

# 國立交通大學

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碩士論文



最後一件禮物：面對死亡而準備的紀念性物品

Last present : An Opportunity for preparing a memorial object for the loved ones  
before death

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中華民國一〇一年三月

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## 摘要

死亡對每個人來說，是一個無法避免與自己所愛的人分離的事件。過去心理學的研究也指出，人們在面臨死亡心理上會有許多階段，在經歷了抗拒的階段之後，人們會開始回顧過去的生活並且和家人分享回憶，並開始與家人道別。此研究收集使用者在面對死亡時，準備紀念性物品的需求與看法，並分析物品與人之間的關聯與留下各種物品背後的動機。從離去者的觀點出發，獲得使用者與親人之間建立新連結的方式。

這項研究共可分為三個階段，第一個階段為深度訪談，希望了解使用者留下物品的動機以及對這項紀念性物品的期待，並在訪談中提供現有的相關服務，獲得使用者對於死亡有關之紀念性服務的看法。第二階段則是藉由日誌研究的方式，蒐集使用者真實生活中的物品以及使用者與親人之間的關係。最後一個階段，從資料分析的結果中此研究提供設計的策略與應用，藉此提供設計師未來設計相關紀念性服務時的參考。

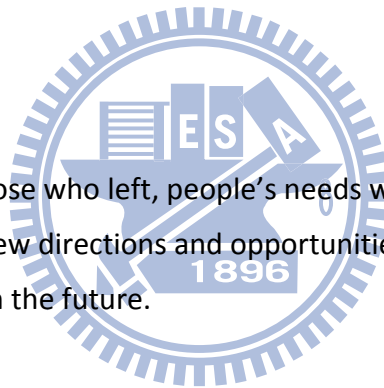
此研究根據使用者所提出的看法，提出當人們面臨死亡時，使用者所期望與家人之間關係的變化與各個不同程度與目的的自我典藏方式以及在準備這項紀念性物品時，這項紀念性物品對使用者本身的意義，從使用者所提出的困難點與機會點，在未來相關設計的服務上，幫助產出更貼近使用者需求的紀念性服務。

## Abstract

In this study, the memorial objects which people prepared for their loved ones when they face death was discussed. Through interviews and cultural probes, their opinions and their purposes in regard to these relics was investigated. Meaningful items in their lives were also collected to clarify the relationship between the users and the meaningful objects. During the process of their preparation, some problems and difficulties people encountered were also discussed.

According to the results, the transformations of the relationship and different levels of self-preservations were proposed. The research also provided a few design suggestions and examples for designers when designing memorial products or services.

From the perspective of those who left, people's needs when they face death were gained; it provided some new directions and opportunities for designers when design memorial services in the future.



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回首這三年半的研究所時光，是我人生中最充實與學習過程中最快樂的一段日子，感謝所上提供這樣一個自由又豐富的學習環境，讓我可以選擇我想學習的方向與目標。應藝所就像一個大家庭一樣，包容我們以最自在的方式生長，成長成自己想要的樣子，就像我當初面試時對於應藝所的憧憬一樣，在這裡我過得既充實又快樂。

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# Chapter 1 Introduction

## 1.1 Background

Since more and more cancer patients were diagnosed, how to help people go through the days before death were the main task of this research. Without exception, death is an event of being separated from loved ones. When facing death, with the urgency of limited time, people are also aware that they will never have another chance to communicate with their loved ones. The limit of time makes people panic but also activates the process of preparing something for their loved ones. Psychologically, there are several stages people undergo when facing death: after experiencing the feeling of resistance and then truly accepting the inevitability of death, they would review their lives and share their memories with their family in bidding them farewell (Maeda, Hagihara, Kobori, & Nakayama, 2006). In this situation, what kinds of symbolic objects would people leave for the sake of remaining within their loved ones' hearts and memories, as well as present their hopes of retaining a connection between themselves and their loved ones through the memorial relics.

People tended to build a new connection with their families which were about to be lost; they believed that there will be a different space for their loved ones, such as heaven, where they can dream of their families and have dialogues with them. The development of a bond is conscious, dynamic, and changing (Silverman, Klass, & Nickman, 1996). In this research, the main purpose focused on the perspectives of those who left. Most of the people have the experiences of bereavement, when they face to the death by themselves, they will imagine the grief of their loved ones and trying to do something to release the grief and help their loved ones to develop the new bonds. From this perspective, how to help people keeping something they think important are valuable, in previous studies, we found that people have a need to leave something for their loved ones. There are different kinds of motivation people want to prepare the gift. How can we help people to prepare the gift as their wishes if the time is limited? The threat of death or separation can initiate a bereavement reaction (Lindemann, 1944), people will start the preparation when they feel running out of time.

According to the research before, people want to bid farewell with their family and friends, with this process of speaking out their hope and their concern of their family, they can feel the release of leaving their loved ones. The memorial objects that suggest in this research are trying to help people to leave this last message and express their feelings. There are many different kinds of media that can help people to leave the message. Traditionally, people used letter or some personal items to tell their feeling or their expectations. How to attach the emotion to the objects that can represent the feeling of being part forever is the main task of this research.

## **1.2 Motivation**

Most of the existing memorial services were designed for those who lose their loved ones, these services were designed for bereavement and trying to help people go through the grief. In order to help those who are facing to death and trying to leave something for the family and friends, from their perspective, this research focus on the expression of the last message. How can people maintain themselves in the hearts of the loved ones and stay in the connection with those they loved[1][5]?

Traditionally, people left personal items such as rings, watches, clothes or diaries for their family. These intimate items made their family feel honored, serving as a commemoration, and preserved the identity of the deceased(Hallam & Hockey, 2001). As technology advances, some people chose to leave images, videos, their blogs, or even a digital player embedded in their tombstone. Several related projects offered the potential to combine physical likeness with storage of information, such as a simulation of a human life or an artifact with embedded information(Lombard & Selverian, 2008). The combination of physical artifact and digital content has initiated many new design directions; the final message can be properly preserved for future generations in a family, or for the whole world, in a more interactive way.

Besides, as technology advances, it is easier for people to preserve their live records, when they face to death, these live records can be used to tell who they are and their life stories. These life records can be easily preserved perfectly. People can also use these digital materials to share their memories with their loved ones. The

opportunity of using digital material to enrich the experience of sharing the life experiences with other people is also discussed in this research.

### **1.3 Objective**

In this research, the main purpose is to help people say goodbye to their family and help them release the grief when leaving their loved ones. The need when people face to death from different aspect was discussed in this research, what kind of the object they like or what is the purpose of leaving such a memorial object behind?

In this research, “memorial objects” were defined as something that people prepared particularly before they left. Different from “relic”, the memorial object could be regarded as a gift that people can combine the content and the important object in their life for their loved ones.

Through this research, the expectation of the people who thought about the gift could be collected and analyzed for understanding the need and the reason behind, including the relationship between people and their loved one, the opportunity of using technology to help people express their feelings, the important objects in their lives and their expectation of this memorial gift. The findings in this project will be provided as design suggestions for designers interested in memorial services or products, and promote the new technology opportunities to create interactive memorial services or products. Through this study, the main task was to help those who try to leave themselves in this world at the end of their life, by completing the last gift and also a good souvenir for their loved ones. Is it a machine preserving messages and emotions, or a substitute of themselves? What is the meaning of these things in their mind? By studying the items and content preferred, the research looks forward to figuring out the best way of memorization people want for the loved ones.

### **1.4 Scope**

The main issue of this project is to discuss what would people leave for the loved ones when facing death, what are the purposes of leaving such objects behind and what is the best way for them to bid farewell to their family? The issue can be

discussed by two separate periods, first, people have to prepare this memorial object, second, their family will use this memorial object to recall their memory. In this research, the process of preparing this gift was focused. During the preparation, conduct, and completion of the process, the final message was combined with the artifacts for making a more complete expression from view of personal wishes and make use of digital technology to increase the interaction between these artifacts and relics.

Besides, the research only focused on the view of those who are leaving rather than those who are alive. It did not focus on releasing the grief of bereavement but knowing what people need if they are facing death. The research data was collected from those who tried to leave something for their loved ones, and assumed that they will leave some memorial objects or data for some reasons.

In this research, because of the difficulties of asking cancer patients to participate in the research, rather than gathering data from people who are dying, most of the participants selected in the research were healthy and they were asked to imagine if they are facing death. Different from those who are really facing death, the participants in this research are calm and relaxed, they can think about the problem without the pressure of time. Because the participants are only imagining this situation, the data collected in this research are close to the situation that people are facing death but they still have enough time to prepare something for their loved ones. From this research, we can understand the response of people when they face death, but due to the participants were only imagining this situation, the result of this research cannot show the effect of urgency of time when people face death.

Since cancer could happen in any age, the age of the participants were not restricted in this research, the participants were recruited from thirty to sixty years old. Due to the diversities of the age of participants, different needs of preparing a memorial object from different ages were also collected in this research.

## Chapter 2 Literature Review

### 2.1 Autobiographical memory

It is a truism in psychology that self and autobiographical memories are linked. People started to develop their self awareness and the self concept when they were a child. For example, parents often engage the child to talk about their previous experiences. Developmentally, children are learning the forms and functions of autobiography through participating in conversations about the past with adults, we find ourselves by sharing our memories and experiences with others. (Fivush & Haden, 2003).

Autobiographical memory may account for its long-term retention(Fivush & Haden, 2003). People imagine themselves to be responsible for their memories, we choose when to disclose or display our memories to others, either in the form of personal narratives or photographs (Hallam & Hockey, 2001).

#### 2.1.1 Episodic memory

Autobiographical memories are considered a subtype of episodic memory, which attempts to capture information such as “what”, “when” and “where”. Episodic and semantic memory where semantic memory was seen as a general knowledge base, common in form and function to that of many sentient creatures. In contrast, episodic memory is uniquely concerned with awareness of the past, it makes possible mental time travel through subjective time, from the present to the past, thus allowing one to re-experience one’s own previous experiences. Most forms of memory have nothing to do with the past, but the most important part of episodic memory is its specific in term of location of an event in time and space, and the specific awareness of personal experience – the feeling that “I was there, I did that.” (Fivush & Haden, 2003) (Tulving, 2002)

#### 2.1.2 Objects related to memory

As people think themselves to be responsible for their memories, autobiographical memories are developed. They tried to narrate themselves and their memory(Fivush & Haden, 2003). Objects are used as a clue lead to their memories. Mementoes,

memorials, words and artifacts can be understood as external cultural form functioning to sustain thoughts and images that are conceived of as part of the internal state of living persons (Hallam & Hockey, 2001).

## **2.2 Personal archive**

Personal archive helped people to preserve themselves, it is not only storage and retrieval of personal information, there were some reasons people preserved themselves, they preserved their live experiences for creating a legacy, sharing resources, confronting fears and anxieties, and identity construction.(Kaye et al., 2006)

### **2.2.1 Archive in home**

People also collect the object in their lives which they feel sentimental attachment, the sentimental objects found in home were regarded as evocative objects, biographical objects and sacred objects. People preserved something in their home, these objects were important for them, they used these objects to define themselves and showed who they are, they left something to honor the things they care about, they also used something to connect with the past, to record the important people and events, people also used some objects to frame their family and keep the connections with the family members, they also kept something important for their family member, people even preserve something in order to forget some event that makes them feel pain. (Kirk & Sellen, 2010)

### **2.2.2 Privacy after death**

When more and more digital content we collected in the daily life, it left large amount of digital identity footprint after people died, the collection of digital identities became a task that fell on the family member or friends. There are some services such as Legacy locker that help people shift their digital assets to their family. People tend to pass down key artifacts that constituted the social bonds with friends and family. There were more and more virtual artifacts, the research also tried to help people shifting the belonging of their digital assets for particular people or



group and pass them to receivers in more useful ways. (Massimi, Odom, Banks, & Kirk, 2011)

### 2.2.3 Thanatosensitivity

Thanatosensitivity is the concept that actively integrates the fact of mortality, dying and death into HCI research and design. As a result of widespread use of personal media devices or social network services, death was concerned in the context of using these computer systems, most of the technologies are not yet designed to engaged with the inevitable death of their users.(Massimi & Charise, 2009) From the aspect of thanatosensitivity, it provided a new opportunity to engage death into future design.

## 2.3 The mental process of Death

When people face death, a complex mental process is involved; death occurs beyond the boundaries of culture and historical moments, social norms and expectations, traditions and innovation(Silverman et al., 1996). There are 5 stages when people are dying: at the first four stages, they undergo different kinds of resistance, such as anger, refusal and grief. At the last stage, people go through a process of confirming their reason for being, in relation to the people close to them and take the opportunity to look back upon their own life, and talking about various memories with family members(Maeda et al., 2006). In our study, we focus on the last mental stage, helping people to bid farewell with their families or friends.

### 2.3.1 Preparations of dying

Death is biologically inevitable, but it also related to social effect. There are different kinds of fear when facing death, including fear of loss of self-fulfillment and self-annihilation , fear of consequences to family and friends and of loss of social identity, fear of the unknown and of punishment in the hereafter(Florian & Kravetz, 1983). People also want to imbue their lives with meaning when they aware death's inevitability, and different kind of people who have higher personal need of structure(PNS) or less PNS will act in different ways, individuals with high PNS would

maintain their life meaning following reminders of death, while those low in PNS would think life is more meaningless.(Vess, Routledge, Landau, & Arndt, 2009)

## **2.4 The meaning of objects**

Objects in our life are not simply tools for survival; they are also related to people's lives and memories. It is interesting that the emotional attachment appears to be more connected to the functionality of the device, than to the data it contains (Massimi & Baecker, 2010)

People want to make this object important to their loved one, there are different kinds of approaches for them to make the object meaningful and can impact the feeling of their loved ones.

### **2.4.1 Enhance the influences of the object**

In Csikszentmihalyi's research, people tried to use objects to show their status and to influence other people. There are some factors such as rarity, expense and the age of the object are used to make it important. These factors make the objects precious, and it shows their efforts of preparing the gift and they hope their loved ones can aware the rarity of this gift.

### **2.4.2 Representatives of self**

People used objects to represent themselves since they were a child, objects can stand for the status of a person and tell people's stories. In Csikszentmihalyi's research, status is also a form of power, it consists of the respect, consideration and envy of others. According to this view, objects are full of emotion and related to people's life. Objects can tell their life and their experiences, we can also find their lifestyle in the simple objects for daily use. On the other hand, objects can also used to emphasize people's individuality. In Csikszentmihalyi's research, symbols of the self, might stress the unique qualities of the owner, his or her skills and superiority over others. In this case the object serves a process of differentiation, separating the owner from the social context, emphasizing his or her individuality.(Csikszentmihalyi & Rochberg-Halton, 1981)

### 2.4.3 Interaction between objects and people

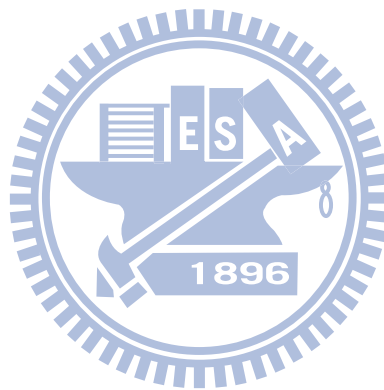
In Csikszentmihalyi's research, they proposed three different kinds of transaction between the connection of person and thing. The first kind of transaction is aesthetic quality, aesthetic experiences are not only for art objects but a potential element of all experiences. Interaction of objects has some influence on the experiencers' interpretation because of its own intrinsic qualities. Art objects have unique ability of producing new visual experiences, feelings, and ideas. For example, if a picture drawn by a child is cherished for this reason and not for what it looks like, the object is valued as a symbol of love or personal relationship. Art tends to be valued more for the symbolic context surrounding it than for the expressive possibilities of the object itself. The next dimension of the transaction between persons and objects is the flow of psychic energy, in Csikszentmihalyi's research, a certain amount of psychic energy is necessary when transaction occur, when it comes to psychic energy, attention plays the key role in serving to limit and direct psychic energy. When people select an object, they choose it from the surrounding environment. For example, people choose their furniture and decide how to decorate their living room, they pay attention to decide what they want to display for their guests. In this condition, they use their psychic energy to choose something to connect to themselves. The third dimension, the goal of transactions is related to the outcome of the transaction, these transactions reveal intentions or goal-directed purposes. The intention in the meaning of cherished possessions should also be take into account. Their goal or what they care about determines their behaviors, the process of cultivation is motivated by belief in goals held to be ultimate by individuals. There are different kinds of goal, any ultimate beliefs, like their religion, love, moral standard or truth can provide a energy for individuals to link with the objects.

### 2.5 Time related design

When people preparing this memorial object, there is no specific function of this object. The function of this product is highly related to time, it encourages users to reflect and think about themselves to enrich the content of the product. In Hallnäs & Redström's research, they explain as following:

*When computers become increasingly ubiquitous, some of them will turn from being tools explicitly used in specific situations to being more or less continuously present as a part of a designed environment. One of the aspects of this transition is that the time perspective changes from simply encompassing the moment of explicit use to the longer periods of time associated with dwelling. (Hallnäs & Redström, 2001)*

Good design was defined as tools that are easy to use, easy to learn, efficiency and immediate results. Slow technology is that we should use slowness in our design and give people time to think and reflect. Using slow technology should not be time consuming but stretches time and slow thing down. In Hallnäs & Redström's research, the basic principle of slow technology to amplify the presence of things to make them into something more than just a silent tool for fast access to something else. When it comes to digital media, it is easy to produce some visual products, but we should slow it down and preserve some space for users to dialogue with products.



## Chapter 3 Methodology

### 3.1 Research structure

In this research, objects and intimate people were used as a starting point, through a systematic user study process; people's needs can be explored when they are preparing the gift for their loved ones. Why people left something for their loved ones and what was the meaning behind the gift can be found.

Due to the sensitivity of such topic, especially in Taiwan, where most people regard death as a taboo and avoid talking about that. To deal with this dilemma, the target users were defined as those who have already purchased before-death contract, with the assumption that they have already thought of death before and made some preparations.

For the purpose of obtaining a thorough understanding of users, as well as their perspectives, related values and experiences, this project was carried out through two stages. Firstly, in-depth interviews were conducted to understand users' motivations of leaving things and their expectations of these artifacts. In order to make user to be prepared, respondents were asked to imagine preparing a final gift to their loved ones before the interview. Through the interview, the reason behind their opinion toward death could be collected. In this stage, existing services are also used to concrete people's idea and opinions, and also their preference. Secondly, it was assumed that these objects are highly related to people's daily life and the intimate persons around them, therefore, probes were used to collect the important person and objects in order to realize the context of their motivation to leave the objects behind. Respondents were also asked to prepare a last gift for their loved ones. By taking down the process by camera or diary, there was a chance to observe their purpose and the difficulties they met.

In this probe, it was also assumed that people care about preserving themselves, therefore, their personal lifestyle and what object they want to keep as a symbol of themselves were also collected. These objects can be used to represent themselves or represent their concerned of the family, as Csikszentmihalyi's research, the connection between the user and the object and their loved one was clarified in this

research. Through different user research method, their opinions and the objects in their life are collected.

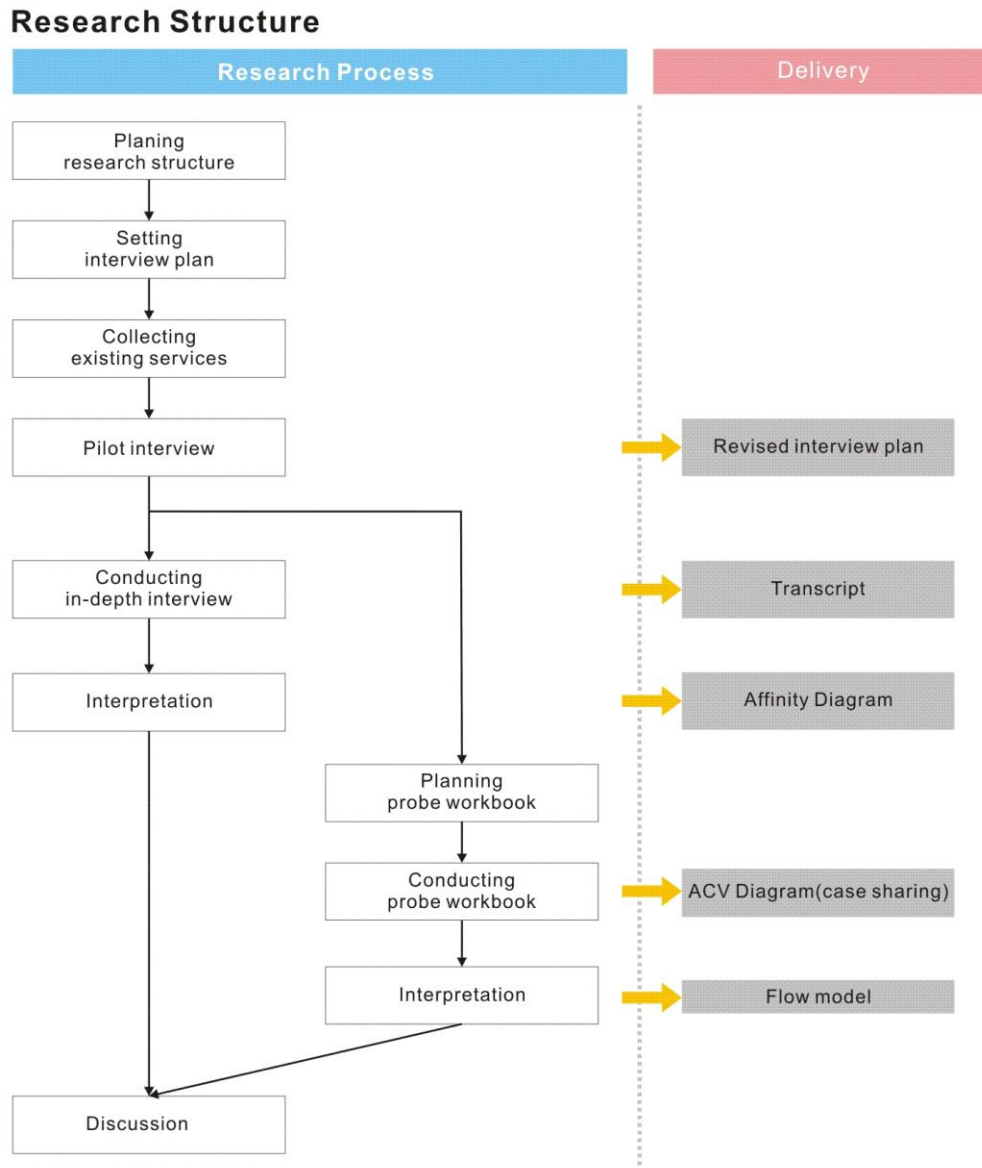


Fig 3-1 Research structure

### 3.2 In-depth interviews

The first part of the study was interviews about leaving memorial objects and preparing a last gift for the loved ones. In the interviews, two kinds of users were defined, "expert", people who have already thought of leaving something for their loved ones and having a plan for the gift; through interviewing "expert" participants,

their opinions and experiences about preparing this gift was collected. The other kind of user is "everyman", people who did not have this situation in their minds before; they did not have a clear vision, but still have some preference about this gift. In this research, one of the participants in the interview is a cancer patient, she was regarded as an "expert" and the interview focused on her experiences of preparing this memorial object, the other participants were regarded as "everyman" and the interviews were focused on their opinions and their expectation of this memorial object.

There were two parts of the interview: their opinions about preparing the relic and their views on existing services. Each session lasted 90-120 min and was recorded.

Due to the sensitivity of this topic, especially in Taiwan, where most people regard death as a taboo and avoid talking about it, in the in-depth interviews, on a specific group aged 35-60 who have already purchased before-death contracts was focused, with the obvious assumption that they have already thought of death and are more acceptable to talk about death. Seven people who have already purchased before-death contracts participated, 2 men and 5 women, covering a range of professions (teacher, housewife, customer service, merchant, office worker).

Table 3-1 List of participants of in-depth interview

<b>Number</b>	<b>Gender</b>	<b>Age</b>	<b>Occupation</b>
<b>Participant 1</b>	Male	35	Teacher
<b>Participant 2</b>	Male	44	Customer service
<b>Participant 3</b>	Female	54	Housewife
<b>Participant 4</b>	Female	53	Housewife
<b>Participant 5</b>	Female	62	Merchant
<b>Participant 6</b>	Female	53	Retired teacher
<b>Participant 7</b>	Female	57	Office worker

### 3.2.1 Preparations before interviews

From the pretest interview, most of the users do not have a clear idea about the gift, in order to obtain a more in-depth discussion; four parts of questions were given before the interviews.

Table 3-2 List of questions before interviews

Number	Question
<b>Question 1</b>	If you want to give your loved ones a gift before you leave, who will you choose to give this present?
<b>Question 2</b>	Please try to imagine this gift, what will it be? -Will the gift changed with the different target? -What will you do to make the gift more meaningful?
<b>Question 3</b>	In addition to physical gift, what contents will you leave? -In the process of preparing the gift, what data will be necessary to collect? -What is the purpose of collecting these data?
<b>Question 4</b>	What situation you want when your loved ones get the gift?

### 3.2.2 Interview Part 1 - Interview with their personal experiences and opinions

The interviews were started by questioning participants about the most precious things or the important person in their lives. Participants were asked about what they wanted to prepare for their loved ones and what contents they would use. The interview also focused on their reasons for leaving such a relic behind. There were five sections in the interviews. Firstly, participants were asked about their personal experiences and their motivations of buying the before-death contract, in this part, the main task was to understand their feelings and explore their need toward this memorial gift. Secondly, the interview was focused on the memorial objects, participants were asked about what kind of objects they will leave while they leave. Thirdly, participants were asked about their motivations about leaving this gift and





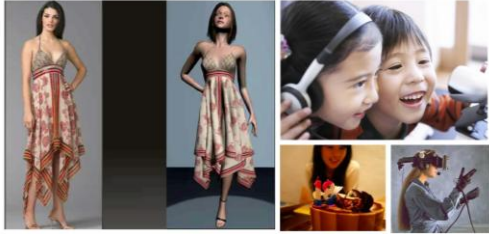
how can they transform the relationship with their loved ones toward this gift. Fourthly, in order to combine this memorial gift with digital contents, the content people want to preserve and the important memories in their life were also collected. Fifthly, during the previous research, people tried to gain control over other's psychic energy, according to this, the emotional part of this gift were also concerned. In this part, participants were about their ideal situation in their mind when their loved ones get this gift.

### 3.2.3 Interview Part 2 - Interviewing with existing services

In the second part of the interview, 8 currently available death-related memorial services were prepared in case sharing, each service was presented in an A5 size card with 2-4 related pictures and descriptions of the service feature. In this part, participants were asked to express their views of each service and choose three services they like and explain the reasons.

Table 3-3 List of existing memorial services:

Service image	Name and description	Service Feature
	<p><b>Vidstone</b> A digital media player that combines with tombstone, easy for sharing the memory and photos</p>	<p>Public, immovable digital content, Physical, Combination of tombstone, Permanent</p>
	<p><b>Medallion</b> A coin with bar code, people can access the photos and biography with their personal device</p>	<p>Indirect information, Private, Access data by internet, Immovable, Durable, Commemorative shape</p>



**Digital Ghost**

Create a virtual-self for their family to interact with virtual reality devices

Virtual, Interactive, Self-replication, Growth, Takes a long time



**Biography Service**

Help people to collate their biography into a personal biography book.

Private, Paper content, Personalize service, Interview based



**Mail for future**

A mail service that help people send mail to their friends in a specific date in the future.

Time-related, Private, For specific person, For specific date



**Web Memorial Service**

Web-based virtual memorial ceremony for people to show their concerned.

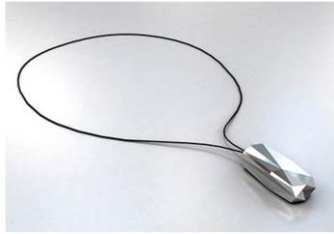
Virtual, Quick, Web-based, Young



**Treasures of life**

Diamond made with bone ashes.

High-price, Unique, Carry-on, High-quality, Combination of bone ashes



<b>Bone ashes container</b>	Functional,
<b>memory stick</b>	Combination of bone
Memory sticks with the	ashes, Carry-on, Data
storage of bone ashes	storage

---

### 3.3 Cultural probe

#### 3.3.1 Introduction of cultural probe

In order to obtain the emotional context between the participants and objects in their life, probe was chosen as a method to collect their lifestyle and their cherish objects. Probes are design oriented research toolkits that are based on self-documentation and invite users to share their experiences; probes are focus on users' subjective world rather than looking for specific answers from the users. In Mattelmaki's research, the most important reasons of using probes are enhancing design inspirations and gather information. (Mattelmaki, 2005) Probes are used to gather answers from any point of view especially when the design goal is fuzzy. Due to the convenience of media technology, the visual image of the real environment or object can also be collected easily to present the detail of their life. In the probes, participants are asked to note their everyday life, they can help researchers or designers to discover new design opportunities and broader the research problems.

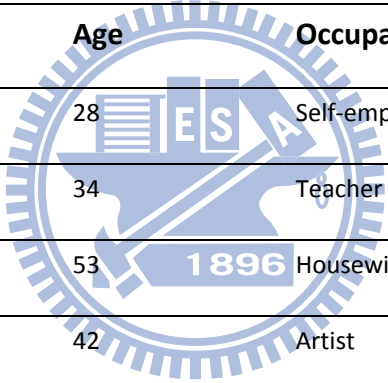
#### 3.3.2 Workbook plan

After obtaining the preference of the users in the interviews, it was found that when people face death, they concerned about sharing their precious memories with their loved ones more than preserving their lives. In order to obtain more information about the interactions between users and their loved ones in their everyday life, cultural probes were used to gather the information, including the people they cared about, the important things they preserved, the situation of the final moment they want and the personality they want to preserve. For the sake of making users comfortable and relieved when doing the workbook, non-invasive strategy was also

used in this research for better understanding the issue around death. A scenario of taking a train to outer space and never coming back was used instead of facing death. Besides, in order to have diverse opinion, the age of our participants is from 25-70 years old and not necessary to have a before-death contracts.

Nine people aged 25-70 participated, 5 men and 4 women; in order to collect the things in their lives, participants were asked to take photos of the objects they wanted to give to their loved ones and the things that can represent them. In order to understand their preferences for using technology to enrich the content of the relic, participants were also asked to choose the technology they might use. The data of the workbooks were collated into flow models, with the object they chose and their motivations.

Table 3-4 List of participants of workbook



<b>Number</b>	<b>Gender</b>	<b>Age</b>	<b>Occupation</b>	<b>Education</b>
<b>Participant 8</b>	Female	28	Self-employed	Master
<b>Participant 9</b>	Female	34	Teacher	Bachelor
<b>Participant 10</b>	Female	53	Housewife	Associate degree
<b>Participant 11</b>	Male	42	Artist	Bachelor
<b>Participant 12</b>	Male	47	Technician	Bachelor
<b>Participant 13</b>	Male	67	Retired	High school
<b>Participant 14</b>	Female	52	Administrator	Bachelor
<b>Participant 15</b>	Male	31	Sales	Bachelor
<b>Participant 16</b>	Male	31	Travel agency	Associate degree

### 3.3.3 Workbook content

There are 7 days divided into two parts in this workbook, in the first part, users were asked to imagine if they are going to leave in 6 days, what their wish will be and

what are they going to leave? On the last day, participants were also asked to imagine if they had already left their loved ones, what messages they will send to their loved ones via this memorial service.



Fig 3-2 workbook package



Table 3-5 Contents of the workbook

**Part A - Before leaving**

**Flight Diary – 6 days before departure**

距離乘車日還有 6 天 填寫日期 年 月 日

你好，距離搭乘興次元列車還有倒數六天，請問你目前最牽掛的人事物是什麼呢？

請貼上[附件包一]中的人形貼紙，並寫下你最牽掛的人：



這是誰？ \_\_\_\_\_  
為什麼牽掛？ \_\_\_\_\_

\_\_\_\_\_

想對他說什麼話呢？

\_\_\_\_\_

\_\_\_\_\_



這是誰？ \_\_\_\_\_  
為什麼牽掛？ \_\_\_\_\_

\_\_\_\_\_

想對他說什麼話呢？

\_\_\_\_\_

\_\_\_\_\_



這是誰？ \_\_\_\_\_  
為什麼牽掛？ \_\_\_\_\_

\_\_\_\_\_

想對他說什麼話呢？

\_\_\_\_\_

\_\_\_\_\_

只剩下六天了，你有什麼事情是必須要去完成的嗎？

請寫下你在搭車前必須完成的二件事：

第一件事： \_\_\_\_\_ 第二件事： \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

你希望用什麼方式與你親愛的家人或朋友道別呢？(請詳細是怎樣的場合、想要的情境、目的)

人	事	時	地	物



**What are they worried about before they leave?**

**Who are the people you most concerned about?**

-Please list three persons who are most important in your life, and explain why.

-What do you want to say before you leave?

**Is there anything you have to do before you leave?**

-Please list two things you have to do before you leave.

**How to say goodbye to your family or friends?**

-Please describe the way you want to say goodbye to your loved ones, including who will you invite, where and when will it be hold, what will you do and what objects will you need.

## Flight Diary – 5 days before departure

距離乘車日還有 5 天填寫日期 年 月 日

### 第一部分

倒數第五天，你的生活中有哪些很有紀念價值的物品呢？如果你即將離開你身邊親愛的人，你會希望留下哪些東西給他們呢？請你利用所附的相機，拍下家中或身邊對你有特殊意義或是你希望別人留下的物品，並寫下會將這些物品送給誰呢？為什麼？



物品一，請為這個物品拍2張照片



物品二，請為這個物品拍2張照片



物品三，請為這個物品拍2張照片

物品介紹：\_\_\_\_\_ 物品介紹：\_\_\_\_\_ 物品介紹：\_\_\_\_\_

最想把他留給誰？\_\_\_\_\_ 最想把他留給誰？\_\_\_\_\_ 最想把他留給誰？\_\_\_\_\_

為什麼值得紀念？\_\_\_\_\_ 為什麼值得紀念？\_\_\_\_\_ 為什麼值得紀念？\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 第二部分

你的生活中有沒有什麼東西，是會讓人看到這個東西就想到你的呢？是日常生活最常用的東西？或是最常坐的椅子？最常穿的衣服？請你拍下三個會讓人一看到這東西就會想到你的物品。



物品四，請為這個物品拍2張照片



物品五，請為這個物品拍2張照片



物品六，請為這個物品他拍2張照片

物品介紹：\_\_\_\_\_ 物品介紹：\_\_\_\_\_ 物品介紹：\_\_\_\_\_

這個物品與你的關聯？\_\_\_\_\_ 這個物品與你的關聯？\_\_\_\_\_ 這個物品與你的關聯？\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**What are the precious things in their life?**

**What are the most precious things in your life?**

-Please take a picture of the most precious thing in your life.

-Who will you give this thing to?

**Is there anything that can make people think of you?**

-Take a picture of a thing that can make people think about you.

-What's the relationship between you and this stuff?

## Flight Diary –4 days before departure

距離乘車日還有 4 天 填寫日期 年 月 日

倒數第四天，請你發揮你的創意，想像你現在正要製作一份別出心裁的物品，可能是一個結合你所有照片並配上音樂的影片，或是錄下你自己聲音的錄音帶給你最愛的人，請你想像這份特別的禮物會是什麼呢？

你想把他送給誰呢？\_\_\_\_\_

請在包裝上寫些字吧：

你希望透過這個東西表達什麼事嗎？

請問這個禮物是什麼樣的一個東西呢？請嘗試畫出他的樣子，並描述這個禮物。

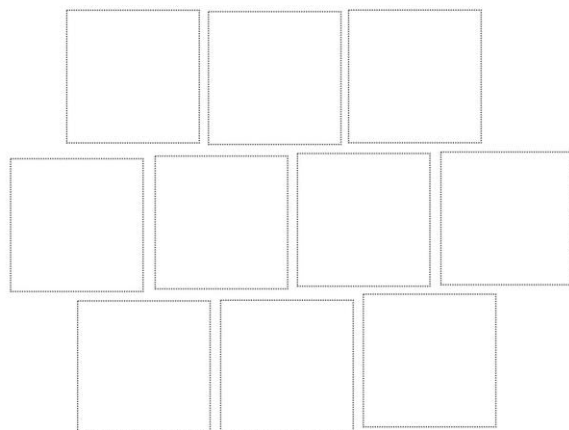
這個禮物有什麼實際功能呢？

為什麼會送這個禮物呢？

請你利用[附件包二]中的圖片，這些圖片分別代表著不同的意象，請你用這些圖片，數量不限，拼貼出你想要的最後一件禮物的感覺，是溫馨的？值得紀念的？嚴肅的？請自由的發揮你的想像力！



**Try to make user participant in our design**

**If you are going to make a special gift for your loved ones, what will this gift be?**

-Who will you give this gift to?

-What will it look like?

-What do you want to say through this gift?

-What are the functions of this gift?

**Try to use the image stamps to collage the feeling of this gift.**

-Please choose the stamp we provide that can meet the feeling of this gift.



## Flight Diary –3 days before departure

距離乘車日還有 3 天 填寫日期 年 月 日

倒數第三天，現在的科技十分發達，有許多產品也結合了新的科技，請你選擇附件包中最想要利用的三個產品，並敘述你會怎麼利用這個科技。

請利用[附件包三]中的貼紙，選擇三個你會想使用的技術並貼在下面的位置：



你想利用這個技術留下什麼呢？

---

---

你覺得有了這個技術後，這份禮物有什麼不同的感覺嗎？

---

---



你想利用這個技術留下什麼呢？

---

---

你覺得有了這個技術後，這份禮物有什麼不同的感覺嗎？

---

---



你想利用這個技術留下什麼呢？

---

---

你覺得有了這個技術後，這份禮物有什麼不同的感覺嗎？

---

---

請問你在準備這份禮物的過程，會蒐集哪些資料、檔案、照片或紀念品呢，請你拿相機把這些東西拍下來



物品一，請為這個物品拍2張照片

物品介紹： \_\_\_\_\_

為什麼會選這個東西？

---

---



物品一，請為這個物品拍2張照片

物品介紹： \_\_\_\_\_

為什麼會選這個東西？

---

---



物品一，請為這個物品拍2張照片

物品介紹： \_\_\_\_\_

為什麼會選這個東西？

---

---

你覺得在整理這些資料、檔案，或蒐集這些照片、紀念品會遇到哪些困難呢？

---

---

---

**How will people enrich the content with computer technology?**

**Please choose three technologies we provided to help you accomplish this gift.**

-What will you do with this technology?

-Are there any different if you use this technology?

**Try to find some problems they may encounter.**

**What will you collect to during the preparation of this gift?**

-Please take a picture of the material that you will collect when you preparing this gift.

**Do you have any difficulty when organizing these materials?**

## Flight Diary –2 days before departure

距離乘車日還有 2 天 填寫日期 年 月 日

最後兩天，如果現在有一個機器人，可以複製你的生平、你的聲音、你的樣子、你的價值觀、你常說的話、你喜歡的音樂...等等，請問你會想留下哪些關於你的事呢？

第一部分是給親人的“自己”(私密的)·你想留下哪些呢？為什麼？

我想留下：  
因為：

我想留給誰：

我想留下：  
因為：

我想留下：  
因為：

第二部分是留給世界上的所有人的“自己”(公開的)

我想把這個東西放在：

我想留下：  
因為：

我想留下：  
因為：

我想留下：  
因為：

---

**How to preserve their  
personal information**

**If there is a robot which can copy your personal identity,**

-what will you leave for your family or friends?

-What will you leave for the whole world?

## Flight Diary –1 days before departure

距離乘車日還有 1 天 填寫日期 年 月 日

最後一天了，你決定把這個準備好的禮物放在家裡，你覺得這個禮物應該擺在家裡的哪裡呢？

請依優先順序拍下你想放的二個位置



地點一，請為這個地點拍2張照片

地點介紹： \_\_\_\_\_

為什麼會選這個地方？

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



地點二，請為這個地點拍2張照片

地點介紹： \_\_\_\_\_

為什麼會選這個地方？

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

你希望家人如何收藏這份禮物呢？

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

你希望家人是在什麼樣的情況下收到禮物的呢？

時間： \_\_\_\_\_

地點： \_\_\_\_\_

人物： \_\_\_\_\_

請試著描述你想像中親人收到禮物的情況：

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

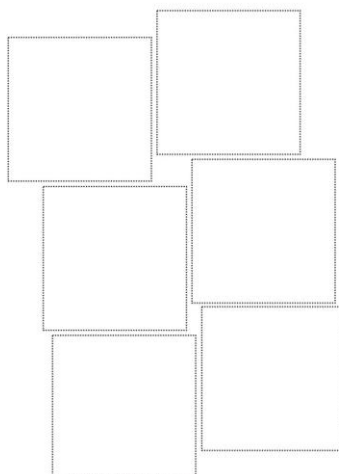
你希望他們收到禮物時，心裡的感覺是？

\_\_\_\_\_  
\_\_\_\_\_

你希望這個禮物可以給他們什麼幫助嗎？

\_\_\_\_\_  
\_\_\_\_\_

請你利用[附件包四]的圖片拼貼出當親人收到時  
你想要他們感受到的氣氛。



**What situation they want  
when their loved ones get  
the gift**

**Where will you place this gift in your house?**

-Please take a picture of this place and explain why.

**Do you have any expectation how will they keep this gift?**

**What is the situation when they get this gift?**

-What feeling do you expect when they get this gift?

-Use the image stamps to collage the feeling you want  
when your loved ones get this gift.


## Part B the interaction between the gift and the loved ones after they leave

### Flight Diary –1 days after departure

異次元世界第 1 天 填寫日期 年 月 日

我們現在進入了異次元的世界，再也見不到我們最愛的親人與朋友，但這時候出現了一個時光傳送機器人，請問你想透過這個機器人，傳送什麼東西或什麼訊息給誰呢？為什麼會傳這個東西，是在什麼特別的日子嗎？

我想傳： 傳送時間： 因為：	我想傳： 傳送時間： 因為：	我想傳： 傳送時間： 因為：
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最後一個部分，在經過了這一連串的創意發想之後，你對於這樣的一個禮物有沒有什麼想法呢？請回答下列的問題：

1. 請問你覺得這樣的一個禮物，有辦法完整的表達你臨別最後的心情嗎？不行的話又是為什麼呢？
2. 你覺得做這個禮物，最大的目的是什麼呢？
3. 你覺得還有沒有什麼其他的方法，可以讓這個禮物更符合你想要的目的呢？
4. 你覺得這個禮物可以延續你與親人之間的連結嗎？為什麼？
5. 如果是你，在什麼樣的情況下，會開始準備這樣一件禮物呢？
6. 你覺得這樣的一份禮物，要花多久時間才能完成？
7. 你覺得這樣的一份禮物，對家人有什麼意義嗎？
8. 你覺得這樣的一份禮物，對你自己有什麼意義嗎？
9. 有沒有什麼其他的意見或是建議呢？

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**What interactions they want between the gift and their loved ones?**

**What message or stuff will you send to your loved ones after you leave?**

- Who will you send to?
- When will you send?
- Why?

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**Their personal opinion about this gift and the**

- Can this gift represent your feeling?
  - What is the purpose of preparing this gift?
-

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**workbook**

- Are there any way that can improve this gift?
  - Can this gift keep the connection between you and your loved ones?
  - When will you begin to prepare this gift?
  - How long will it take if you are preparing this gift?
  - What is the meaning of this gift for your loved ones?
  - What is the meaning of this gift for you?
- 



## Chapter 4 Results

After data gathering process, the interview data was captured to statements and analyzed with affinity diagrams. Affinity diagrams were used to categorize the values of various roles. In the case sharing part, ladder interviews were used to construct mean-ends chains. This technique is used to find unconscious motives and the values behind them. It can help researchers to meaningfully connect product attributes with consumer's values.

### 4.1 The affinity diagram of in-depth interview

The results of in-depth interview were collated into affinity diagrams. There are five parts in this affinity diagram, including the motivations of leaving something for the loved ones, the motivations of keeping oneself, existing contents for autobiography in the daily life, concerns of this memorial object and the difficulties of preparing this memorial gift.

Table 4-1 Affinity diagram of in-depth interviews

Level 1	Level 2
<b>(A) The motivations of leaving some objects for the loved ones</b>	a1) Strengthening the relationship
	a2) The expectations of giving a better life for the family
	a3) Releasing the grief of the loved ones
	a4) Previous experiences of losing someone
<b>(B) The motivations of keeping oneself</b>	b1) Sharing personal life experiences
	b2) Proving the existence in the world
	b3) Having a good impression in other people's heart
<b>(C) Existing contents for autobiography in the</b>	c1) The record of daily life and self-expression
	c2) The backup of life record

<b>daily life</b>	c3) Preference of using the way they communicated before
<b>(D) Concerns of this memorial object</b>	d1) Do not want to trouble other people
	d2) Worrying about the privacy
	d3) Do not want to leave anything to unfamiliar people
	d4) Hoping that this gift can be kept permanently
<b>(E) Difficulties of preparing this gift</b>	e1) Do not have time for preparing this memorial gift
	e2) Do not know what to leave

#### **(A) The motivations of leaving some objects for the loved ones**

In this study, it was found that what users most concerned about was not preserving themselves perfectly, but determining how to build a new link with their loved one through the items they left. Their motivations of preparing this gift are the love of their loved ones, it is highly related to the person they love. They want to express their feelings to their loved ones toward the gift, and create a new bound that last long.

##### **a1) Strengthening the relationship**

For intimate friends or family, people shared memories and expressed thankfulness, concerns, blessing or regrets to strengthen the links between each other. In order to keep an image in their loved ones' heart, they tried to find an important element between themselves and their loved ones, the best way they chose was using the shared memory, they hoped people can remember those memories by the events they experienced before, for example, their common habits or the movie they loved can help them recall the days they hanged out together. People hope their loved ones can keep their memories; they preserved group photos with precious

memories instead of individual photos. When their loved ones received the relic, people hoped that their loved ones would be happy and savor their 'reruns'.

[Quote 01] Participant 7: *"I want to give the gift to people who were close to me and will miss me."*

[Quote 02] Participant 2: *"I want to leave some photos for my children, they can tell stories to their children."*

They care about people who are close to them, with whom they got along, they don't care about other people, memorial gift is only meaningful for the intimate friends. People tried to find out the important element between themselves and their loved ones in order to enhance the relationship and live in their loved ones' heart.

[Quote 03] Participant 7: *"The gift should represent the relationship between us, if possible, I want to prepare something suitable for each of them."*

a2) The expectations of giving a better life for the family

When people are leaving, they worried about their family mostly. There are two different kinds of subjects they worry about, one is their parents or mate. They try to leave some valuable objects to improve the lives of their parents and mate, showing the appreciation for the care and love. Valuable objects are the most common things they want to leave for this kind of loved ones, through these valuable objects, their family can live a better life in the future. The other kind of subject in this situation is their children. In addition to some valuable objects, people also leave something that can educate their loved ones, especially for their children, through this kind of educational relic, they hope their children can learn something from this gift, even get some inspiration for their life.

[Quote 04] Participant 7: *"I would like to leave a ring before, but now, I will leave the house because I am worried about my children's lives."*

[Quote 05] Participant 5: *"I hope to help my grandchildren developing a good moral character."*



### a3) Releasing the grief of the loved ones

Since people want to leave with a happy ending, they also worried about the grief of their family and friends. Although they want people to keep them in mind, they still want to release the grief of their loved ones.

[Quote 06] Participant 5: *"I don't want to leave anything for my husband, it may make him sad."*

[Quote 07] Participant 6: *"I will leave letters for my husband and child, I hope they can be happy and don't be sad."*

There are several methods people tried to release the pain of their loved ones, sharing the happy memories, making jokes to create a happy atmosphere, using the voice or images to accompany with their family. Through these methods, they hope to accompany with their loved ones to get through the pain and sorrow, and try to transform the pain of loss to memorable memories.

On the other hand, people wanted to prepare an impressive relic, but they also worried about their loved ones; they were not sure if the relic could relieve the grief or extend the sadness. This is a contradiction for them, they hope to stay in the hearts of their loved ones, accompany their loved ones in hard times, and also believe that as time goes by, people will forget about them. They do not need people to think of them every day.

[Quote 08] Participant 4: *"If I died, I don't believe they will remember me forever, time will heal."*

### a4) Previous experiences of losing someone

People also experienced the death of their loved one, they preserved something related to their loved ones to recall the memory and have their own way to think of the people who left. They also feel pity that they don't have enough materials for recalling their loved ones. They also received something from those who left and they hope their child can inherit the gift. Through these experiences, they will think about leaving something to represent themselves

[Quote 09] Participant 2: *"It's a pity that I do not know where my father took these pictures."*

[Quote 10] Participant 5: *"My mother gave me a bracelet she wore before, it made me feel a sense of heritage."*

## **B) The motivations of keeping oneself**

In the assumption of this research, people would try to leave themselves in this world for their family and friends. In this part, it shows the behavior of keeping oneself before death.

### **b1) Sharing personal life experiences**

There is a difference between preserving their life experience for their family and leaving themselves in a public space. They preserve their life for the future generations to know their appearance, work and life. They also want to pass down their values and attitudes to life to their children.

[Quote 11] Participant 5: *"I was a businessman starting from scratch; I want to use biographical record of these processes to make my children treasure what they have."*

On the other hand, people left a brief self-introduction with personal values in order to have a positive impact for the future generations. They do not really care about other people in the world, they do not think other people will review their lives seriously; they just want to examine their experiences, pass down their values and attitudes to life and share their habits or preferences to show their personal impressions with a brief description of who they are, to prove that they had existed in this world.

[Quote 12] Participant 5: *"I want to keep the photo that I took when I was 20 years old for my future generations, let them know that I was once young."*

## b2) Proving the existence in the world

People left something to represent their personal identity, such as profession, interest, habits, wearing and life styles. For example, one of the participants wants to leave an airplane model which he got from the army to tell people he used to be an air force soldier, through these objects, they want to show who they are, what they did before, and the most important thing in their life.

[Quote 13] Participant 2: *"The stone I collected represented the footprint of the place I have been."*

[Quote 14] Participant 1: *"I want to leave my personal information on a building as a commemoration, just for those who don't know me."*

## b3) Having a good impression on other people's heart

When people are going to prepare for the final moment, they will try to leave a positive and happy image about who they are. Toward the gift or the funeral, they want to reveal a last image of themselves and the important event in their life in a warm way. Rather than feeling sad, they preferred a peaceful and memorial ending. People can keep themselves in their loved ones' heart, they don't need people to keep them in mind all the time but if someday, people think about them, they hope people to think of them in a positive way.

[Quote 15] Participant 1: *"If I prepare very perfectly at the end of my life, people will be touched."*

[Quote 16] Participant 1: *"I want a happy funeral, just like an old man who sold ice cream; he prepared ice cream for everyone who attended his funeral"*

## C) Existing contents for autobiography in the daily life

Some participants in the interviews used to record their life experience of daily life, such as using photos to record their lives or writing blog and diaries. These materials could also be used when preparing this gift for their loved ones; some participants also think they should prepare the gift in their daily life because it will be meaningless if they prepared the gift particularly.

### c1) Records of daily life and self-expression

People use different kinds of materials to take down their life. Our participants use photos, videos or diary to record their lives and preserve their memories; they believe these memorable things will be precious after dozens of years. Some people preserve some mementos when they are traveling, they also regard these objects as a record of their life experiences. These objects and content are meaningful for them to show their life experiences and their opinion.

[Quote 17] Participant 6: *“I want to leave the travel that wrote by my husband, it took down my trip, my thought and my life.”*

[Quote 18] Participant 7: *“I used to buy some CD or books for my friend, when preparing this last present, I want to gather my favorite music for them.”*

### c2) Backup of life record

After people taking down more and more life experiences in their daily life, they try to back up their memory and keep it safe. They scanned their photos to digital files, but they also have a problem that they have too many photos, it is hard for them to arrange the photos in albums.

[Quote 19] Participant 7: *“I want to scan the photos and save into digital files, there are too many photos.”*

### c3) Preference of using the way they communicated before

Since people hope this object is meaningful and they think if they prepare this memorial gift particularly in the end of their life, the gift will be meaningless. In their opinions, the memorial objects represent the relationships; they hope to show their feelings in their daily life, which are different from the feeling at the end of their life. They hope to use the way they communicated before, just like the old days, with the same feeling of warmness.

[Quote 20] Participant 7: *“I want to say something to them through this gift in different ways; it depends on the way we used before.”*

## D) Concerns of this memorial object

When people think of this memorial gift, they have different kinds of concerns of the gift. They were worried about if this memorial gift will make people think of death, is it easy for their family to preserve, or the privacy about leaving their personal information behind.

### d1) Do not want to trouble other people

Since talking about death is sensitive in Taiwan, people worried about if this gift will make people feel uncomfortable. They do not want to make others feel scared or trouble about this gift. According to their concerns, they want to make this gift warm and not reminiscent of death. On the other hand, they hope people can preserve this memorial gift for a long time, according to this concern, the memorial object should be easily preserved, they prefer something small or can be stored in some place. In their opinion, there is no need to force people to receive this memorial object, they will respect the feeling of their loved ones, it is not necessary to make people keep this gift permanently.

[Quote 21] Participant 1: *"I hope this relic can be easily preserved in a private place, because people might not want put this thing in a public place."*

[Quote 22] Participant 1: *"I want to make something for them to commemorate and do not think of death."*

### d2) Worrying about the privacy

People still care about their privacy even after they die. They care about showing their photos or videos in public, when they are going to leave their life record in public, they hope it is simple and only showing who they are and what they did.

[Quote 23] Participant 6: *"I hope the memorial object is not so public, I only want people who knew me to reach my profile."*

d3) Do not want to leave anything to unfamiliar people

In the opinions of the participants, they think it is unnecessary to leave anything to unfamiliar people, they believed that other people won't take this object seriously and there is no connection with those who are not familiar with. Moreover, even if their future generations, if they never meet before, they do not have an emotional relationship between each other.

[Quote 24] Participant 7: *"It is meaningless to give something to people I am not familiar with."*

d4) Hoping that this gift can be kept permanently

When they are preparing this gift, they also hope the gift can be permanent. If they preserve their memory in this gift, they hope the memory can be stored properly. They take the memory store in this gift as a backup of their precious memory. They also think if this gift cannot preserve their memory for a long time, there is no use to prepare this gift.

[Quote 25] Participant 7: *"I think valuable objects are more likely to be preserved properly."*



### **E) Difficulties of preparing this gift**

There are some difficulties when they are preparing the gift, they have some ideas about this gift in their mind but they also complained about they are too busy to prepare this gift in their daily life. Some participants said they do not want to leave anything, they think they are normal people, they have nothing special to share.

e1) Do not have time for preparing this memorial gift

Death is an event that is unpredictable; people do not know when to prepare this memorial gift, as a result of no time schedule, people always do not have time to prepare this memorial gift.

[Quote 26] Participant 7: *"Actions speak louder than words, my husband wanted to record his song, but he didn't make it in the end."*

[Quote 27] Participant 1: *“I think I will start to prepare the gift when I left two or three years to live, I will collect the materials in my daily life.”*

e2) Do not know what to leave

Some people think this memorial service is used to leave something special of themselves, since they think they do not have anything worth to be remembered, they do not know what should they leave.

[Quote 28] Participant 5: *“I only graduated from elementary school, I don’t know what can I leave.”*

#### 4.2 The mean-ends chains of case sharing

The data of case sharing was analyzed with mean-end chains diagram for each interview. At the upper part of the diagram were the attributes of each existing service, the attributes mentioned in the interviews were captured and corresponded to the feeling of the participants, that is the middle part of our mean-end chains diagram. At the bottom part, the value in users’ mind, the feelings of the participants and their reasons behind were connected. After analyzing each mean-end chains in the interviews, a consolidated mean-end chains diagram that combined all of each mean-end chains diagram was developed for following discussion.

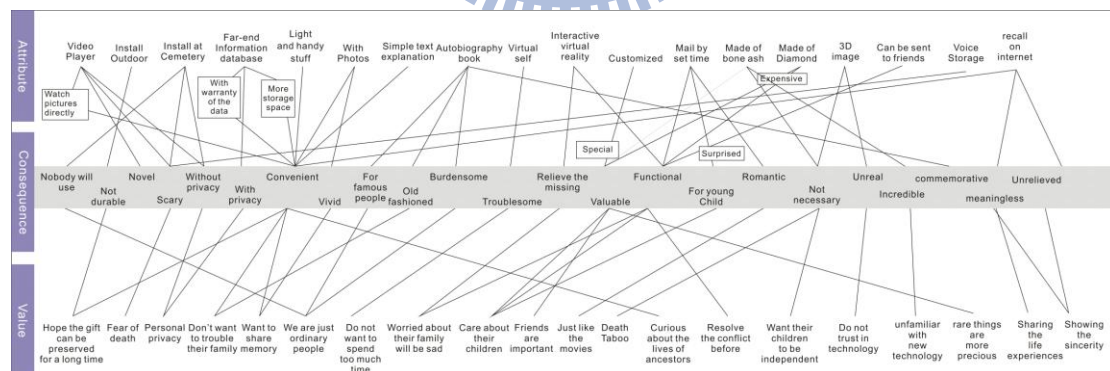


Fig 4-1 Consolidated mean-end chain diagram

### **A) People care about the function and usability of the service**

In the interviews, participants cared about if the services are convenient to use, they hoped the services are related to their need of preserving and sharing their memories with their loved ones. Due to the convenience of computer technology, people have more and more different record of their life, if the service can also help them deal with the large amount of their memory record, they will feel convenient by using the service. Besides, nowadays, people are so busy, they do not have time to prepare this memorial object; they do not want to spend too much time to prepare this gift even if they plan to do so. Participants also cared about if this memorial service could preserve for a long time, services with the warranty of the data storage will make them feel worth of using the service.

### **B) Appropriate use of visual effects can increase the willingness of using the service**

Some of the services provided video or photo display to help people share memories with their families, it was convenient for people to share memory if the services had some visual effect, video and photos made people feel vivid when they wanted to show their memory with their loved ones. Furthermore, if the service provides 3D image or even interactive virtual reality technology, there were two kinds of response, some of our participants think the 3D image or virtual reality could make people feel real and relieve the missing of loved ones. On the contrary, some people said there is no need to use 3D image or virtual reality, they did not trust in new technology, in their opinions, virtual images were not real and they did not want to spend time on preparing this virtual image. Besides, they did not want people to rely on this memorial object and refused to face with reality, they hoped their children can be independent and should be able to live without them.

### **C) Relationship between death taboo and the memorial services**

There were two existing services in the research that used bone ashes to make souvenirs, two different kinds of responses were gained, one of the participants thought it is valuable to use his bone ashes to make a diamond because it is unique and cannot be replaced. The others had different opinions; they thought there was no need to use bone ashes on this memorial object. Due to the death taboo in



Chinese culture, people think it is inappropriate to bring the bone ashes of dead people aside or even in their house, they also thought it is better to let it go and put their loved ones on their heart. Video players that install on tombstone also make people feel scared; they think it is terrible if there are many video playing at the same time in cemeteries.

#### **D) The storage of the memorial object**

People worried about if the storage of memorial gift will trouble others, they preferred some light and handy stuff, and their loved ones could preserve these small objects easily, on the other hand, if the object is small, it will not keep making people feel about death.

#### **E) People care about their privacy when displaying their life record.**

Participants were asked about their opinions of displaying their life experiences on their gravestone or mobile devices. It was found that the information they wanted to show were different according to the subjects, they hoped the words leaving in public would be simple and formal, and just let people know what they had done in their lifetime. They cared about their personal privacy and don't want to show their live details in public. They also had different preferences of media type according to different subjects. For the public, they preferred some simple word narrations about their biographical records rather than playing video in public. They did not think people will read their biography seriously. If they want to leave some video or some words, they hope they can restrict the access of the data.

### **4.3 The relationship between objects and the loved ones**

There were 26 objects collected in this research that people wanted to give their loved ones and 25 objects that could represent themselves from the workbooks, and these objects were analyzed by flow models, the flow model presented various roles and the objects between the user and loved ones; it also presented the reasons they chose the object.

In Figure 4-2, there were different kinds of motivations and different object people left for their friends, family, and future generations. In this section, the discussion will focus on the relationships shown in Figure 4-2. When people tried to leave something to their friends of family; they chose a private space to keep the common memories for sharing the normal friends or family. People also wanted to leave something directly for the persons who are important. For some people they were not familiar with or the future generations, they wanted to leave the message in an open space. Following are discussions of different motivation for leaving memorial objects.

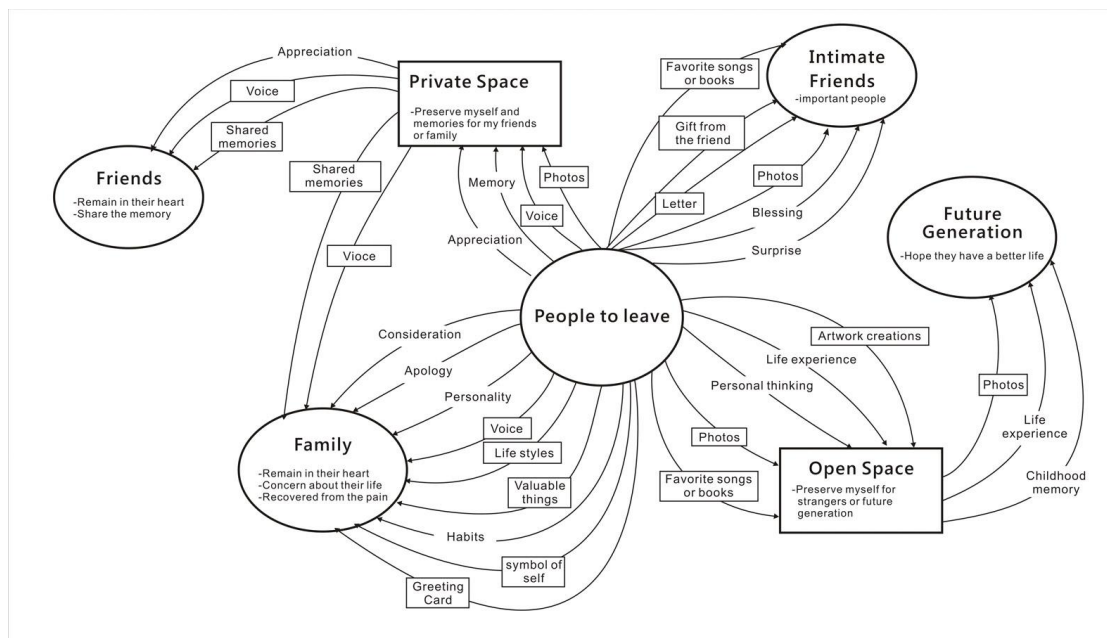


Fig 4-2 Consolidated flow model

### A) Objects that can represent oneself

56% of objects selected to represent oneself were the functional articles for daily use, such as perfume, shoes, bags, glasses. These things are not very special, but things they were accustomed to using, and can show the lifestyle and record of their life. 12% of the objects were accessories with special meaning they wore every day, such as a necklace when s/he was converted to Buddhism and wedding rings. 12% of the objects were related to their habits, such as feather rackets, cameras and toys they collected.

As shown in the Figure 4-3, some objects selected to give their loved ones in the workbooks were articles related to their habits, or which they used to interact with their loved ones, or the objects with special memories; their habits represented who they are, and the objects they used to interact with their loved ones represented their connection and the ways they wished to survive in their loved ones' hearts.

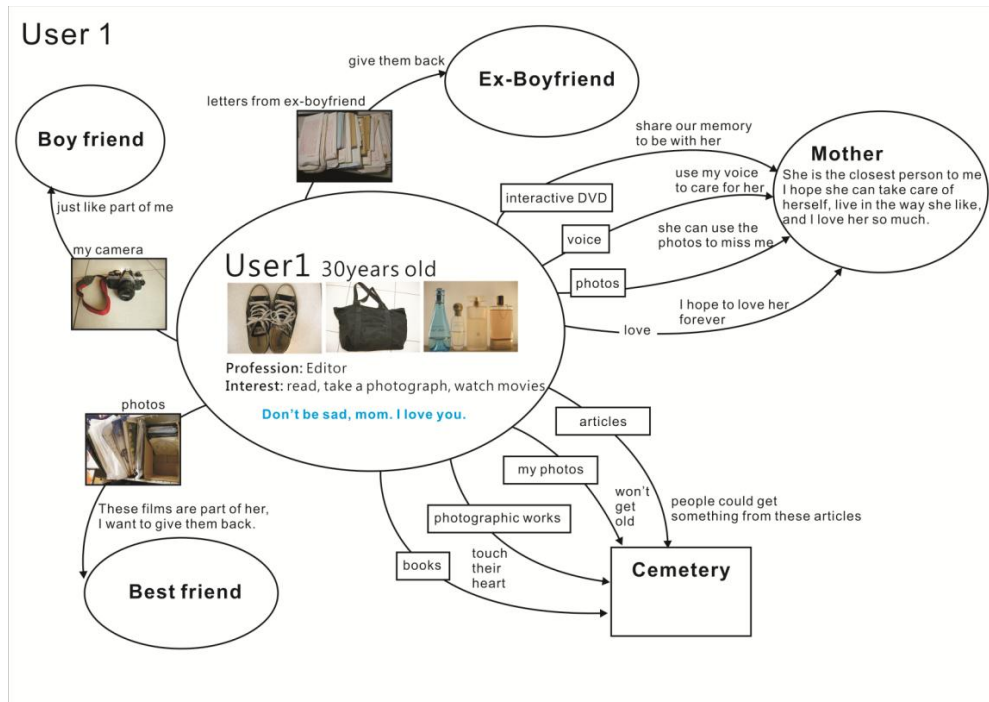


Fig 4-3 Flow model of User1

### B) Objects that had memory with specific person

People left something that only related to a particular person, such as the gift they received from their friends, letters from ex-boyfriend and photos of the best friends. These objects only belong to people who left and their loved one. For this reason, if they died, this object is only meaningful for the particular loved one, they preserved the relic for a long time and hoped that their loved ones could take back the relic and preserve it.

### C) A place to preserve their personality

People wanted to preserve themselves in a space, it could be a physical space like cemeteries or library, and it could also be a virtual space, such as a blog or social network service. They wanted to preserve their personality, including their thought,

their books, their articles, their life experiences and the music they like. They also wanted to preserve their creation, like their painting and their voice. Through these contents, all the people could realize who they are, especially for their future generations. Besides, these items have distinctive personal characteristics, and can take the place of them to stay in the world. They also cared about if this relic could be preserved for a long time

#### D) Objects to remind their loved ones

As shown is Figure 4-4, most of the objects that parents wanted to give to their children are things that they were concerned about and hoped to remind their children.

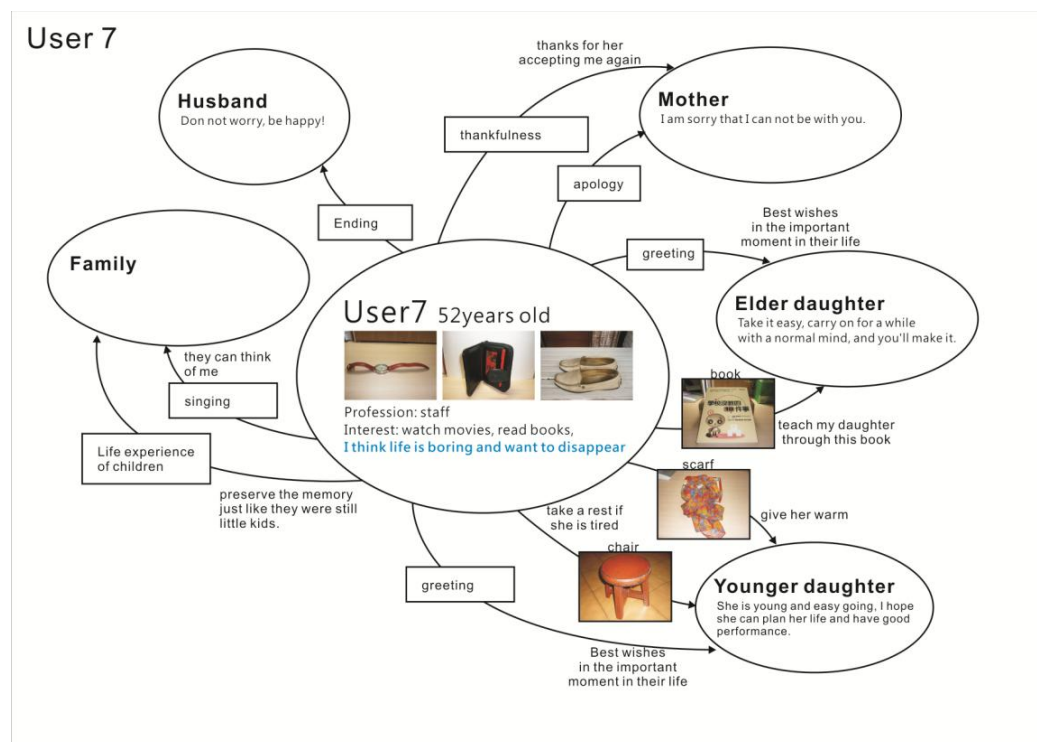


Fig 4-4 Flow model of User7

When people are going to leave their family, they concerned about the life of their family, such as the physical conditions and the weakness of their personality. They use some symbolic things to remind their loved ones, for example, a mother wanted to leave a chair for her daughter in order to remind her daughter to take a rest in life and don't live too stressful.

### E) Items to express their feelings

People wanted to express their feelings to their loved ones in the final moment, such as love, appreciation and care. In this kind of object, they prepared different kinds of content in multimedia devices. They wanted to record some words in digital devices for their family, narrating their love and saying goodbye. They also wanted to use songs or bedtime stories which with common memories to appease the longing of family. There were also some objects that were not multimedia devices, these objects are used as a symbol to express their concern, for example, people used a scarf to give warm to their children.

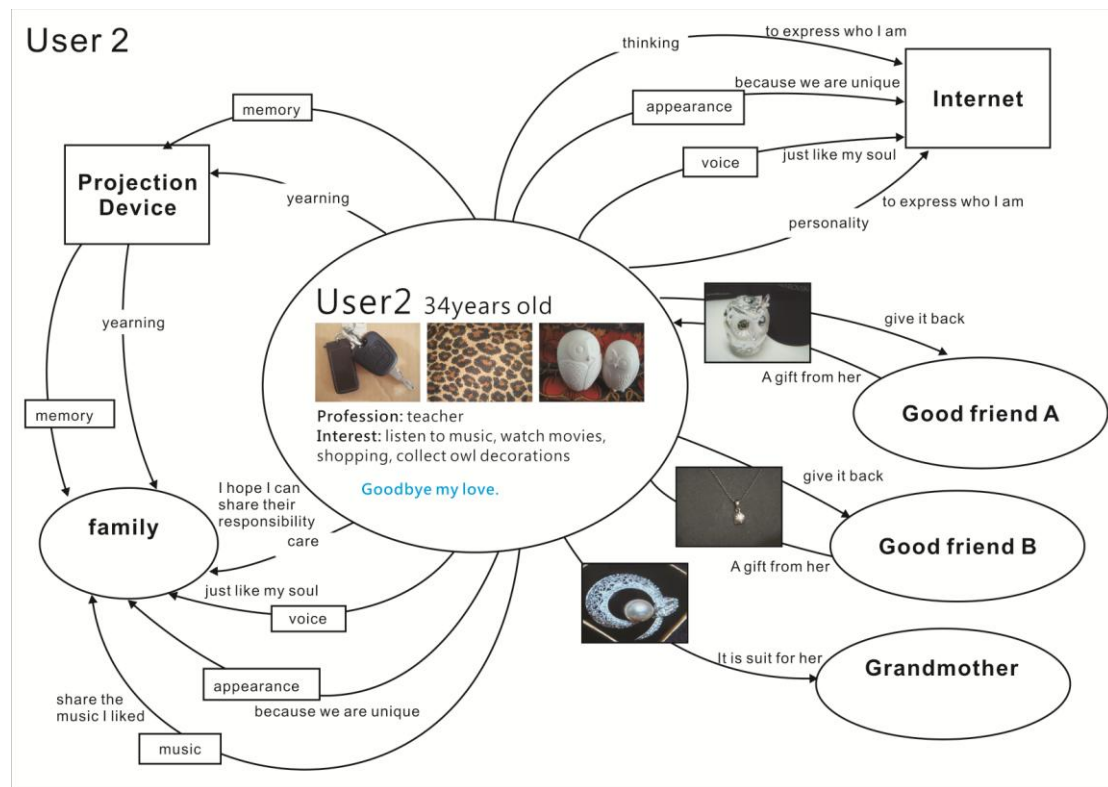


Fig 4-5 Flow model of User2

### F) Valuable objects



As shown in Figure 4-5, people would like to leave some valuable object to their loved ones. People preferred to leave something special behind which is not easy to buy, or which has financial value. They believed that the actual use of these things

makes it relatively easy to be properly preserved. If their children face to some financial difficulties, the relic can also help their children.

**G) Location for preserving the relic**

Due to the fact that modern life is fast-paced and busy all the time, people did not believe that this relic will be used frequently, they did not want their loved ones to be immersed in a sad mood; if the relic is going to be placed on public display, they hope it can be a happy topic. If this thing is more monumental and filled with memories, they hope the relic could be easily stored until their loved ones need it.

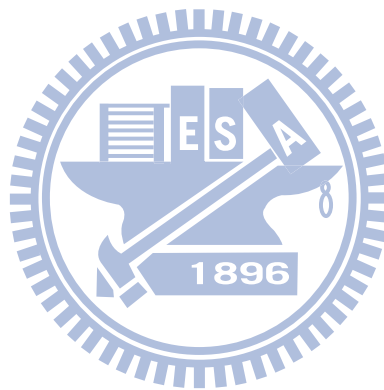
Table 4-2 List of locations

<b>Public space</b>	<p>A place where can be easily seen in their daily life, such as the shelf in the living room or the table they used to commemorate their ancestors. In these places, they wanted to share this memorial object to their family or their friends, they also wanted to use this object to accompany with their loved ones.</p>	
<b>Private space</b>	<p>A place where only belongs to the specific person they love, the memorial object is a secret gift only for their loved one. On the other hand, it could also be a place they used to store their memory, they did not want to remind people about their death, their loved ones can find this memorial object when they need.</p>	

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**The place they usually stay** A place where they usually stay, they preserved the memorial object at this place just like the replacement of themselves.

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## Chapter 5 Discussion

### 5.1 The transformation of the relationship

In Csikszentmihalyi's research, they defined the person and the things as two elements, and the third is the transaction or relationship between the person and a thing. The relic is a connection between users and their loved ones; they chose objects that had special meaning both to themselves and their loved ones; these items were used as a proof of their relationship, a symbol of love for each other.

According to different subjects, people left different objects and contents. People used some symbolic objects to transform the relationships between themselves and their loved ones, different kind of transformations will be discussed in this section.

#### 5.1.1 Extending the relationship

In this research, participants tried to leave some objects that contained their personal information for their family, such as photos, voice and their life experiences, these objects were used to evoke the memory, they wanted to extend the relationship between themselves and their loved ones, ease the pain of their loved ones and hope to make them feel accompany. The interactive ways they preferred are different according to the ways they communicated with each other in their daily lives, for example, if the participant used to write some letters for family, they always tried to leave some letters in the future just like they are still living in this world. If the participant who used to play tennis with his mother, he will leave a tennis racket for his mother to accompany with her. The space they chose to preserve the memorial gift can also used to extend the relationship; they chose the place that could remind their family of the existence such as the public space in the living room or the place they usually stayed.

In this situation, the participants hoped they can use some media to preserve the content for their loved ones, they hope these objects can string along with their family just like they never leave, but they also worried about if this memorial gift also extend the period of grief, this gift should be an object that helps their loved one through the period of grief but not a virtual self to accompany with their loved ones forever. Besides, the location people wanted to preserve the gift can also



explain their intentions. In this research, people chose the place that they usually stayed or their loved ones usually stayed to present the gift. They hoped their loved ones can think of them in the daily life. This situation might be related to research of Silverman, P. R. (Silverman et al., 1996). Individuals can learn to continuing bonds from the experiences of talking to the deceased, locating the deceased, experiencing the deceased in their dreams. Silverman state the following:

*“Children of deceased parents developed a connection to the departed that they described as “becoming their parent's living legacy”. They began to emulate their parents in ways that they believe would have pleased them, adopting aspects of the deceased's behavior and feeling that the deceased has become part of their current identity.”*

Mourning is not a detached process but as a process of transformation(Baker, 2001). It created a new internal relationship to help people tie with their loved ones.

#### 5.1.2 Making an ending

In this research, it was found that some participants want to leave something to make an ending of their life or the ending of the relationship. There were several activities for the ending, such as expressing the appreciations or writing down the confession of repentance. People also wanted to return some objects that belong to their friends or family, these objects were only related to themselves and the loved ones since they are leaving this world and will not need these objects anymore, and the gift can also regard as an ending of the relationship.

[Quote 29] Participant 9: “This necklace was a birthday gift from my friend, I want to give it back to her and hope she can preserve the necklace for me.”

[Quote 30] Participant 8: “These letters were sent when my ex-boyfriend was serving in the military, I want to give them back because these letters must be meaningful to him.”

Some participants also had some plans for their funerals, they wanted to leave a final image in their loved ones’ heart, a perfect ending in their lives. They wanted a funeral that could gather their close friends and family, and they could express their

feelings and their love to their loved ones, and this funeral will be the last event of their social activities.

[Quote 31] Participant 3: “I want to have a happy funeral, just like a party that people can come and say goodbye to me.

Through these kinds of activities or objects, people could make an ending in their lives in the ways they want. Besides, in this research, most of the participants chose to have a warm or a touching atmosphere at the end of their lives. Rather than the feeling of death, they prefer the feeling of saying goodbye.

## **5.2 Different levels of self preservation**

People have different levels of demand when they want to preserve themselves, at the lowest level, they wanted to leave some visual objects for people to remember, and these objects are symbols that can represent themselves and make people think of them. In the second level, People wanted to show their memories and their interactions, these memories reminded people the days they had been together, and it also make people think about their lives before. The last level, preserving the feeling of each other was the most complicated one and also difficult to prepare, when people had a deep relationship with someone, they wanted to leave themselves to accompany with their loved ones and show their love and feeling of parting.

As shown in Figure 5-1, the level of self preservation related to the intimacy of the relationship. For intimate subject, participants tended to leave something at level three, for normal subject or unfamiliar people, they tended to leave something at level one. The highest level of self-preservation, it is more abstract to present, like the feeling of love and the feeling of living together.

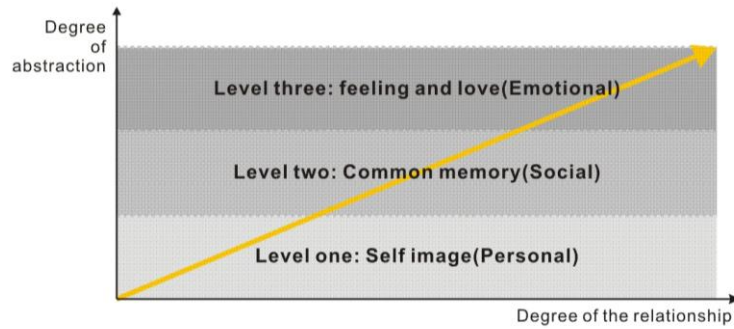


Fig 5-1 Different levels of self preservation

### 5.2.1 Level one: Self images (Personal)

In the first level, the personal image is the easiest way for people to make memorial gifts, and it is the basic and safe way to preserve themselves as they want. They used photos or personal symbols to show the existence. In this level, the memorial objects are more personal, people tried to use these objects to make others think of them. Most of the objects in this level are physical objects, such as perfume, shoes, bags, and bracelets. These objects are intimate and personal used.



Fig 5-2 Level one: Objects that preserved self images

### 5.2.2 Level two: Common Memory (Social)

In the last level, it was found that the participants tried to leave something they used for a long time to represent themselves; these objects are triggers to bring back the memory of the time they spent with their families. Through these objects, they wanted to evoke their memories with the loved ones. There are two kinds of objects in this kind of motivation. First, the memorial object they left is a trigger of the

memories or events, there was no data in this kind of memorial object, they used these objects to evoke the memories, these objects are the symbols of their life experiences, and they believed this memorial object can bring the memory back to their loved ones. Second, due to the convenience of using digital media, people use many things to record their lives, such as photos, letters and diaries. When people faced with death, these memories were used as a backup of the common memory when their loved ones think of them.

In this level, what people want to leave is the interaction between their loved one, it is more abstract than the personal image, and they want to show their life, it is a continuous experience of the time they spent together before.



Fig 5-3 Level two: Objects that preserved memories

### 5.2.3 Level three: Feeling and love (Emotional)

The last level, they wanted to express their feelings to their loved ones, in this level, the things they want to leave is more abstract, such as their love and care for their family or the feeling of still living together. These feelings were the accumulation of the experiences in their lives; it was not only the record of some events in their life but their feeling in their everyday life. In this level, people were not sure if they can preserve their emotion properly, they had some special feeling but they had no idea about how to present these feelings, and they did not have materials to show their feelings if they did not keep their memories before.

On the other hand, they wanted their family to have a better life, they also wanted to show their greeting or care for their loved ones.



Fig 5-4 Level three: Objects that preserved feeling and love

### 5.3 The relationship between age and the self preservation

There were different factors that relate to their decision when people prepared this gift. Most of the participants wanted to leave something for their loved ones, but some of our participants they did not want to leave anything, they did not think themselves important, and they had nothing special to leave to their family. They think these kinds of objects were romantic, and they just want to leave something useful for their child and hope they can have a better life.

In this research, participants who were older than 45 years old and had their family, they went through marriage, had a baby, and raised a child. In their opinions, the most important things were their life and their children, they hope their children could live well; they don't have the ambition to preserve themselves well, all of the precious things had already kept in the mind. When people get older and having more and more life experiences, they thought they could live without regrets, there is no need to preserve everything perfectly.

[Quote 32] Participant 4: “I do not want to leave anything, I think the best way is to let them go.”

In contrast, for those participants who were young, there were many things happening in their daily life, they had lots of memories, they tried to keep the life experiences they had for their loved ones, and they tried to use different kind of materials to preserve these memories. In the results of this research, they had a greater willingness to leave something for their family or friends.

## 5.4 The meaning of the preparing process

In the process of preparing the memorial gift, people tried to attach themselves to this gift; they reviewed their lives and think about their families and friends. For example, when the participants answered the questions in the workbook, they expressed their feeling of their lives; they were not only rearranging their memories but also recalling the lives. Just like making a conclusion of their lives, they tried to find out the best time in their lives. During the preparations of sharing memories, they thought about the relationships and the days they had been together with the loved ones. The behavior of help their loved ones also help themselves to go through the fear of death.

## 5.5 Current problem and difficulty

Sequence model was used to collate the problems when people are preparing this gift. There were three stages when people preparing this memorial object. From the beginning they had the thought to prepare this memorial gift, and they started to think about what they should prepare. In the results, they have some problem and difficulty as follow:

Intents : Show considerations for relatives and friends  
Relief the grief  
Say goodbye

Trigger: When they are sick or dying

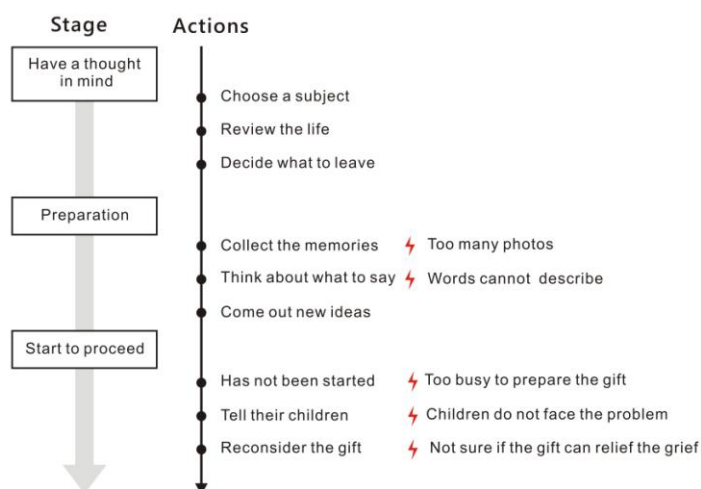


Fig 5-5 Sequence model of preparing the memorial gift

### 5.5.1 Lack of triggers for making the relic

People were always thinking about leaving something, but never started. They also told their children what they wanted, but the children did not want to take it seriously. They planned to record their own voice or songs, or write a series of letters for their children. They planned a lot but did not find the right time to do it.

Human behavior is motivated by the anxiety from the recognition that death is inevitable. People never know when they will face with death; they have no trigger to prepare the gift. The workbook in our research is also one kind of the reminder of death, people think about something they did not think about before.

[Quote 33] Participant 7: “Although I wanted to leave something for them, it was never done because my life is too busy.”

### 5.5.2 Difficulty when organizing their memories

As media technology advances in terms of storage, it is easier for people to store a variety of voice, pictures and videos. People used to collect lots of photos in their daily life, they want to use these data for the relic but it is not easy for them to organize such huge number of photos. As we mentioned before, there were three levels of self-pervations, when people wanted to organize the social and emotional level memory, it is hard for them to use these materials to express their social interaction or feelings.

[Quote 34] Participant8: “Love and care are hidden in the daily life, it is not easy to extract the feeling into an object, I want to preserve the way we live together, it is indescribable.”

## Chapter 6 Design suggestions

After analyzing the data, design suggestions were proposed for designers when they design memorial products or services.

### 6.1 Design suggestions for preparation

#### 6.1.1 Integrate the preparations into their lives

Users collected photos to record their lives and also collected souvenirs to record their trip. At the final moment, they wanted to review these memories with their loved ones but encountered difficulty when organizing their memories. We proposed that the service could help them organize the photos and also back up their photos in their daily lives, for example, when they upload the photos, they could also attach their feelings or voice and label the friends or family members. When people prepare the relic, they can easily reorganize their memories for different people.

#### 6.1.2 Easily create a desired atmosphere

People wanted to present their memories in a lively manner, and can make people feel warm or happy rather than sad. They wanted to play the song they like, shared the photos they love. They also hoped to merge their personality into this relic, such as their habits, lifestyle. They want to prepared a unique atmosphere with personal identities, and hope that their loved ones will have a good time at the final moment.

### 6.2 Design suggestions for presentation

#### 6.2.1 Providing different modes of information presentation

People still cared about their privacy even after they die; for those they are not familiar with, they only wanted show brief information. They wanted to share their lives with their intimate friends or relatives. According to this, it was proposed that memorial services or products should provide different data filtering methods, even for their close friends and relatives.

#### 6.2.2 Convenient for storage

People cared about if the relic could be properly preserved; they did not want to trouble their loved ones. They hope the relic could be preserved easily; if the relic is



placed as a showpiece in their house, it should not be reminiscent of death, but of happy times.

### 6.2.3 Combining with souvenirs

People had different souvenirs in their life; most of these objects were related to their loved ones and could be regarded as a connection between them. If the product or service could be combined with the souvenirs, it could be more commemorative for both the users and their loved ones.

## 6.3 Examples

### 6.3.1 SweetDream

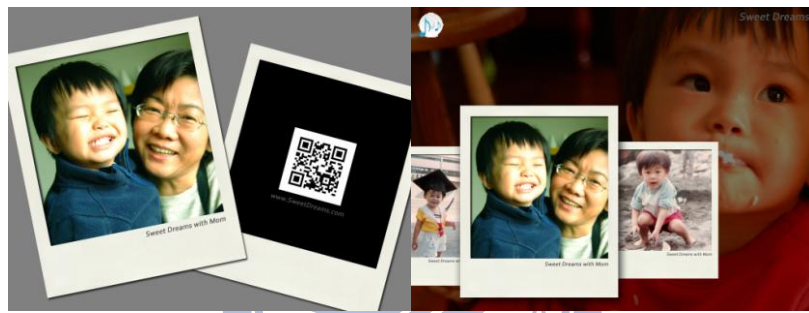


Fig 6-1 Design example 1 - SweetDream

SweetDream was a service provided users to share their photos with their friends and family; people could upload their photos and choose the music they like. It also provided physical photos for users to send to their loved ones. When people facing death, they could choose the photos that they want to preserve and upload to Sweetdream website, they could also choose a photo and print out as a memorial gift sending to their loved ones by post. At the back side of this photo, their friends or family and reach the Sweetdream website with the bar code, they can see more photos and the music that user prepared.

### 6.3.2 AutoBiography



Fig 6-2 Design example 2 - AutoBiography

AutoBiography was a website provided services to help people make their digital autobiography online, it provided default layout for users to make their digital autobiography easily. People can upload their photos, music and voice record to the AutoBiography website, they can also link their social network account to import the photos or life experiences. After people upload their photos and other information, Autobiography website will produce a default layout, users can rearrange the layout and edit their life record more easily.

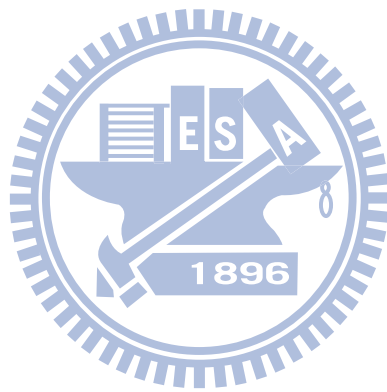
### 6.3.3 Memory Box



Fig 6-3 Design example 3 – Memory Box

Memory Box was a micro projector that combined with a meaningful object; people could preserve their photos and music in Memory box. Memory Box is designed for intimate relationship, it could project the photos with music on the wall, and helped

people commemorate their loved ones, it also helps people to preserve their live experiences and important memorial objects.



## Chapter 7 Conclusions

In this research, through in-depth interviews and probe, the information about people's need if they were going to prepare a memorial gift when they face to death was gained.

### 7.1 Conclusions of this research

People tried to leave something for their family or friends when they face to death. In this research, it revealed that the relationships and the emotional connections between the participants and their loved ones were the most important elements in this memorial object. People prepared this memorial object to present their concerns, blessing, appreciations and hoped to live in their loved ones' heart. They used their life experiences to generate a link with their loved ones, their life experience or the common memories with their friends were used as triggers to evoke the feeling of love. Existing memorial objects were also collected in this research, objects people used in their daily life were chosen as a symbol of themselves, objects people used to do some activities were also chosen as a trigger to evoke the memories. People used objects as a reminder to remind their concern, love, and their existence.

The transformations of the relationship were also proposed in this research, there were two kinds motivation. Firstly, people used this memorial gift to extend the relationship with their loved ones. Secondly, people used this memorial gift to make an ending of their lives. Through this memorial object, people expected to change their relationship to a new form, and build a new link with their love ones.

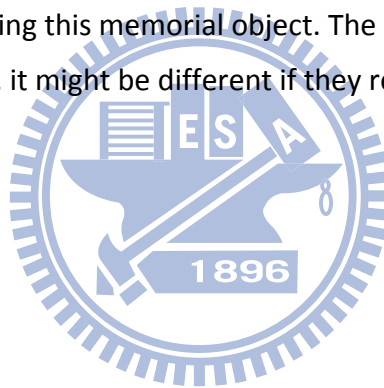
There are three levels of self-preservation proposed in this research, with the increase of the intimacy, what people wanted to leave were more and more abstract. At level one, people wanted to leave something represent themselves. Those things focused on visual effect and directly represented the person who left. At level two, people wanted to preserve their memories; it focused on the social impact. At level three, people wanted to show their love and feelings; they leave something as a symbol to represent their feeling, at this level, the objects change with different intents.

## **7.2 Contribution**

This research proposed implications for designer to design memorial service or products; it provided the design opportunities from the perspective of people who left. Current Difficulties and the process of preparing this memorial gift were also discussed. Through this research, the opinions of different kinds of existing services were also gained, and it revealed different preference and different concerns when people chose memorial services. The opportunities of using technology to design memorial services were also proposed as some examples in this research. The research used a relaxed way to gather the data of a serious topic; it is an example of using a metaphor to discuss a serious problem.

## **7.3 Research Limitation**

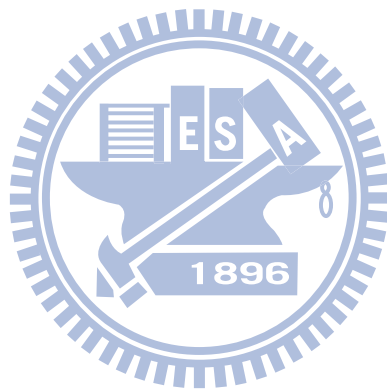
In this research, most of the participants were not really facing death; they do not have the urgency of preparing this memorial object. The result of this research was based on their imagination, it might be different if they really face to death.



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## Appendix A

### Affinity diagram





**The motivation of leaving some memorial objects for the loved ones**

I hope my loved ones can live their lives well		I want to release the grief of the loved ones	
I want to educate my children through this gift.	I will worried about the future of my children	I believe time will heal everything	I hope they can release the grief, they don't have to remember me for a long time.
I hope to help my grandchildren developing a good moral character.	I think it is more practical to leave the house for them.	People are so busy and won't keep you in mind for a long time, I just hope they can think of me sometimes.	I don't need people to remember me for a long time, I just want to leave a feeling of warm for them.
I want to give my children some advices after a few years later.	If my children read the letter after I died, their feeling should be deeply.	If I died, I don't believe they will remember me forever, time will heal.	I will leave a letter for my husband and child, I hope they can be happy and don't be sad.
I think the meaning of ancestor worship is to make children have a charitable disposition.	I want to leave money for them to have a better life.	When my children grow up, they will have their family, they won't need something to accompany them.	I do not want them to immersed in grief.
I want to leave my thoughts, teach my children the truth of their life.	I would like to leave the ring before, but now I will leave the house because I am worried about my children's life.	I think only my child and my brothers and sisters will miss me, even if my mate won't miss me for a long time.	I only want to leave something for my child, I don't want to leave for my husband because it may make him sad.
I hope to increase their life experience, share the great place I had been to with them.	I hope to give my children something they like, otherwise they will throw it away.		My husband want to record his joke in tape for us, he hope we can be happy rather than sad because of his voice
Words I want to say to my children are different from one to another.	I think my children will feel the gift romantic only when they have a good life.		Being filial is not the focus of their life, they should have their own family.
	I hope to leave a good education opportunity for my children, because I am uneducated.		
	Give your children what they need when they need.		
	I am worried about my children's life, so I started to buy insurance for them.		

**The motivation of leaving some memorial objects for the loved ones**

My experiences of losing someone

My own way to recall the memory with those who left.	My experiences of received something from those who left make me want to leave something	My experiences of received something from those who left make me don't want to leave anything
My husband is a teacher. I preserve his book with his note on it because it shows his life.	It is a pity that I don't know where did my father take these pictures.	I received some rings and necklace from my parents, but I put them in a box and never open it up again.
I will put a precious photo in the living room.	I received a bracelet from mt mother. I cherish the bracelet, I will also leave something precious for my son.	I take one of my sister's clothes home when she died, after a while, I threw it away.
If I am good at painting, I will leave my painting in my house, my children can hang it in their living room and think of me anytime.	My mother gave me something she wore, and she gave me before she died, it made me feel a sense of heritage.	My husband take the clothes of my father-in-law home and he still wear it sometimes.
I will use the television to display the photos of my father and share the memory with my mother.	My father left the stamps he collected, I don't collect stamps but I will introduce it and pass it to my children as a family heirloom.	
I will review the photos of my father on computer when I miss him.	I want to preserve the video of my husband's speech before.	
	I want to keep the photograph of the whole family, it is important when we see the photograph and talk about our family.	

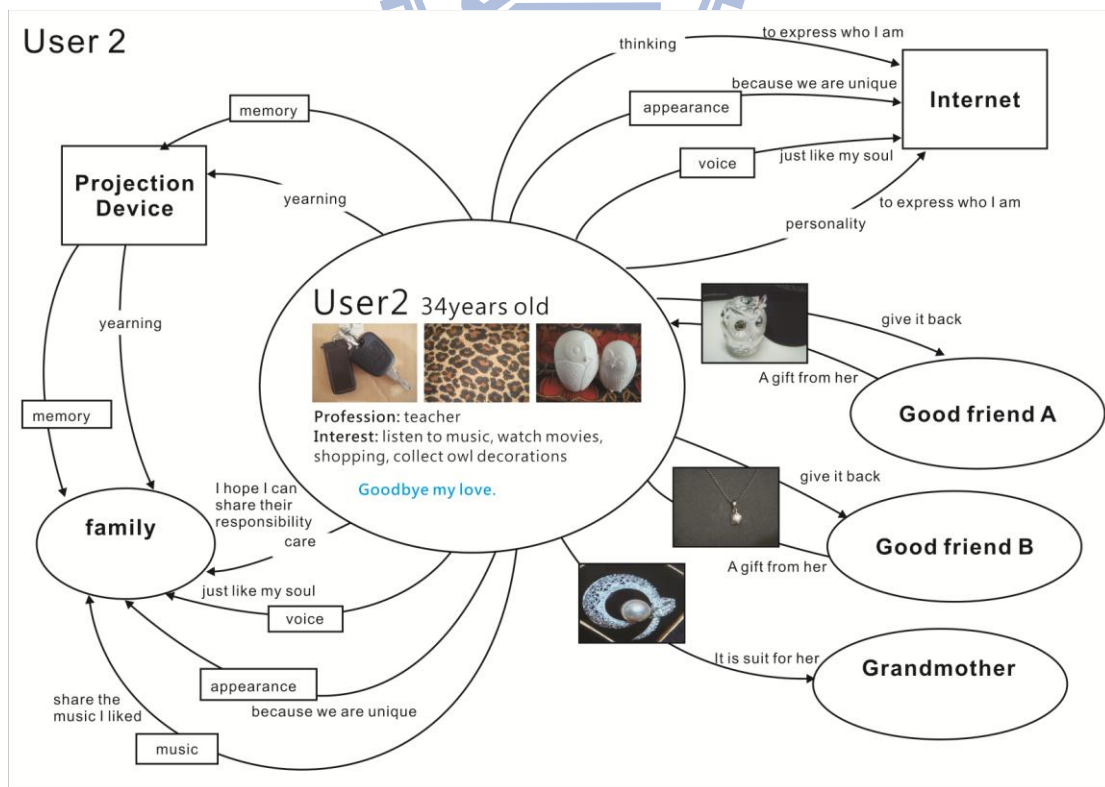
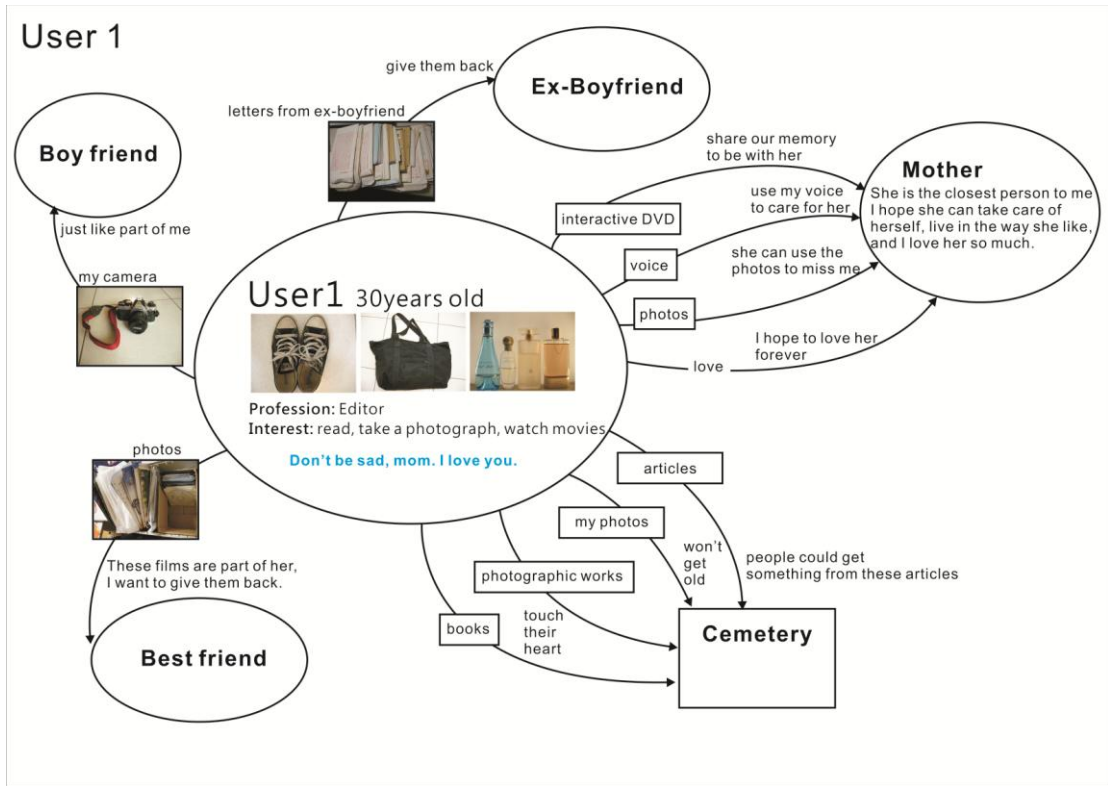
The motivation of keeping oneself					
I want to share my life experiences			I want to prove the existence in this world	I want to leave an impression in people's heart	
I hope future generations can know my life experience	I used some object to show my experience	I want to show my life experiences with visual effect.	I hope to leave something to prove the existence in this world.	I hope the gift can present my thoughts and feelings.	I hope to have a good impression in other people's heart.
I am a businessman, I have experienced success and failure in my life, I want to record these experiences in my autobiography.	I will preserve all of my certificates as a record of my life.	I think the photos can see the real people and the atmosphere but videos have better effect.	I want to leave myself in a corner of the world. People who need me can find me.	I will use some words I wrote with the music I like to link up with the memory of my life.	Words for my friends is more important than the introductions of my life experience.
If the future generations of me can know what I had done in my life, it will be interesting.	I will collect the photos of my daily life and the time gathering with my friends in the flash disc.	I want to project my life experience or travel experience with video and sound.	My sister want to leave her Blog or Facebook to prove her existence.	It will be great if the voice can be recorded, I can tell the story about my photos.	I want a happy funeral, just like a old man who sold ice cream, he prepared ice cream for everyone who attended his funeral.
I want to keep the photos when I was 20 years old for the future generation, let them know that I was once young.	The stones I collected represented the places I had ever been to.	Human beings are visual animals, it will be better to leave some pictures or videos.	I hope if my future generations go to a place, they can know I had also been there before.	I want to share the photos and videos with them or record a few words for them.	It will be easier to touch people by letters than by voice.
Through these pictures, we can recollect things happened twenty years ago.	I want to show the slide of photos ordered by time to represent my whole life.	If we can record voices, people can leave to their children.	I want to leave my personal information on a building as a commemoration, just for those who don't know me.	I will focus on link up the music I prepared with the photos, I don't care about my life experience.	If I prepare very carefully at the end of my life, people will be touched.
I will collect some stones in a box and give them to my children.	I want to compose the photo of the stone to the photos of the place I picked the stone, they will know where I have been to.	I want to print out the photos in order to see more pictures at a glance.		I want to play the music I love at my funeral.	I hope people can feel happy when they receive my gift, we can say goodbye peacefully and have tears with smile.
If I leave the diary in the computer, my children may have more opportunity to see the diary.	The aircraft model represent myself and my life experience.	I am not used to see the photos on computer. I like real photos and albums.		I hope one of my best friend can tell the story about the photos I chose at my funeral.	I don't want to prepared the gift with them, I want to do it by myself and give them a surprise.
I will put the rocks in zipper bags and mark the time and place, they will know where I got these rocks.	The photos took at each important turning point of my life are precious.	I like real photos more than digital files because I used to delete the digital photos, many photos were gone.		I hope the music can express my feeling.	I don't need to be remembered, I hope they can think of me when they see this gift sometimes.
	I want to preserve my life experience and where I have been.			Through this gift, I want to thank my friends who supported and tolerated me.	I hope my future generations can be happy, when they see the aircraft model I left, they can have a topic to talk about.
	Pictures with famous people can show off with friends.			I like something simple and stylish, I will give them something I like.	

Existing contents for autobiography in the daily life			Difficulties of preparing this memorial gift	
I want to use the way we communicated before	I used to take down my life and experiences	I want to back up my memories	I don't have time to prepare the gift	I think I am normal, I don't know what to leave.
We have to prepared for this gift in our daily life, there is no meaning to prepare a gift particularly.	I used to use digital camera to record my life, record the time with the place.	There are too many stack of photos in my house, I have no time to arrange them in albums.	Actions speak louder than words, my husband wanted to record his song, but he didn't make it in the end.	I hope people can leave something they are proud of, but I think I have nothing special to leave.
I want to say something to them through this gift in different ways, it depends on the way we used before.	When we went traveling, we took some pictures and videos, my husband wrote diaries.	I want to take photos for these rocks and preserve the digital photos into hard disc.	I think I will start to prepare the gift when I left two or three years to live, I will collect the materials in my daily life.	I don't want to leave anything but photos or tapes.
I used to write letters for my children on their birthday.	I used to write letters to my children, and I also wrote some words for them in my diary.	I want to scan the photos and save into digital files, there are too many photos.	I had told my children what gift I want to leave, but they don't take it seriously.	I am a normal person, I don't need to leave an autobiography.
I want to write down my opinion when I pick up some rock in travel.	When I was young, I used to write down my opinion.	Most of my photos are digital files, I don't print them out because they will turn yellowing.	I have no time to prepare this gift before I retire.	I only graduated from elementary school, I don't know what can I leave.
	The mementoes I bought when I went traveling are precious.	I am worried about the device broken, it will be meaningless.	I want to leave some words for my children everyday, but I was too busy to do this.	I am not so important for people to remember, there is no need to write into a book.
	I want to leave the travel book wrote by my husband, it recorded my travel, my thought and my life.	There are many digital photos in my computer, I don't know how to deal with them.	I like music, I had told my children what music I like but I don't know how to put them together in a CD.	I had never thought about recording my voice but I am not good at speech, I will be nervous.
	We must keep our photos, they are memorable, they will be precious after twenty years.	Physical photos are not easy to be preserved, they took up a lot of space.		
	My husband used to write diary, that's why he published a traveling book.	I want to backup my photos to prevent losing, I can also send the files to my families by email.		

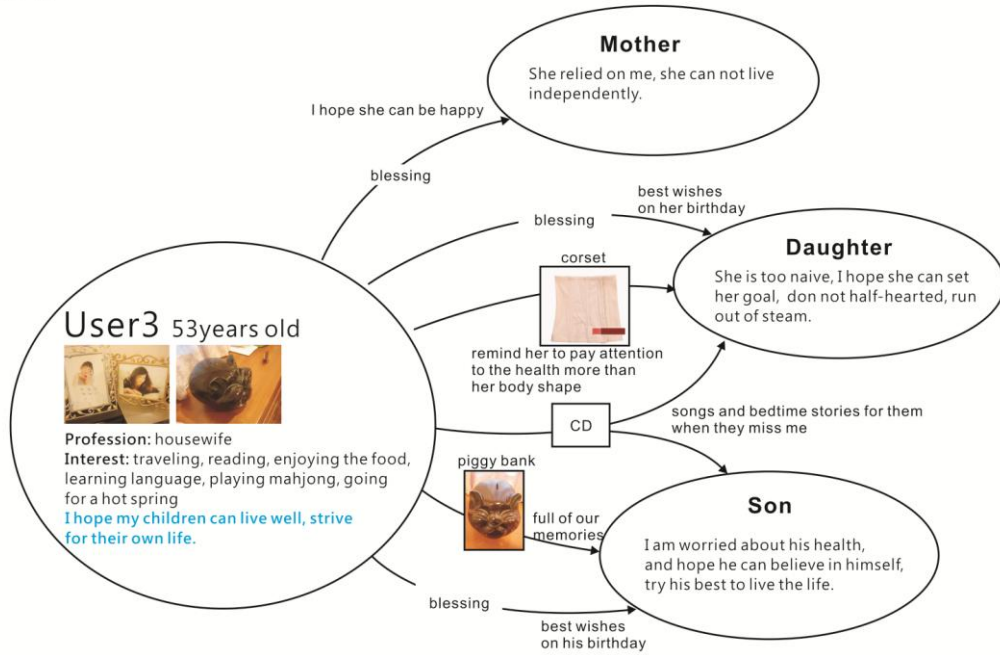
Their concerns of this memorial object				
I hope this memorial object is meaningful and can be preserve for a long time	I am worried if this gift will trouble other people		I am worried about the privacy	It is meaningless to leave something to someone don't understand you.
The aircraft model I want to leave is made of iron, it is rare and memorable.	I will respect their feeling of this memorial object	I am worried about if people can accept this gift	Words leaving in public will be simple and formal, words for family will be private, sentimental and with more contents.	I want to leave my life experience for people who get along with me, it is meaningless if they had never saw me before.
I want to leave something that can't be bought in Taiwan, such as a plate bought in Spain.	I hope this relic can be easily preserved at a private place, because people might not want put this thing in a public place.	I want to make something for them to commemorate and do not think of death.	I hope the memorial object is not so public, I only want people who knew me to reach my profile.	I think the video will be interesting only when the first time they saw it.
I think we should leave something related to ourselves, special things are more valuable.	I don't want to communicate with them with this stuff, because time have been changed, I am afraid of being out-of-date.	I prefer videos or photos, I think voice will make people scare.	I think video is more suitable for playing at home than in public.	I don't want people I am not familiar with come to my funeral.
I am more concerned about the content, but the object is also very important.	I will respect the wishes of my children and leave my stuff in a box for them, they can choose to keep it or not.	The gift for family may contain videos, but for friends may only contain music, in case of they will be scared.	There is no privacy to play the video in public.	I have no feeling to future generations who I didn't get along with.
I am not sure if the stone I left can express the memorial meaning.	Some things are important to me, but not necessarily as important as for people I gave.	It is acceptable to play video on the internet, but it is scary to play video on the cemetery.	I don't want to talk about myself, they are my friends, they should already know who I am.	No one will see the video played on funeral again.
I think valuable objects are more likely to be preserved properly.	I think they like something with their memory or feelings.	I think we should not use the ash bone to make things, even if I accept it, it is not necessarily for other people.	I want to leave some words and carved on a stone, introducing my life experience and what I had done for this world.	It is meaningless to give something to people I am not familiar with.
I think the awarding cup of national competition is more memorable to be preserved.	I think people are so busy, if I give them a book, they may just skim through.	I hope the gift will make people feel warm, without scary.		It is not important if there is a image or not, because nobody will see.
I will leave some valuable jewelry for my sister, I don't think my children will keep them well.	I don't like to buy something for them to miss me, and I even think they may not take this gift	I will keep my father's picture as a commemoration but I will respect the wishes of my children if they want to keep the photo or not.		nobody read if I leave too many words.
I want to leave something expensive, it will be keep carefully, especially something they will think of me.	I am not sure if they accept this gift, because my mother extremely avoided this kind of things.	People may think I am writing dogma if I leave too many words.		
I want to leave something expensive and they can't easily bought. I think they will preserve it well.	I know some people in Taiwan avoid talking about death, so I do not want to prepare the gift for everyone, I just want to give the gifts to some closed friends.	I don't care if my children share the gift to other people.		
I think things that are expensive or precious can be preserve longer.	I don't want to place my funeral picture in my children's house, I don't want to make them feel trouble.	I think our house are so crowded, I prefer something will not occupy the space.		
	I don't want to leave something to make them miss me, I think we had been through together, they can miss me in their ways.	If the gift is stylish and fashion, people won't associate with death, it will be a unforgettable gift.		

## Appendix B

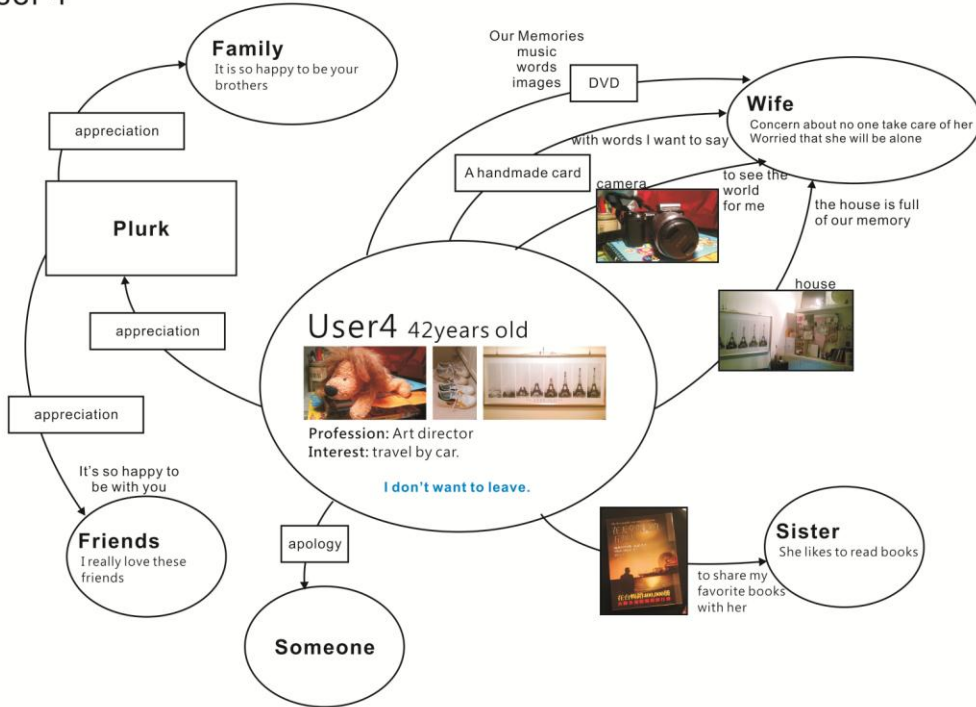
### Flow model



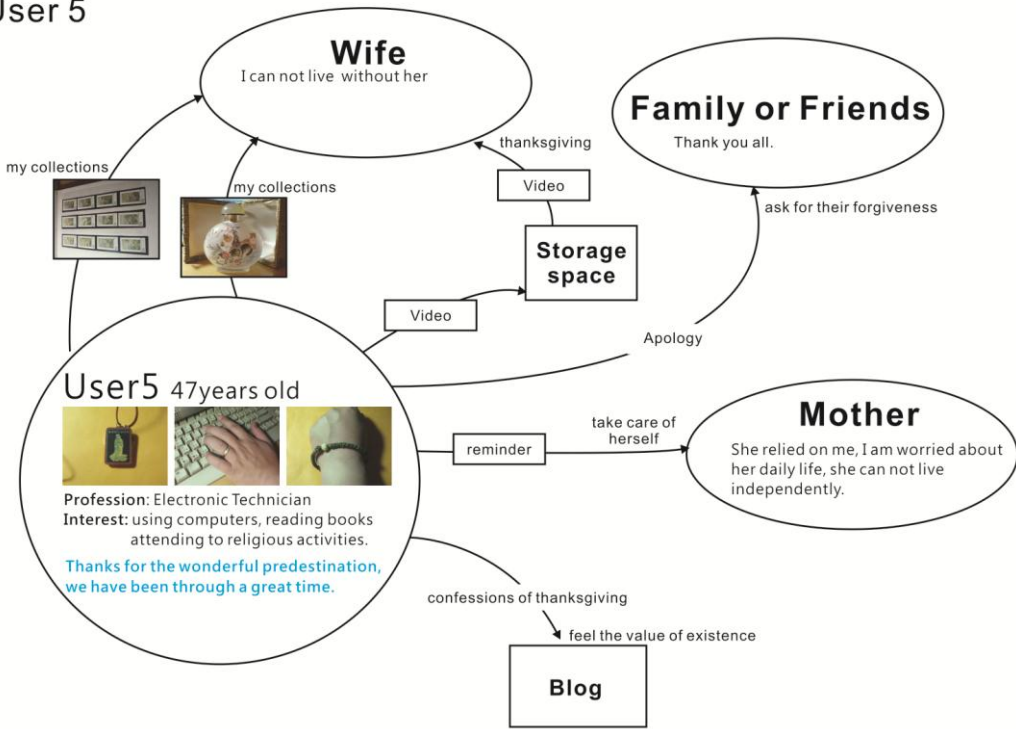
### User 3



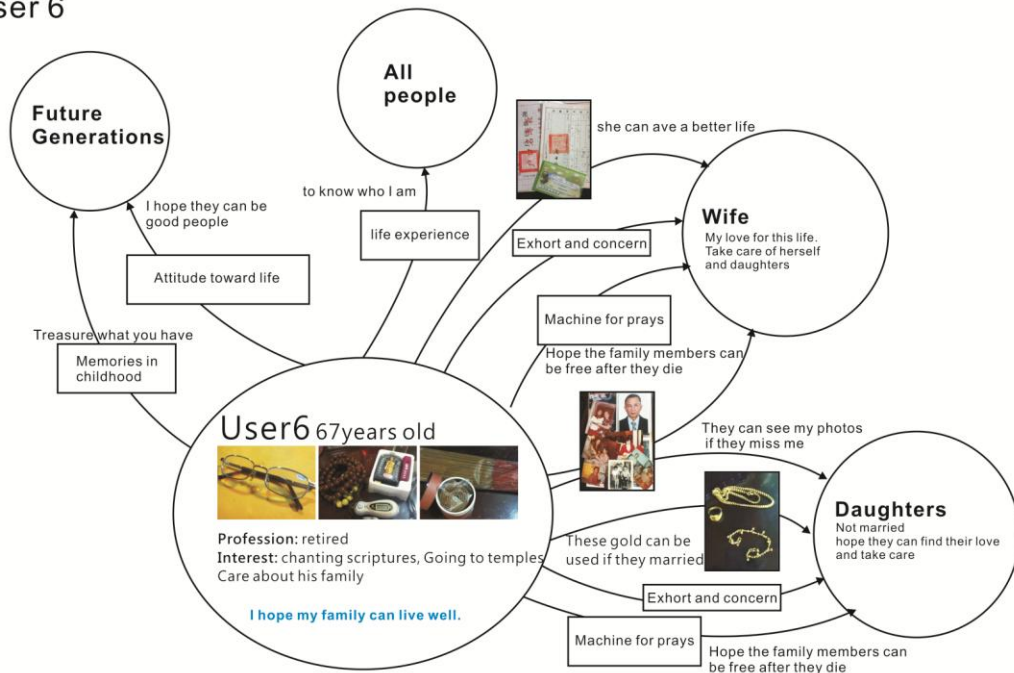
### User 4



### User 5

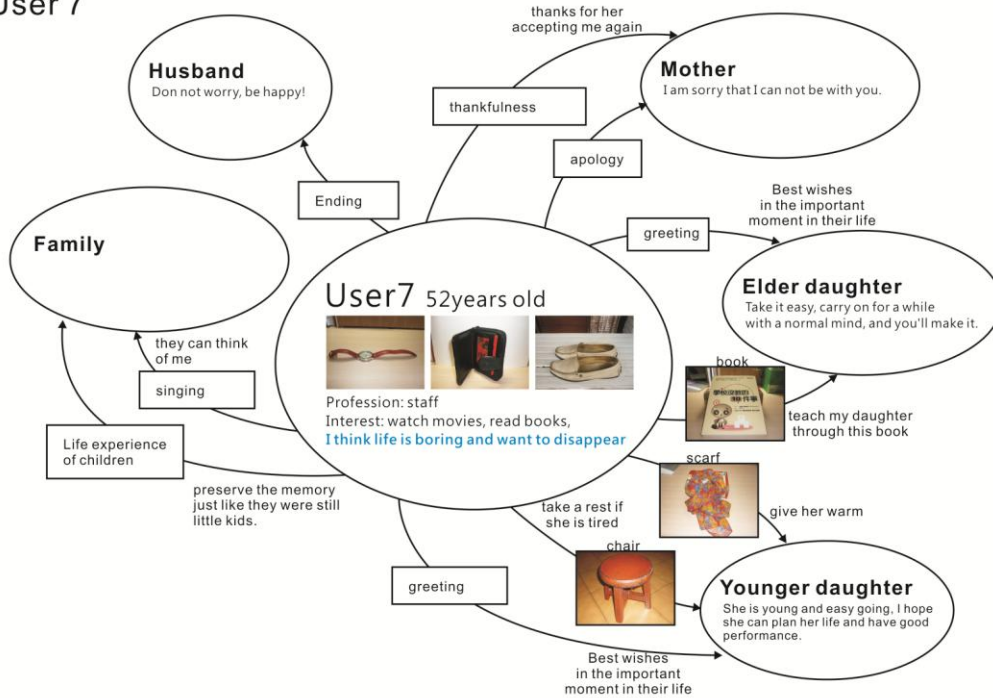


### User 6

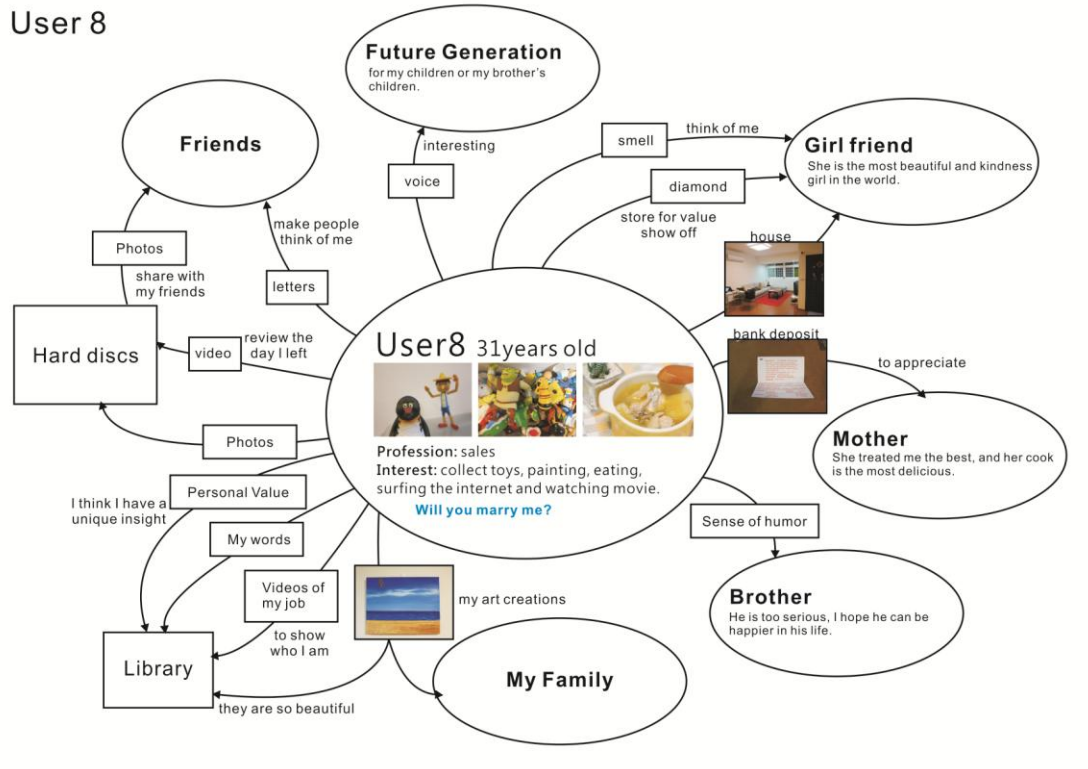




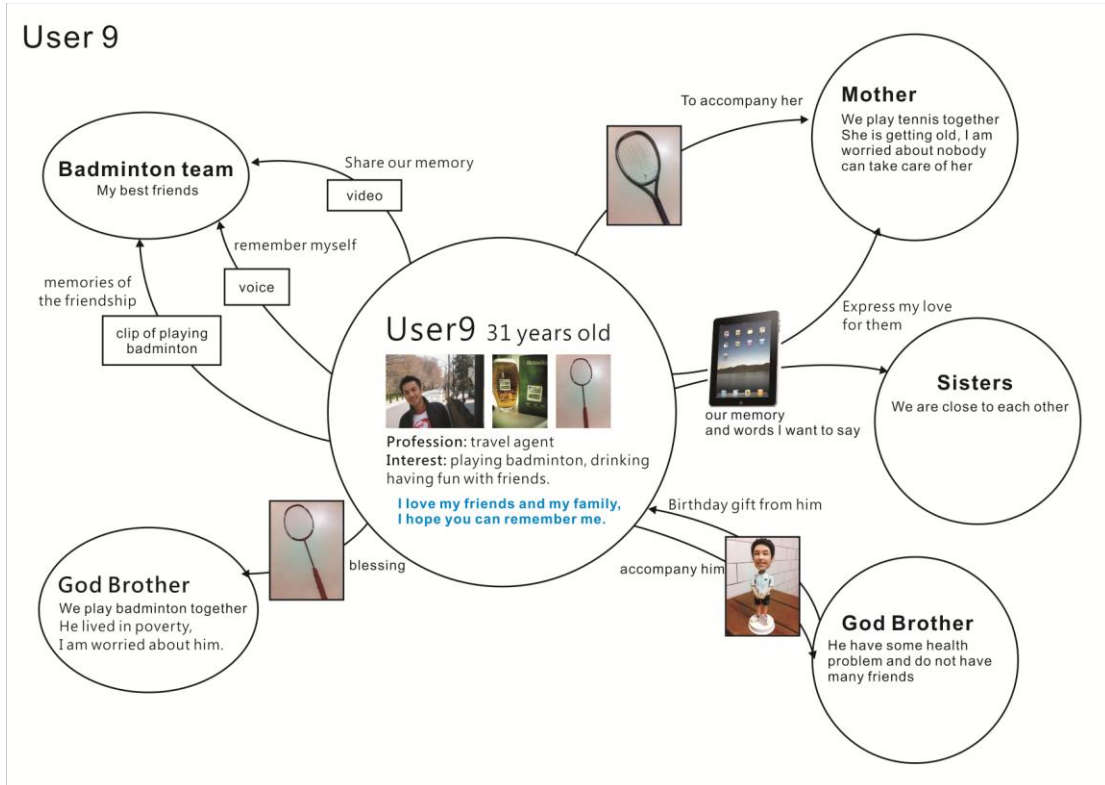
### User 7



### User 8



# User 9



## Appendix C

### mean-end chain diagram

