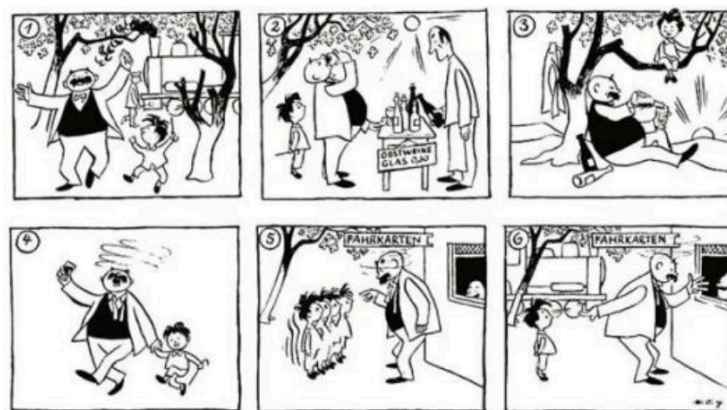
What Remains of Edith Finch brought an example about how to utilize game as a vehicle to express vivid memories. The inspiration of the animation of album part in the game The Treasure of Mine came from it.

⁴ <http://edithfinch.com>



(Source: from What Remains of Edith Finch)

Figure 3.8 Screenshot of What Remains of Edith Finch



(Source: from Vater und Sohn)

Figure 3.9 Comic Vater und Sohn

- Vater und Sohn

The famous comic Vater und Sohn⁵ from E.O.Plauen should be the main source of inspiration for the art style in this project with the unique hand drawn style. With the shared theme of conflict and love between father and son, E.O.Plauen showed the true love within family in his comic. Based on the inspiration brought by Vater und Sohn, there are three principles decided for the art style in The Treasure of Mine project:

1. Black and white style can help expressing the retro feeling.
2. The line in graphics should be clear and closed to keep a clean picture.
3. The motion of characters in graphic should be more exaggerated than reality, which would help expressing the emotion state of character.

3.3. Game Design Document

3.3.1 Introduction

The Treasure of Mine is a puzzle adventure game designed for young people in China. Aiming to help young people build a better understanding with their parents, this game is designed to order a chance for young players to get a better knowledge about the social background and appearance that their parents grew up with. During the game play, in order to solve puzzles involved in this game, player needs to interact with nostalgic objects that used in the past daily life(1970s-80s) in China, and read some text contents about shared memories from their parental generation.

3.3.2 Genre

- Name: The Treasure of Mine
- Type: Puzzle Adventure Game
- Form: Solo play

⁵ https://de.wikipedia.org/wiki/Vater_und_Sohn



Figure 3.10 Visual Design of The Treasure of Mine

- Platform: PC
- Game Mechanic: Point and Click

3.3.3 Features

1. A puzzle adventure game with the theme of generation gap
2. Game mechanics based on old objects
3. Clues attach to past memories
4. Storytelling about family love
5. Introduction of China ' s social background during 1970s-80s period

3.3.4 Target Audience

As game The Treasure of Mine is designed to help bridging generation gap problem as well as building a better understanding within family, a specific group of audience are noticed with their playing and reaction of this game during the development and evaluation period of The Treasure of Mine project.

- Young adults ages 18-28
- Have life experience in China

- Have generation gap problem within family
- Better to have some experience in video game

Firstly, the qualification of the age of audience are restricted from 18 to 28, which means those young adults were born between 1990 to 2000. Since The Treasure of Mine is designed based on the social background of Chinese society from 1970 to 1989, the restriction of the year of target audience is to make sure that those young adults do not have any life experience with the social period appears in this game.

Secondly, it requires that target audiences need to have life experience in China. Since the main content in game The Treasure of Mine is full of old objects that appeared in China 's society years ago, and also memories from Chinese middle-aged, for those people who are living or have lived in China, it will be much earlier to understand the information and atmosphere that this game tries to convey.

Thirdly, the target audience should have the gap problem within their family. Although this game can also be enjoyed by those young people who do not have any trouble with generation gap, target audiences with gap problem within their family can contribute more in proving the concept and the academic value of The Treasure of Mine project.

Last but not least, target audiences are expected to have some experience with video game, especially puzzle games. Since puzzle adventure game requires inductive reasoning aptitude and deduction skills of players, for those people who have had experience in games, may be much easier to play with. However, with the tutorial section designed in game The Treasure of Mine, those people who have never played any games can also have fun with it.

3.3.5 Storytelling

The storytelling part in game The Treasure of Mine mainly tells a story about family love happened between a son named Young who is the main character in game, and his father.

The present story line starts with an unexpected letter and package from Young's father (Figure 3.11). In fact, from the view of Young, the relationship between

father and himself is not very good. Thus, faced with those things addressed by father, Young showed confusing and astonishing (Figure 3.12).

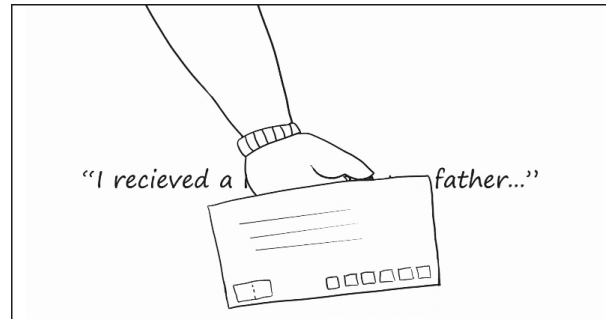


Figure 3.11 Young received a letter from his father

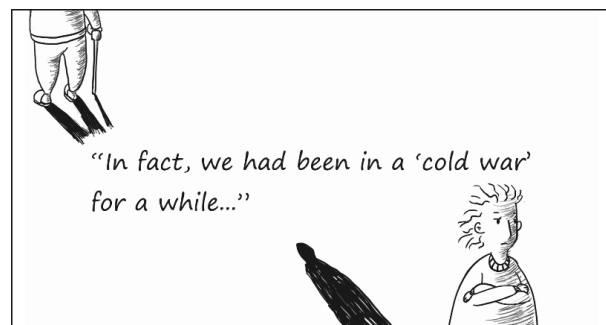


Figure 3.12 A cold relationship

Trying to figure out what happened, Young opened the letter and found this is an invitation that his father would like him to find a true treasure hidden inside a locked box.

“A true treasure? Seriously?” Young opened the package with curiosities, there was a family album, and a locked box inside it. By reading the album, Young knows some romantic memories about his father and mother, and most importantly, he found a clue which told him how to open the locked box.

However, he did not expect that this was just the first puzzle his father left to him. After opened the box, what was waiting for Young was another box, family album and a radio(Figure 3.13).



Figure 3.13 Another locked box

He did not know how to use a radio clearly, and also had no idea which “channel” he needed to listen to. “Maybe I need to find some clues I guess? I hoped I have learned how to use it from father...” Luckily he found some memos left in album. It was a memo recorded the instruction of radio and frequencies that each family member would like to listen in the past. And in the last page of the album, Young learned those old radio programs his family members liked and also the day life of each member(Figure 3.14).

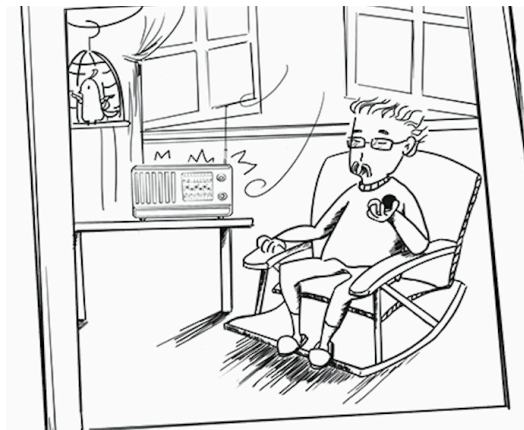


Figure 3.14 Grandfather was listening to radio everyday

Learned how to use radio, Young found the key to open this box, but there was still another box inside it.

Different with last time, Young only gained a new locked box and an album



Figure 3.15 Grandmother was buying food products by food stamps

for this time. “No object? It seems no way…” he murmured, and opened the album, it was an old photo that his young father was led by grandma in a store(Figure 3.15). Although they are buying something, the things they paid for goods was not money, Young recognized that things, “The food stamp!” he said.

Afterwards some old food stamps were found in the second page. And Young also found there were some special mechanics designed in this album, which can change the photo showed in album page if he put a correct stamp on it.

The locked box was opened again, however, for this time, there was no album or box or any objects anymore. It was only an old mirror there. Picking up the mirror with confusion , Young saw the face of himself was reflected in it. “Wait…” Something that inscribed on mirror attracted his mind, “Oh… I think I solved the last puzzle father left to me…”

It was carved by father, a small sentence in the bottom of this old mirror. (Figure 3.16)

“You Are The True Treasure of Mine.”

3.3.6 Art Style

Black and white style and hand-drawn are considered as the main art style in game The Treasure of Mine based on the classic and retro atmosphere built in this game. Utilizing clear lines and no color filled graphics, what the game tries to

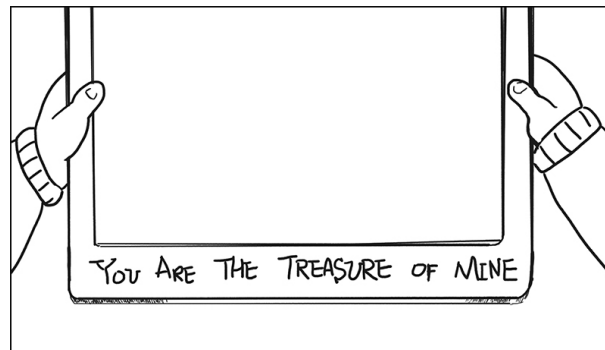


Figure 3.16 You are the treasure of mine

bring to players is the feeling of easy and nostalgia. Although the main art style is applied throughout this game, there are also some detailed differences between the art design of objects and characters.

In order to emphasize the vivid sense of life and make the design of characters come to life, rough line with a little tremble are utilized in the drawing of characters.(Figure 3.17)

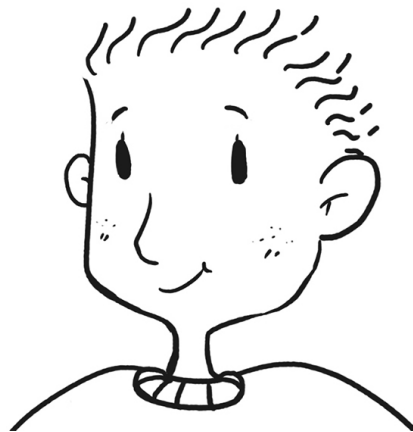


Figure 3.17 Rough lines in character

In the contrary with characters design, art style of those nostalgic object are trended to be “ quiet ” and exact. Therefore, straight line and geometric figures are more used in the design of objects.(Figure 3.18)

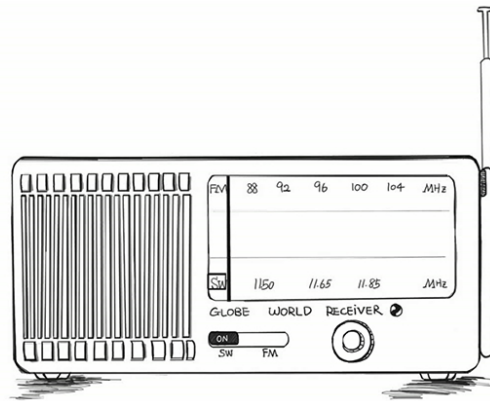


Figure 3.18 Straight lines in object

3.3.7 Chapter Design

Game The Treasure of Mine can be roughly divided into five episodes, which are prologue, chapter of letter, chapter of radio, chapter of food stamp, and epilogue. Among those, the prologue and epilogue part is purely composed by plot animation without any playable game mechanics. And other three are playable episodes with different theme. Figure 3.19 shows several elemental factors working in the design process of each playable episode.

Firstly, a nostalgic object should be selected as the theme of an episode. After that, game missions in this episode will be decided in order to clarify those concrete goals and specific behaviors that players are expected to complete in this part 's playing.

Then it is time to collect memories that attach to the theme object, and adapt those memories to the storytelling part of this game. The adaptation can be valued as one of the most important steps in chapter design process, as the purpose of this step is to make those memories become “de-privatization”. Since those collected memories are from different people, each piece of memories should have some differences with personal affections. However, the memories showed in game should be typical and representative, thus those memory pieces from individuals will be edited into some key words and then being composed again as a common memory from people who have lived in that social period.

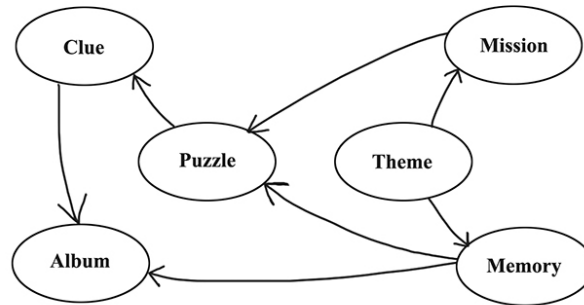


Figure 3.19 Elements in chapter design

Based on the game missions in a episode, the design of puzzles attach to the theme object will be started. Basically the puzzles should have associations with the usage as well as the function of this object. Clues will be shaped by the puzzles, and integrated with common memories as well as story line.

At the last, the animations and graphics in album part will be designed to serve the common memories and clues.

Prologue

In the prologue part of game The Treasure of Mine, it was designed to be a conversation happened between the main character Young and player. Player will be asked two questions by Young as an introduction and opening words(Figure 3.20). After that, Young will have a greet and introduce himself, then lead player to the real start of this game and also the beginning of story line.

The key point of this part should be those two questions:

1. Have you ever seen those old photos of your family?
2. Have you ever imaged the life your parents lived when they were just at the same age as you?

These two questions are utilized as a trigger to enlighten player's mind, and let them start thinking a question that have they ever tried to empathize with their parents when they are just complaining about their parents can not understand them at all.

And by the words from Young(Figure 3.20), a message about misunderstanding

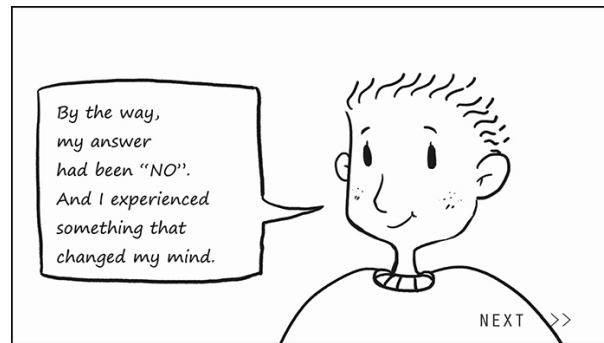


Figure 3.20 Opening words from Young

and gaps can be overcome and eased by child's changed mind and empathy for parents is conveyed to players.

Chapter of Letter

As one of the commonest remote communication ways years ago, and sometimes still being used nowadays, letter is chosen to be the theme of the first chapter.

Letter episode is served as a tutorial section of this game. In this part, player will be led by plot to learn the flow of puzzles solving as well as the game mechanics. (Figure 3.21)

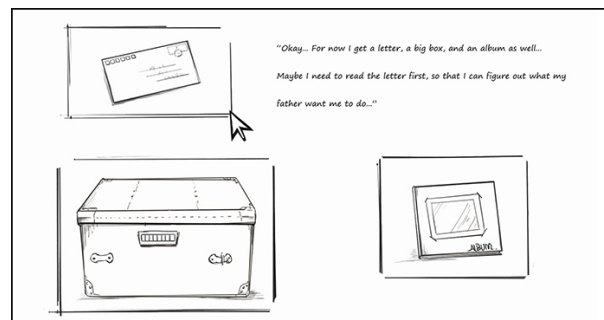


Figure 3.21 Tutorial section

To solve the puzzle in letter episode, player need to open and read letter, and have a check on the album.

By reading letter, players will get to know the mission in game and also a piece of story line about the bad relationship between Young and his father. By checking the album, the memories about love letter between young couples in old period will be showed. Most importantly, the clue which appears in the form of a note paper can be found on the second page of album(Figure 3.22). The clue will indicate the answer, which is the date in the letter 's post stamp. By clicking the post stamp, a zoomed in post stamp will be showed to player, which can find the answer date “20180713” clearly.(Figure 3.23)

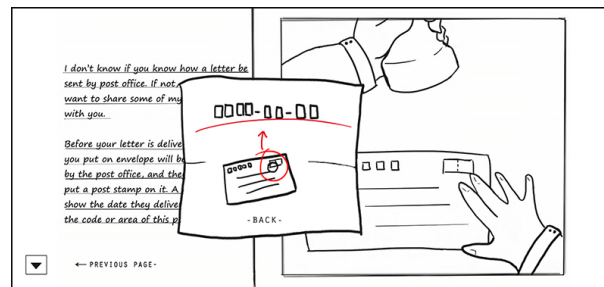


Figure 3.22 The clue is hidden in album

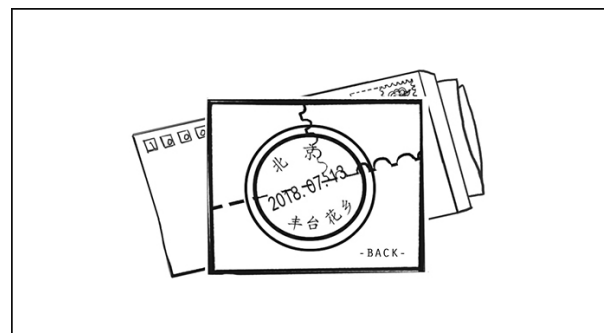


Figure 3.23 Post stamp on letter

Chapter of Radio

The second theme is radio.

The key word of this episode should be frequency and radio program.

Since listening to radio used to be the manifest way for entertainment. In this episode, player are expected to experience the using of a radio, adjust frequency and listen to some radio program.

The puzzle designed in this part is five letters which are broken up into five separate letters and hidden in five programs with different radio frequencies.

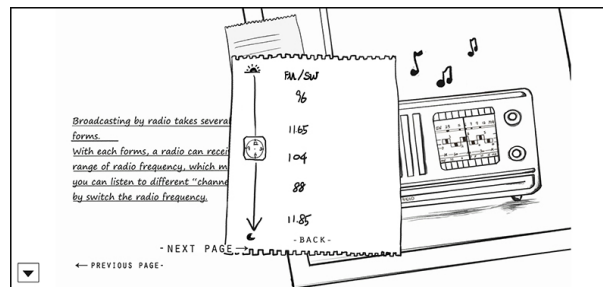


Figure 3.24 The clue about frequencies



Figure 3.25 Photo with figure

By reading album, firstly, player will learn about a memory about listening news by radio everyday. And then on the second page, the instruction of radio will be explained to player and also the first clue which is a hand-written note with five frequencies corresponding to the rise and fall of a sun picture(Figure 3.24). On the third page, there will be a frame-by-frame animation composed by five photos which shows each family member's favorite radio programs in the different time period during a day. By recording the order of the appearance of geometric figures, player will gain the second clue in this episode.(Figure 3.25)

Adjusting the frequencies of radio program with the order in the first clue, and picking up the specific letter with the second clue, finally, player will figure out that five letters(Figure 3.26) and open the locked box.

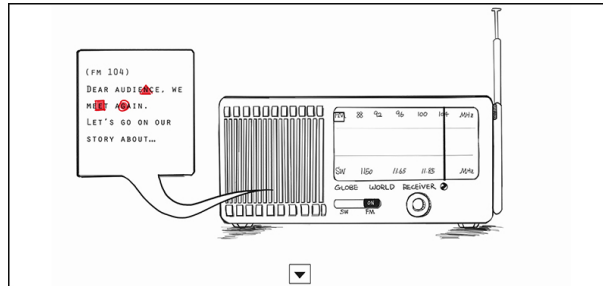


Figure 3.26 Radio program with frequency fm104

Chapter of Food Stamp

The third theme is food stamp.

As a kind of special trade tool appeared forty years ago, food stamp was published by Chinese government to control the transaction in market because of the shortage of resource. Looks like some small ticket, people used those food stamp to buy rice, flour, meat or some other food products in stores. Due to food stamps' feature, the key word of this episode is “exchange”.

Players are expected to relive the experience that gain something and paid with food stamp. However, in this game, the things they exchange by food stamp are not food product but the clues.

By paying the correct type of food stamps(Figure 3.27), player will gain clues from family member NPCs in album.(Figure 3.28)

After collecting all four clues, player will get the answer to the locked box.

Epilogue

In the epilogue part, it tells an ending of the story line in game The Treasure of Mine.

As discussed in chapter3.3.5, after opened the last box, Young found an old mirror and showed it to player. (Figure 3.29)



Figure 3.27 Paying with correct food stamp

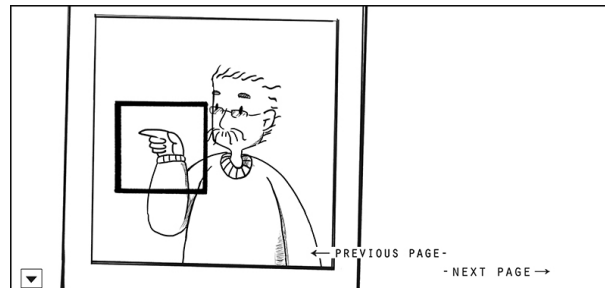


Figure 3.28 Gained clue from changed photo

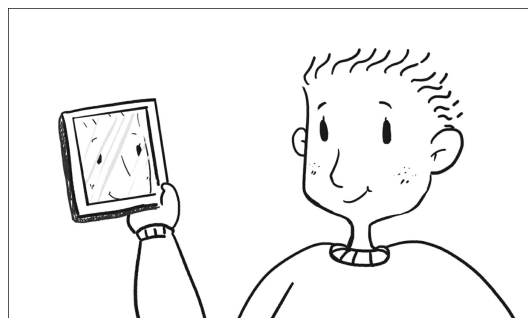


Figure 3.29 Young picks up a mirror

An interactive mechanic is designed here to enhance the impact brought by story and break the wall between the world inside game and reality. When Young flipped the mirror to player, the front camera of PC will be switched on, and reflect player 's own face on the mirror in game with a small sentence “ You are the true treasure of mine. ” (Figure 3.30)

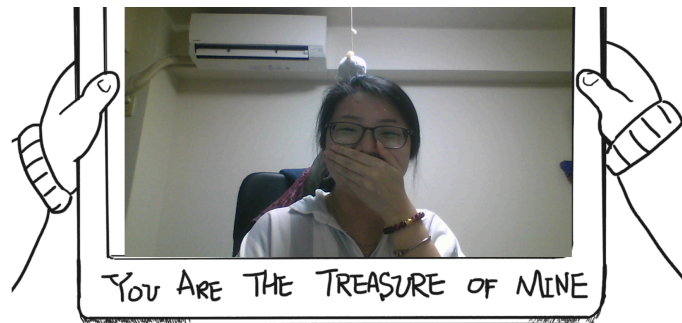


Figure 3.30 Reaction from one player

This design here is to help breaking the consciousness of boundary between game and reality, which can make the process of transferring experience and emotion gained from game to reality become much easier for players.

3.3.8 Character Design

Due to the storytelling part of this game is about the family love, all story line is going with the family Young. There are totally five characters appearing in game The Treasure of Mine, who are the grandparents, parents in youth, and Young himself.

The design of family members' appearance is based on three principles:

1. Since they are families, there should be some same and typical characteristic on their face.

Big nose is designed to be the most typical characteristic on appearance of this family. Through the same designed nose on their face, the family relationship between those characters could be easily noticed by players when they see the photos in album. Especially for the appearance of grandfather, father and Young, they are intentional designed to look like each other, which make them just like a

same person in different life stage.(Figure 3.31)



Figure 3.31 Character design: Grandfather, father, and Young

2. The accessory and clothes that characters wear should be based on the time period of 1970s-80s in China.

Especially for the female characters, the accessory and clothes of them are designed to apply for that time period and social background. For grandmother, who is a middle-aged woman, are dressing in a simple uniform without any conspicuous jewelries, which was very common at that time. In contrary with grandmother, Young ‘s mother is designed to be a fashionable young woman, who would like to dress herself as a HongKong modern lady. Therefore, in this game, player can see this young woman dressing in a one-piece, and had a small cap with beautiful bow on her head. (Figure 3.32)



Figure 3.32 Character design: Grandmother and mother

3. The appearance of each character can be an indication of their personalities.

The main character of this game is named as Young. The word "young" refers to young people in English, and in Chinese its pronunciation is same as a common

surname "Yang". Since players will explore and experience game from this main character's perspective, the word "Young" is given as his name, and this character are designed to be representative for the whole common youth group. Wearing jumper and sweater pant, having his short hair permed, with some freckles on face, Young is one of the commonest youths for nowadays. However, not only the appearance he has, but also the complex and conflicting emotions toward his father which like those doubtful words, complaint and hidden love throughout this game is designed to reflect the real situation and relationship between children and their parents within Chinese families.

3.3.9 Time line

Initiated from early January of 2018, working period of The Treasure of Mine project lasted for almost a year and finally finished at the end of December. During this one-year period of research, design and development in this thesis project, some ideas were abandoned while more new ideas are revised and shaped again and again. Prototyping was repeating the process of being extended and tested time after time. A detailed schedule which recorded the important milestones of The Treasure of Mine project will be discussed in this part.

- 01/2018: Theme Decision(Initial Version) and Background Literature Review

An original idea of this thesis project is came out during this initial stage. By some background research, the generation gap was selected to be a potential theme of this project. However, the gap problem discussed in project was considered from both young and elder aspect at that time. And the term "family collaboration building" was taken as a key point in the initial stage of concept thinking.

- 02/2018- 03/2018: Ideation

As discussed in part3.2.1, the initial idea of game The Treasure of Mine was a multi-player game which could bring parents and children together to complete the goal of game. While collaboration building can be taken as a method to fasten the relationship within family, the gap phenomenon of

“digital divide” was noticed as an obstacle that made it difficult to let family members from different generation groups play a video game together. To avoid the digital divide problem, the theme was thought about being revised at the end of March.

- 04/2018: Theme Decision(Final Version)

After the decision about revising theme and concept of this project was made, one month later, with the perspective only from youth in family, a new theme was determined in early April. The new theme is about designing a game to help Chinese young people build a better understanding with their parental generation.

- 05/2018: Literature Review on Related Studies

During the first half period of researching on related studies, rough keywords like the reason and result of generation gap, gap problem in China's society and intergenerational program was utilized to collect useful information for this project. Based on the activities mentioned by intergenerational program, core idea of game The Treasure of Mine was determined, and a new round of related studies researching was started to search information about the nostalgia psychology as well as the related games with the topic of memory for past and nostalgia.

- 06/2018: Ideation

With the core idea of sharing memories and interaction with nostalgic objects, the game was starting to be shaped as a puzzle adventure game with puzzles and text contents stories attach to old things that used in the 1970s-80s social period in China. Thus, the concept about bridging gap problem by ordering youth a change to interact with nostalgic objects of thesis was also coming out at that time.

- 07/2018: Paper Prototype and Midterm Presentation

Based on the ideation of game, initial stage of design in game mechanics, storytelling, and art style was started. Categories of nostalgic objects appeared in game was decided by that time, and some simple drafts about

puzzles and interactivity with objects were drawn by hand while the brainstorm was conducted time after time. Midterm presentation was held at the end of July, and it was the first time to present the whole idea of this thesis project. The content of game was revised a bit based on those feedback received afterwards.

- 08/2018-09/2018: Art and Assets Creation

Graphic materials and text contents in game were completed in two months. Since most of the graphic parts in game were showed in the form of frame-by-frame animation, five or six pictures were needed to make just one motion or scene on average, which was quite time consuming during that period.

- 10/2018-11/2018: Development and Prototype Test and Revision

The development of prototype was conducted in Unity environment. Scenes were connected with each other by logical association, and scripts were programmed to implement some special game mechanics designed in this game, which will be discussed in detail in part3.3.11.

It took about three weeks to complete the development process of the first two chapters of this game. After that, prototype test was conducted in the first time with three players. Then, after the revision based on feedback was done, the newest version was showed during the KMD Plenary, which was the second time prototype test. Feedback were collected after plenary, and the game was revised in the second time and the third chapter and epilogue were also completed during that time. Prototype test was held, and based on the feedback, final version was done at the end of November.

The details in prototype test and revisions will be discussed in Chapter4.

- 12/2018: Proof of Concept and Conclusion(Initial Version) and Writing

The evaluation part of The Treasure of Mine project was conducted in early December, which will be discussed in Chapter4. The reactions and interview results from target players were quite positive toward the concept, and some meaningful findings as well as conclusions were summarized based on the results from evaluation process. Meanwhile, the thesis writing was started, and expected to finish before the 21st in this month.

- 01/2019: Final Presentation

The final presentation will be scheduled in the mid of January, and the whole completed project will be showed at that time.

- 02/2019: Conclusion(Final Version)

Based on the feedback from final presentation, new round of revisions will be reflected to game, game design document and thesis.

Overall, this will be the final stage of this project, and the study on this thesis project will come to a conclusion.

3.3.10 Equipment, Game Structure and Asset Spreadsheet

Table 3.1 and Table 3.2 shows the digital devices and software used during the development process.

Table 3.1 Equipment List

| Category | Type | Specification |
|---------------------|---------|--|
| PC | MSI | Intel Core i5Processor Windows 8 Home Resolution: 1920x1080 Graphic Card: Nvidia GTX950m |
| Digital Drawing Pad | Wacom | Intuos4 PTK-640 |
| Mac | MacBook | Intel Core M Processor macOS Sierra ver10.12.6 Resolution: 2304x1440 Graphic Card: Intel HD Graphics 5300 |

Table 3.2 Software List

| Category | Name | Specification |
|----------------------|-----------------|------------------------|
| Game Engine | Unity | Version 5.6.1 |
| Image Processing | Adobe Photoshop | Creative Cloud Version |
| Animation Processing | Adobe Animate | Creative Cloud Version |

Table 3.3, table 3.4 and figure 3.33 show the structure and detailed assets involved in Unity project of The Treasure of Mine in each episode. Assets materials are divided into three categories: graphic, animation, UI(button/dropdown). Since the game structure of three playable episode is similar with each other, for this section only the table of letter episode will be showed, and the asset lists of radio and food stamp episode are put in Appendix part at the end of thesis.

Table 3.3 Asset List of Prologue

| Episode | Scene | Assets | Category | Purpose |
|----------|----------|------------------|-----------|----------------------|
| Prologue | Logo | Logo | Animation | |
| | MainMenu | Appearing | Animation | |
| | | Start | Button | Go to Opening scene |
| | | Background | Graphic | |
| | Opening | OpeningAnimation | Animation | Questions from Young |
| | | NextPage | Button | Go on playing |

Table 3.4 Asset List of Epilogue

| Episode | Scene | Assets | Category | Purpose |
|----------|-----------------|------------------|-----------|---|
| Epilogue | Lastscene | EndingAnimation | Animation | Young found a mirror |
| | | NextPage | Button | Go on playing |
| | Mirror | MirrorBackground | Graphic | |
| | | CameraGUI | Sprite | Camera Frame |
| | Acknowledgement | Acknowledgement | Graphic | Acknowledgement and congratulation to players |

3.3.11 Technical Specification

Technical Overview

Technical aspect in The Treasure of Mine project can be roughly divided into two categories: program in Unity, and animation making in Adobe Animate. Since the detailed assets material and logical association between scenes have been listed in part 3.3.10, for this section, the process of programming script and building animation will be discussed.

| Episode | Scene | Assets | Category | Purpose |
|-------------------|-------------------|-------------------|-----------|-------------------------------------|
| Chapter of Letter | StartScene | Background | Graphic | |
| | | Start | Button | Go to Chapter1Opening scene |
| | Chapter1Opening | Chapter1Animation | Animation | Young received letter from father |
| | | NextPage | Button | Go on playing |
| | Chapter1MainScene | Background | Graphics | |
| | | Album | Button | Go to AlbumPage1 scene |
| | | Box | Button | Go to Box scene |
| | | Letter | Button | Go to Letter scene |
| | | MouseLeading | Animation | Show tutorial guide |
| | Letter | Letter | Button | Show LetterContent image |
| | | Poststamp | Button | Show PoststampDetail image |
| | | LetterContent | Graphic | Message from father |
| | | PoststampDetail | Graphic | Key to unlock box |
| | | Back | Button | Go to Chapter1MainScene |
| | AlbumPage1 | Photo11 | Animation | Show father was writing love letter |
| | | Nextpage | Button | Go to AlbumPage2 scene |
| | | Text content11 | Graphic | Describe memory of Photo11 |
| | | Back | Button | Go to Chapter1MainScene |
| | AlbumPage2 | Photo12 | Animation | Show letters were stamped |
| | | PreviousPage | Button | Go to AlbumPage1 scene |
| | | Text content12 | Graphic | Describe the process of addressing |
| | | Sticker | Button | Show ClueMemo1 |
| | | ClueMemo1 | Graphic | Show clue of this chapter |
| | | Back | Button | Go to Chapter1MainScene |
| | Box | Lock | Dropdown | Combination of locked box |
| | | Box | Graphic | |
| | | Notification | Graphic | Appeared when password is wrong |
| | | OpenedBox | Graphic | Show when password is right |
| | | Open | Button | Check password inputed |
| | | Back | Button | Go to Chapter1MainScene |

Figure 3.33 Asset List of Letter Episode

Scripts in Unity

Fifteen scripts were programmed in C++ language to implement some special mechanics in game The Treasure of Mine. Table 3.5 shows these methods involved in each scrip and also the purpose that expected to implement.

Animation making

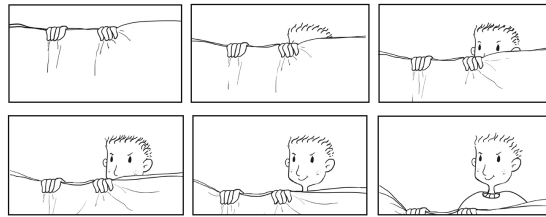


Figure 3.34 Graphics group in a frame-by-frame animation

Animation are widely utilized in the storytelling part as well as memory part of game The Treasure of Mine to make the plot of each part much more vivid. Because of the typical characteristic of classic and nostalgia, frame-by-frame are chosen to be the main style of animation making.(Figure 3.34)

In storytelling part, animations are usually designed as a series motions with simple description in the background or words in character ' s bubbles. While, in memory part, the animations are used to convey a past scene with a repeat motion.

3.4. Prototyping

3.4.1 Prototype Test

Participant

Prototyping tests are conducted three times during evaluation period. Since the goal of this process is to test the working of game flow and mechanic designs, participants involved in this kind of test are expected to have some experience

with video games to give suggestions and feedback from a professional perspective. However, due to the KMD FORUM was taken as the second time prototyping test, some interesting feedback from normal guests were also collected and applied to the update of game.

Basic information of participants during prototyping period is listed in table 3.6.

Method

The general flow of a prototyping test based on the following steps:

1. A participant is invited to a separate room with PC alone.
2. Participant are asked to play game The Treasure of Mine. During the play, participant are allowed to ask questions or for help.
3. After play, participant will be interviewed about the general feeling and confusing points of this game from the game mechanic design aspect, storytelling performance aspect, and also UI design aspect. Besides of this, they are also welcomed to speak out their feedback as well as suggestions to the game design.

Setting

Settings in three times of prototyping test are listed in table 3.7.

3.4.2 Result of Prototype Test

Version 1

When the first time prototyping test was conducted, only prologue and letter episode were completed, and the appearance of version1 was very different with the final version which has been discussed in Chapter3.

The theme and design concept of game The Treasure of Mine were accepted by players who participated in the test, while several game design problems appeared based on the feedback.

There are mainly four feedback about the design problem appeared in game collected from the first time prototyping test.

1. The opening animation is evaluated as boring by players, because there are too many text contents, and also the speed of video playing is too fast to read those words clearly.

2. The UI button in album part is easily being ignored.
3. Players hope that the photos in album can also be interacted with.
4. A opened box should be showed in screen after player inputs a correct password.

Based on feedback, game version1 was revised for the first time. Revisions are mainly about the following points:

1. Recreate the opening animation, changing some text contents into the form of picture or frame-by-frame animate, and add a “NEXT” button in each key frame so that players can read the content without hurry or for people who has read those content can skip this part quickly.
2. The position of “Back to main menu” and “Next page” buttons are changed.
3. Add a new image of opened box in the box scene, when player inputs the correct password, change the texture from original box to opened box.

Version 2

Update based on version1 test and a new episode of radio were involved in game version2, which was shown during KMD FORUM. The results from second time test are not such positive towards the expectation, due to the shortage of explanation and diversity of guests. However, there are still many relevant feedback and creative suggestion collected from forum.

Firstly, positive feedback from guests are mainly focusing on four aspects:

1. No matter the nationality or age, observation during guests’ playing showed that most players would like to check on the object part firstly, and have a try on clicking the object somewhere, which indicated that players are easily attached to interaction parts.
2. Young guests demonstrated high passion on puzzle solving design, and even some players expressed their expectation for expended contents after they finished the game. On the other hand, different with youth, elder guests showed more interests in the theme of game. Elder guests expressed their nostalgia and understanding to the topic mentioned in this game, and even an advice about adding customize episode to let foreign families share memories were offered by an elder couple.

3. Some guests expressed their love to the animation and art style in game.

4. Some guests showed their curiosities to the story line in game, “ *Could you tell me what would be the ending of this game?*” “ *I’ m wandering what exactly the treasure is?*” , about 5 people asked similar questions.

While the concept and main design part got good reviews from guests, there are also some negative point that still needed to be fixed or thought about in the new round of revision:

1. For people who did not have any experience with video game, they expressed that this game, especially the radio episode was too hard to have fun.

2. Lots of guests showed confusing to use UI system in this game since there was no special response when mouse rolled in an interactive sprite.

3. Some guests were impatient to read text contents inside the game.

4. The first note in radio episode was not clear enough to give a clue of radio frequencies. Many players were misled by it and mistaken that they should record the time showed in clock on the third page of album.

5. Some typo in game.

A new update is required to fix those unexpected problem appeared during the second time prototype test. Changes based on feedback from Forum are mainly focusing on three points:

1. Add special effect to system buttons when mouse is rolling over it.

2. Change the image of the first note in radio episode, to make it more intuitive and easy to understand.

3. Fixed typo in this game.

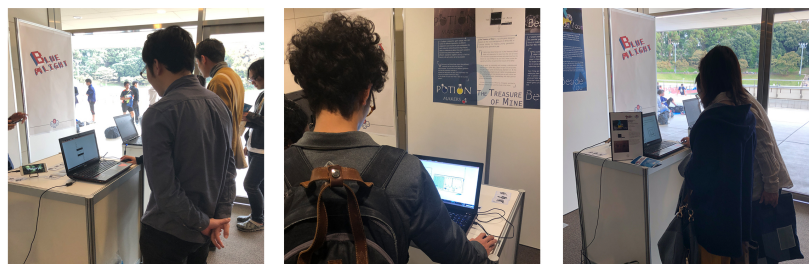


Figure 3.35 Guests tried on The Treasure of Mine in KMD FORUM

Version 3

Version3 is most similar version with the final game. In version3, the whole game structure was completed and most of the problems appeared in the prototype test before were revised.

There are five people participated in the last time prototype test, and two of them have joined the first prototype test. Results that players demonstrated are quite positive toward the expectation in mainly four aspects:

1. Animation in storytelling part are much more welcomed by players, comparing with the test result from first time. And players can understand the plot in new animation more clearly and patiently.

2. Players are less confused in radio episode. The note hidden in album can lead players notice that it was a clue about the frequencies wrote in chronological order.

3. With the special effect, players were more easily to find button and use UI system easily in this game.

4. The Chinese style nostalgic feeling in game is conveyed to players successfully. Most players mentioned about that the story and memories in game reminded the family memories and old stories from their parents or grandparents. And three players showed surprising and exciting emotions when they saw the food stamp appeared in game. “ *Although I did not experience the period paying things by food stamp, but as a Chinese, I still feel nostalgia and exciting when I saw this thing appearing in a game.* ” , said by one player.

While most players showed positive attitude to version3, there were still a serious design problem need to be fixed in food stamp episode. Some players expressed confusing when they faced with the photos in album and food stamps beside. The design of photos were not clear enough to let player realize that different with the first two episodes they need to drag the object to a specific position but not click in this part.

Inspired by the suggestion from players, dotted lines which made a contour of food stamp were added to the hand part of NPC in photos. By this way, a message that there need to be put something on NPC ’ s hand are expected to convey to players.

Table 3.5 Script List

| Scrip | Method | Purpose |
|--------------------|------------------------|---|
| PointInOutChange | pointin() | Change button ' s texture when mouse points in |
| | pointout() | Change back to original texture when mouse points out |
| Buttontoscene | onClick() | Go to specific scene when button is clicked |
| Camera | IEnumerator Test() | Call the using of camera |
| | OnGUI() | Put camera frame on specific position |
| ChangeButtonImage | onClick() | Change button ' s texture when clicked |
| Chapterpassword | checkchapterpassword() | Check password, if it is right answer, show the image of opened box, and go to next stage |
| Dragsubject | update() | Make sprite can be dragged |
| DragtoPosition | update() | Check if the sprite are dragged to a specific position, if true, show hidden image |
| Hidething | setActive() | Show hidden sprite |
| | setInactive() | Hide sprite |
| Imagechange | update() | Change image sprite on screen per 0.5 second |
| Playagain | onClick | Play video again from the first frame |
| Playpause | onClick | Go on playing a video from p-aused frame |
| VideoPause | update() | Stop playing video in specific frames |
| Videotonextscenece | update() | Go to a specific scene when arrive the last frame in a video |

Table 3.6 Basic Information of prototyping test players

| Age | Gender | Type of Play |
|-----|--------|------------------------------------|
| 29 | Female | Puzzle adventure game |
| 24 | Female | MMORPG game |
| 25 | Male | RPG game, Puzzle Adventure game |
| 27 | Male | RPG game |
| 25 | Female | MMORPG game, Puzzle Adventure game |

Table 3.7 Setting of prototyping test

| | Date | Location | Participant | Test Part | Equipment |
|---|----------------------------|-----------------------|-------------|---|--------------------------|
| 1 | 10/20/2018 | KMD 3F | 2 | Prologue Chapter of Letter | PC Mouse |
| 2 | 11/02/2018 - 11/03/2018 | KMD 2F (KMD FORUM) | Guests | Prologue Chapter of Letter Chapter of Radio | PC Mouse Notepaper |
| 3 | 11/13/2018 - 11/15/2018 | KMD 3F | 5 | Whole Game | PC Mouse Notepaper |

Chapter 4

Evaluation

Proof of content of The Treasure of Mine project will be discussed in this chapter. The evaluation part in this chapter is divided into two sections:

- Proof of Concept
- Result of Proof of Concept

In Proof of Concept part, the information of participants, settings of test environment and measure method will be listed. The feedback from prototype test and revisions of game will be recorded in Result part. The result collected from proof of content will be discussed in four aspects: general finding, game design, knowledge and curiosity gained from game, and understanding building with parents.

4.1. Proof of Concept

4.1.1 Sample

There were five players involved in the proof of concept period. As the target audience of The Treasure of Mine project has been discussed in chapter 3.3.4, these five participants were selected as meeting all qualifications of being a target audience for this game: they are all coming from China, and born between 1990-1994, with different level of gap problem within their family. In addition, the parents' birth age of these players are almost between 1960-1970, which is also according with the story design setting in this game.

Basic information of participants in proof of concept is showed in table 4.1.

Table 4.1 Basic Information of Proof of Concept players

| Age | Gender | Generation gap level | Birth year of father | Birth year of mother | Knowledge level of 1970s-80s |
|-----|--------|----------------------|----------------------|----------------------|------------------------------|
| 28 | Male | 4 | 1954 | 1965 | 5 |
| 27 | Male | 4 | 1962 | 1963 | 3 |
| 25 | Male | 2 | 1962 | 1970 | 2 |
| 28 | Female | 2 | 1966 | 1962 | 4 |
| 25 | Female | 4 | 1963 | 1963 | 3 |

4.1.2 Method

The procedure of proof of concept can be divided into four sections: before play, during play, after play, and return visit. Totally five groups of data were collected during proof of concept period with one solo player in each group.

Before a participant is asked to play game *The Treasure of Mine*, an interview is conducted to clarify the basic information of him or her. Contents of interview are included:

- Self assessment about gap problem level within family. Players will be asked to evaluate the generation gap within in their family with number from 1 to 5, which means few gap to serious gap and they will also be interviewed about the manifestations that can let them feel the existence of gap between them and their parents.
- Self assessment about knowledge level to the time period of 1970s-80s in Chinese society. In addition, players are also expected to tell about the access to those kind of knowledge.
- Impressions about the time period of 1970s-80s in Chinese society.

During play, the behaviors and confusing questions happened while participants are playing game will be observed and recorded.

After participants finish playing game, another interview will be conducted, which included several new questions:

- Players' feeling about the game experience, including the favorite episode and the most impressive aspect in game.

- Players are asked to evaluate that if they gained any new knowledge or arouse curiosity about the objects or memories from past period or not.
- The willingness of having a conversation with their parents about the past time.

A return visit would be carried out a week later after playing game. Players who demonstrated willingness to communicate with parents are interviewed again, and expected to speak out their feelings of having a nostalgia topic with their parents.

The whole questionnaire will be attached to the appendix part.

4.1.3 Setting

- Date: 11/26/2018- 11/30/2018
- Location: KMD 309Room/ Player's home
- Equipment: PC, Mouse, Notepaper
- Participant: 5 people

4.2. Result: Proof of Concept

4.2.1 General Finding

All players completed the game by themselves, though two players asked for a hint in radio episode. Totally five groups of data are collected by the end of proof of concept test. As mentioned in section4.1.2, since all five players are meeting all qualifications of target audience of this game, data collected in this period can be taken as true and effective results of The Treasure of Mine project. Before the detailed results are discussed in section4.3.2-4.3.4, some general findings from interview and questionnaire before game play part will be described in this section.

- Self Assessment of Family Gap Problem

Through the self assessment of family gap problem, three players chose level4, while other two evaluated themselves as level2. In the case of level4,

which means quite serious gap problem exist, key words like *"differences in opinions"*, *"digital divide"* and *"stubborn thinking"* are said to be the main reason that caused the gap problem in their families by players. Complaint like *"we always have different ideas with each other"* and *"We do not have shared topic or interest"* occurred frequently during the first half of interview. While, in the case of level2, the gap problem eases a lot. Players who chose this level described their parents with *"opened mind"* and *"talkative"*, and they also talked about some regular topic within their family, for instance, news or life. However, similar with level4 groups, digital divide and difference in opinions are also mentioned by them.

In general, the digital divide and difference in opinions seems like a shared reason to gap problem within families. And although both level4 group and level2 group mentioned about the problem of lacking of shared interest and topic, it is much more serious in the case of level4 group, which also indicated that the lack of communication can be a intuitive expression of generation gap problem.

- Access to Basic Knowledge of Past Period

When asked about the access to knowledge about the past life, though the answer about *"from parents or grandparents"* is mentioned most times by all players, most of them emphasized that they were forced to listen those things during family reunions, and they never thought about to ask their parents to tell them any family stories or memories of the past on their own initiative.

- Impression of Past Period

In the term of impression to the past life in 1970s-80s social period, it indicated a tendency of using negative words to describe their image in mind. Suffering, destitution, boring are the highest frequency words mentioned by players. However, for those two player who have more knowledge to the past society, which means they evaluated their knowledge as level5 and level4 in the questionnaire, showed a more objective attitude to the past society. Player who evaluated himself as knowledge level5 said, *"I think the life in that period should be very old and backward style, but I think the history and*

things happened at that time are very interesting and valuable since there are so many differences compared with the life nowadays” .

4.2.2 Game Design

The first three questions in the interview after playing game associate with the game mechanics design and game experience design of The Treasure of Mine project.

For the answer of the first question: “ Do you enjoy playing this game ” , all players gave good reviews about it. Words like “ *interesting* ” , “ *nostalgic* ” are used to describe the game experience of The Treasure of Mine.

When asked to choose a favorite episode, three players picked up the Chapter of Radio without any hesitation. The game mechanics of radio part seems to be a successful design, which are welcomed by players based on their reaction during game play and interview afterwards. Such as the small button of FM and SW switch, almost every players gave an exclamation of surprise when they figure out the detail mechanic designed for the radio part. According to players’ words, fulling of interactive game mechanics should be the leading reason of their love to this episode. “ *It makes me feel like I’ m really using and playing with an old radio, I love this kind of feel so much!* ” , said by one player who fond of the Chapter of Radio.

Besides of radio, there are other two players choosing food stamp episode as their favorite. Different with radio episode, “ *meaningful* ” , “ *good concept* ” are mentioned to explain their love with Chapter of Food Stamp. One player indicated that the puzzle design of food stamp part conveyed a clear idea of exchange to him, which he said “ *The exchange idea through the puzzle solving part makes me feel like I’ m really using those food stamp to do trade with people.* ”

The last interview question for game mechanic design part is “ What is the most impressive part for you while playing this game ” . Album part and concept of game are mentioned in most times by players. For the album part, the animation and memories are liked by players, and one player used “ *vivid* ” to describe the memories designed in album part, while another player said that, “ *It recalls the old family stories from my grandmother, I really enjoyed reading those memory stories in this game.* ” Meanwhile, theme of this game also gains positive

reviews from players. Same with the discussion mentioned in the related word part (Chapter2.3.4), one player indicated that it was the first time he played a game with the content from the old time period of Chinese society. And another player said, “*I like the purpose of this game, I believe it can make people think more about the past life.*”

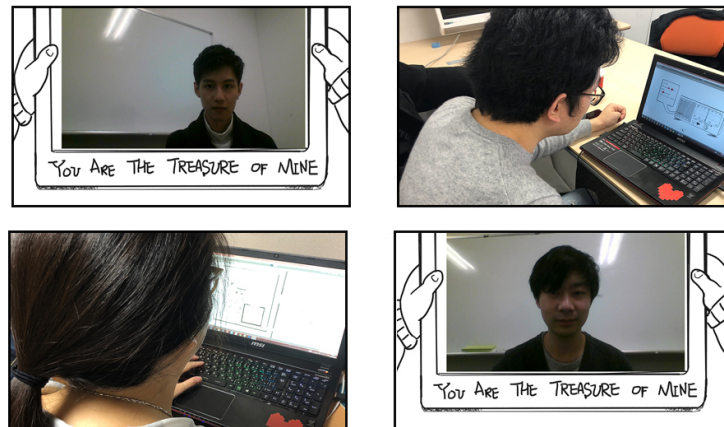


Figure 4.1 Players in Proof of Concept

In general, the reviews from players indicate a quite optimistic result of game design and concept design. Based on those words from players, main ideas involved in chapter design as discussed in Chapter3.3.7, especially the radio episode and food stamp episode, are conveyed to audience successfully. However, due to the difficulties accompany with complex mechanics, some players who are not good at puzzle adventure games expressed that they felt a little bit hard and confusing during the puzzle solving part in radio episode, while some other players have some complaint about the easy mechanics designed in food stamp episode.

What is more, although it is not mentioned above, the storytelling part of The Treasure of Mine are also welcomed by players. Three players mentioned that they liked the story told by this game in interview, and one said he thought this story reflect the real family relationship between parents and child, “*You know, the way Chinese express their love is too implicit to notice,*” said by one player, “*Parents and children do love each other, but they just can not express it in a easy way.*” The last scene of game surprised every player during the proof of concept

period, most of them showed a shy but understanding smile when they looked at the words “ You are the true treasure of mine ” .

4.2.3 Knowledge and Curiosity

There are two questions designed for figuring out the if the game ’ s capability of enlarging knowledge and arousing curiosity achieve the expectation or not:

- “ Have you gained any new knowledge about the past period after play this game? ”
- “ Are you curious about those things, stories or memories in the past when you finished the game? ”

Players showed ambiguous attitudes towards the first question. Not as positive as expected, most players expressed that only limited new knowledge attaches to objects in game are gained, and a player who evaluated the knowledge level as 5 before playing the game said that there was no new knowledge for him, since he had had plenty of knowledge of that time period. However, players also indicated that although their knowledge was not enlarged by this game, some detailed knowledge brought by the text contents in album part did deepen their knowledge in some specific aspect. For instance, one player who evaluated his knowledge level as 2, said that “ *I thought there was only one kind of food stamp, but after the game I found it ’ s not fact.* ”

Different with the first question, no matter with the individual knowledge level, all players gave a positive answer when they were asked the second question. One player said, “ *The memories in this game makes me realize that the lifestyle in that period is quite different from nowadays, which is very interesting, and I want to learn more about that.* ” In addition, the player who is knowledge level5 indicated that it was nothing but his knowledge making him feel more interesting about the memories and objects appeared in game. He told about that, “ *Personally, because of those knowledge I have learned, I enjoyed more while I was playing this game. I can relive those things and memories I learned from tv or internet by myself, which is amazing.* ”

Overall, according to the interview, for player who has had plenty of basic knowledge of the past Chinese society, the capability of enlarging knowledge in game is hardly to be effective. And for those players who have low basic knowledge level before playing, the contents in The Treasure of Mine show ability to help deepen their knowledge than enlarge it. While, all players admitted that the game did inspire their interests and curiosities in exploring past memories. In addition, comparing with the general negative impressions before start playing, all players showed a much more positive attitude to the memories and objects from the past social period during the interview.

4.2.4 Understanding Building

The last question and return visit part are closely related with the goal of The Treasure of Mine project, which is understanding building with parents.

When asked “Do you want to know more about the past time by talking with your parents?” by the end of the interview, four players demonstrated their willingness to have a try for it. While, one player with the level4 gap problem insisted that he did not have such will to talk with his parents, though he also expressed his curiosity to the past social period showed in game. “*I did become more curious about the social appearance in that period, but not exactly to the past of my family*”, which he explained that compared with talking with his parents, he prefers learning and researching by himself.

Return visit was conducted a week later after interview, all of four players who showed willingness during interview finally had conversation with their parents about old objects and memories of their own families. When they were asked how they feel about this conversation, no matter with the generation gap level, all of them expressed that they atmosphere of their family talking for this time was very nice and harmonious. In addition, players also mentioned about the high passion of their parents during the sharing memory activity. “*My father told me a memory about Educated Youth. He said he was sent to countryside as Educated Youth when he was in high school,*” one player retold the story of his father to me with excitement, “*I found it interesting to hear those story of his early age, he was so active at that time. He changed a lot.*”

In general, a positive attitude is showed toward the capability of inspiring a new

topic for players, and also the possibility of helping establish further understanding between players and their parents. By playing game The Treasure of Mine, totally four out of five players finally had a memory sharing activity with their parents, and three players expressed their willingness to keep it as a regular topic within their families. As discussed in Chapter2, since a good and harmonious communication across generation group can help establish better understanding between different generations, the result of return visit shows a hopeful signal of this game to help build a better understanding and improve the family relationship.

Chapter 5

Conclusion

This chapter is the end and conclusion part of The Treasure of Mine project. The conclusion of the design concept will be discussed in the first section. Unsatisfactory component that observed during the proof of concept test within this game will be concluded in Limitation section. In the Future Work section, it will mainly discuss about the valuable feedback and possible improvement of this project.

5.1. Concept Validation

Beginning with a board idea of relieving generation gap problem within family, so many valuable things gained during the long experience in completing game The Treasure of Mine and also the thesis project. Going with the ideation, prototyping, development, and evaluation, finally, a milestone is arrived. Based on the findings and results achieved during the proof of concept, mainly four conclusions surrounding the concept of this thesis project are drawn in the end.

Firstly, from the reviews from players, the whole game design can be considered as achieving the goals of conveying the nostalgic feeling, sharing memories, expressing the true family love. During the test period, one of the most frequent word used by players to describe this game is nostalgia and memory. Most players expressed that this game changed their stereotypes toward the past society, and made them think more about past life. Additionally, evaluated by players as a real situation of Chinese family love, the storytelling part also plays a key role among the whole game.

Secondly, based on the evaluation result and response from players, it can be indicated that the interactive nostalgic objects appeared in game show a positive capability of arousing interest and curiosity in the knowledge and memory of

China's social appearance during 1970s-80s. Even though, most players had had quite negative impression to the past social period in the beginning as expected, the attitude of them are proved to be much more open-minded and objective after the game experience. In addition, although for those players who has had enough basic knowledge to the past, the aspect of enlarging knowledge is quite limited, the curiosity and interest inspired by the game experience are proved to be widespread among all players no matter with the basic knowledge they have memorized.

Thirdly, the will of having a topic of sharing memories and nostalgia with parents demonstrated by most players also shows a optimistic capability of this game that inspires a new topic within family. With the interest and curiosity gained from game experience, players are inspired by the content and story in game to find a new topic with their parents. According to the responses of return visit, the atmosphere of family communication were quite harmonious during the nostalgia talking and memory sharing time. Youth showed interest in listening while parents were willing to share and tell. By having such family conversations, an empathy relationship between children and their parents are bonded gradually through the common topic of nostalgia.

Last and most importantly, according to the feedback from return visit, some players mentioned about that they found some new aspects of their parents by having a nostalgia conversation, which made them believe that they had a better understanding of their parents. Since age gap can be a manifest obstacle of communication within family, memory stories can narrow the age gap between youth and their parents to a certain degree. This experience lets players realize that, without the identity of parenthood, their parents are also normal individuals who have their own growth development, valuable memories, and also secrete. Some fresh and unknown impressions of parents are conveyed to young people when the memories and stories of parents' youth are shared during the family conversation.

Overall, as a solo puzzle adventure game designed from the perspective of young people, though *The Treasure of Mine* can hardly improve the family relationship between youth and their parents directly, the results from proof of concept interview and return visit have indicted that this game shows an optimistic potential possibility of helping build a better understanding with parental generation by

inspiring youth ' s interest in exploring the nostalgic object and ordering them a memory sharing topic within family.

5.2. Limitation

Although the whole game design and also concept of The Treasure of Mine project can be considered as a success, there are still some problems and weak spots appeared during evaluation period. Two major limitations will be mainly discussed in this section.

- Enlarge Knowledge

The limitation in capability of enlarging knowledge can be the foremost in this game. Due to the underestimation of basic knowledge level of players, in the term of enlarging knowledge, it showed an unsatisfactory result from players. According to feedback collected, the lack of quantity in episodes can be taken as a manifest reason to this problem. However, since more episodes and objects can cover more knowledge aspects, it indicates a possibility to solve this problem by adding extended episodes, which will be discussed in chapter5.3.

- Device

For now, this game are only served for PC platform, which means players can hardly play it anywhere they want. Additional, some feedback from forum guests also expresses players' willingness to play and interact with game objects by finger on their smart phones.

5.3. Future Work

The Treasure of Mine project is coming to a conclusion as it has already achieved at a milestone, however there are still some possible improvements can be implemented in this game as the future work.

- Extended Episode

More episodes are expected to be designed in the future work. Since so many nostalgic objects are still needing to be explored by youth, more memories and stories will be planned to add in this game as extended episode, for instance, the abacus, desk clock, and also sewing machine. More aspects in the appearance of past social period will be expected to present in game.

- Mobile Platform

Although this game only serves in PC platform so far, it indicated a possibility of transplanting into mobile platform as a mobile game. The interactive part of game will be also revised to be more supportive for touch operation.

- Customize Mode

Customize mode in this game is under preparation. The main idea of customize mode is working as an extended concept to support the story mode, which in this new mode, a chance of family communication will be ordered directly to players and their parents. Different with story mode that refers to the game discussed in this thesis, customize mode will be designed as an extra multi-player part of this game. In customize mode, parents and youth are recommended to create their own nostalgic object episode together based on their own family memories. After a customize episode is completed, player can choose to release their creation and share their own family memories with other players. Since precious memory and valuable objects are very different from family to family, more and more interesting, nostalgic and moving memory stories are expected to be read and played in customize mode.

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Appendices

A. Opening Words from Young

Have you ever seen those old photos of your family?

Have you ever imaged the life your parents lived when they were just at the same age as you?

Hi! My name is Young. Thank you for coming here to hear my story.

Before I start telling my stories, I have a question for you.

Have you ever thought about those two questions you saw in the beginning?

By the way, my answer had been NO. And I experienced something that changed my mind.

Come on! Let me tell you my stories!

B. Memories in Album

B.1 Letter Episode

Page1

When I was your age, I didn't have WeChat or Line or any other SNS service like you are using nowadays. In fact, we didn't have any mobile phone, or computer at all.

Therefore, when I want to connect with someone far away from me, the best way should be writing a letter to him/her.

(By the way, I wrote lots of letters to your mom at that time.)

Page2

I don't know if you know how a letter is sent by post office. If not, as your father, I want to share some of my knowledge with you.

Before your letter is delivered, the stamp you put on envelop will be canceled by the post office, and they will put a post stamp on it. A post stamp can show the date they deliver the letter, and also the code or area of this post office.

B.2 Radio Episode**Page1**

Every morning, 6:30am, my father who was your grandpa, would turn on the radio, and listen to the news channel, which marked a new day beginning.

Page2

Broadcasting by radio takes several forms.

With each forms, a radio can receive a range of radio frequency, which means you can listen to different "channels" by switching the radio frequency.

Page3

"Every morning, my father would listen the new channel."

"Before I went to school, I would listen some music."

"In the afternoon, your grandma liked listening those popular novels."

"After school, I would like to listen those programs about movies."

"In the evening, our family would set together, and listen today's news during our dinner time."

B.3 Food Stamp Episode**Page1**

When I was a child, your grandma would take me to the grain store, and bought rice, flour, and oil by those special stamps.

Your grandma was always sharp with the scale, to make sure they didn't give short weight to us.

Page2-5

"I need to buy some meat!"

"I need some flour."

"My wife told me to buy oil..."

"Rice please."

C. Asset List

C.1 Chapter of Radio

Figure C.1

C.2 Chapter of Food Stamp

Figure C.2

D. Questionnaire in Proof of Concept

Before Playing:

1. Assess generation gap problem in your family. [1(light)–3–5(serious)]
2. Can you tell me those moments that let you feel the gap problem between you and parents.
3. How much do you know about the time period/ social environment when your parents was young? [1(little)–3–5(much)]
4. Where did you learn about those information or knowledge about past?
5. Tell me about some impressions when mentioned about those old time thirty or forty years ago.

After Playing:

1. Do you enjoy playing this game?
2. Please tell me the chapter you like best, and why?
3. What's the most impressive thing for you while playing this game?
4. Do you think that you gained some new knowledge or new opinion about the past after play this game?
5. Are you curious about those things or stories or memories in the past after play game?
6. Do you want to know more about the past time by talking with your parents?

Return Visit:

1. Did you have a talk with your parents about memory sharing or nostalgic objects?
2. How was feeling when you talk with your parents about their memories?

| Episode | Scene | Assets | Category | Purpose | |
|------------------|-------------------|-------------------|-----------|-----------------------------|--|
| Chapter of Radio | StartScene | Background | Graphic | | |
| | | Start | Button | Go to Chapter2Opening scene | |
| | Chapter2Opening | Chapter2Animation | Animation | | Young found another box |
| | | NextPage | Button | | Go on playing |
| | Chapter2MainScene | Background | Graphic | | |
| | | Album | Button | | Go to AlbumPage1 scene |
| | | Box | Button | | Go to Box scene |
| | | Radio | Button | | Go to Radio scene |
| | Radio | SwitchFm | Button | | Switch radio to Fm mode |
| | | SwitchSw | Button | | Switch radio to Sw mode |
| | | Knob | Button | | Adjust frequencies and show matched programs |
| | | RadioProgram | Graphic | | Content of radio programs |
| | | Back | Button | | Go to Chapter2MainScene |
| | AlbumPage1 | Photo21 | Animation | | Show grandfather was listening to radio |
| | | Text content21 | Graphic | | Describe memory of Photo21 |
| | | Nextpage | Button | | Go to AlbumPage2 scene |
| | | Back | Button | | Go to Chapter2MainScene |
| | AlbumPage2 | Photo22 | Animation | | Show instruction of radio |
| | | Text content22 | Graphic | | Describe the instruction of adjusting frequencies of radio |
| | | Nextpage | Button | | Go to AlbumPage3 scene |
| | | Previouspage | Button | | Go to AlbumPage2 scene |
| | | Sticker | Button | | Show ClueMemo2 |
| | | ClueMemo2 | Graphic | | Show clue of frequencies of this chapter |
| | | Back | Button | | Go to Chapter2MainScene |
| | AlbumPage3 | Photo23 | Animation | | Show radio in family members' daily life |
| | | Previouspage | Button | | Go to AlbumPage2 scene |
| | | Back | Button | | Go to Chapter2MainScene |
| | Box | Lock | Dropdown | | Combination of locked box |
| | | Box | Graphic | | |
| | | Notification | Graphic | | Appeared when password is wrong |
| | | OpenedBox | Graphic | | Show when password is right |
| | | Open | Button | | Check password inputed |
| | | Back | Button | | Go to Chapter2MainScene |

Figure C.1 Asset List of Radio Episode

| Episode | Scene | Assets | Category | Purpose |
|-----------------------|-------------------|-------------------|-----------------------------|---|
| Chapter of Food Stamp | StartScene | Background | Graphic | |
| | | Start | Button | Go to Chapter3Opening scene |
| | Chapter3Opening | Chapter3Animation | Animation | Young found the last box |
| | | NextPage | Button | Go on playing |
| | Chapter3MainScene | Background | Graphic | |
| | | Album | Button | Go to AlbumPage1 scene |
| | | Box | Button | Go to Box scene |
| | AlbumPage0 | Photo30 | Animation | Grandmother was buying food by paying food stamps |
| | | Text content30 | Graphic | Describe the memory of Photo30 |
| | | Nextpage | Button | Go to AlbumPage1 scene |
| | | Back | Button | Go to Chapter3MainScene |
| | AlbumPage1 | Photo31 | Animation | Grandmother needed to buy meat |
| | | FoodStamps | Graphic | Able to be dragged |
| | | Photo31clue | Graphic | Appear when correct food stamp are dragged to Photo31 |
| | | Nextpage | Button | Go to AlbumPage2 scene |
| | AlbumPage2 | Back | Button | Go to Chapter3MainScene |
| | | Photo32 | Graphic | Father needed to buy flour |
| | | FoodStamps | Graphic | Able to be dragged |
| | | Photo32clue | Animation | Appear when correct food stamp are dragged to Photo32 |
| | | Nextpage | Button | Go to AlbumPage3 scene |
| | AlbumPage3 | Back | Button | Go to Chapter3MainScene |
| | | Previouspage | Button | Go to AlbumPage1 scene |
| | | Photo33 | Graphic | Grandfather needed to buy oil |
| | | FoodStamps | Graphic | Able to be dragged |
| | | Photo33clue | Animation | Appear when correct food stamp are dragged to Photo33 |
| | | Nextpage | Button | Go to AlbumPage4 scene |
| | AlbumPage4 | Back | Button | Go to Chapter3MainScene |
| | | Previouspage | Button | Go to AlbumPage3 scene |
| | | Photo34 | Graphic | Mother needed to buy some rice |
| | | FoodStamps | Graphic | Able to be dragged |
| | Box | Photo34clue | Animation | Appear when correct food stamp are dragged to Photo34 |
| | | Back | Button | Go to Chapter3MainScene |
| | | Previouspage | Button | Go to AlbumPage3 scene |
| | | Lock | Dropdown | Combination of locked box |
| | | Box | Graphic | |
| | | Notification | Graphic | Appeared when password is wrong |
| | OpenedBox | Graphic | Show when password is right | |
| | Open | Button | Check password inputed | |
| | Back | Button | Go to Chapter3MainScene | |

Figure C.2 Asset List of Food Stamp Episode